





# Everything's up to date in Kansas City

BNSF's Argentine Yard reconstruction cements its status as the railroad's No. 1 hub

BY HAROLD L. MILLER JR.



LEFT AND ABOVE PHOTOS, DAN MUNSON

**I**F YOU LOOK at a system map of the Burlington Northern Santa Fe, you'll see it resembles the railroad's logo: a great circle from Chicago to the Big Sky country of Shelby, Mont., down to sunny Sacramento, Calif., around to the Texas port of Brownsville, and back up to the Windy City.

In the cross inside the circle, where lines north, south, east, and west converge—as if in the crosshairs of a gun-sight—lies BNSF's biggest car classification site, Argentine Yard. The Kansas City (Kans.) facility, long a hub of Santa Fe operations, has seen its role change over the years—not only with Santa Fe's merger with Burlington Northern, but also with traffic patterns and the rise of intermodal shipping.

Occupying 780 acres, Argentine is one of the largest hump yards in the nation. It's bordered by 55th Street to the west, Kansas Avenue (Highway 32) to the north, 18th Street to the east, and



TRAINS: HAROLD L. MILLER JR.

A pair of ex-Santa Fe GP7's (together called a "double hooker") stand ready for duty at "Tall Tower." In addition to being Burlington Northern Santa Fe's biggest classification yard, Argentine is also a refueling and crew-change point for some of the 100-plus trains through Kansas City daily. From inside Tall Tower, operation of the entire 780-acre yard can be planned and monitored.

the former Santa Fe main line to the south. You could put a sports complex on the property and still have plenty of room for parking. (For comparison, Florida's Daytona International Speedway complex is 480 acres.) To drive Interstate 635, which passes over the yard, is to cross a virtual river of rail traffic.

As the part Argentine plays has changed, so has its physical plant. In 1996, BNSF embarked on a \$95 million, 1½-year project to rebuild the yard. Santa Fe conceived the project, whose goal wasn't necessarily to make Argentine bigger, but to make it more efficient and integrate it with other facilities in Kansas City, as well as systemwide.

The years of planning and building paid off in July 1997 when BNSF 50-foot boxcar 286051 rolled down the new hump, flanges squealing through the retarders, and tore through a banner across the tracks, officially opening the renewed yard for business.

## The only constant is change

In modern times, Kansas City has eclipsed St. Louis to become the second-busiest rail interchange point in the U.S., outdone only by Chicago. In 1970's terms, K.C. hosted a veritable Who's

Who of western Class 1 railroads: Santa Fe, Kansas City Southern, Burlington Northern, Rock Island, Missouri Pacific, Union Pacific, Chicago & North Western, Norfolk & Western, Frisco, Katy, and Milwaukee Road. Post-'70's deals brought in Rio Grande and Southern Pacific (Cotton Belt), and then, through mergers and bankruptcies, the number of railroads dwindled. Kansas City's clout as a rail hub, however, has not. Today, the big players in railroading's "second city" are BNSF, UP, Norfolk Southern, and KCS.

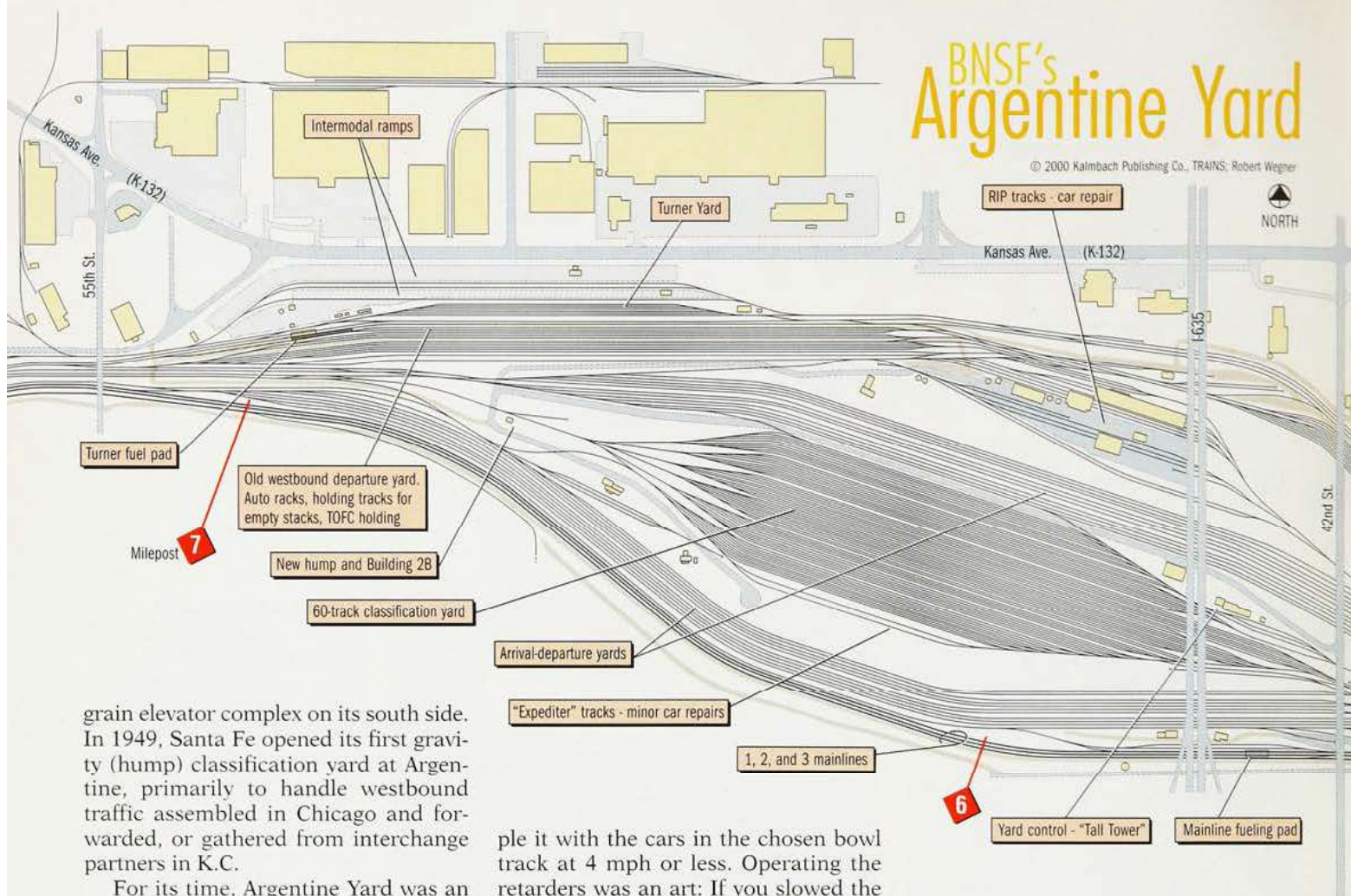
With the 1995 BNSF merger, the new railroad found itself with two hump yards in the K.C. area: Argentine, and Murray Yard, originally a CB&Q property across the Missouri River in North Kansas City. Argentine, on the former Santa Fe's transcontinental main line, was the larger of the two with a pair of humps, but with Murray also available, BNSF could utilize its capacity during the Santa Fe yard's reconstruction.

Argentine has been important since the late 1880's, when Cyrus K. Holliday's railroad pushed its tracks into Kansas City. Besides a flat-switching yard, it also had a locomotive shop, icing facilities for refrigerated cars, and a massive



# BNSF's Argentine Yard

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grain elevator complex on its south side. In 1949, Santa Fe opened its first gravity (hump) classification yard at Argentine, primarily to handle westbound traffic assembled in Chicago and forwarded, or gathered from interchange partners in K.C.

For its time, Argentine Yard was an engineering marvel employing the latest technology. A set of locomotives would couple to a train in the receiving yard, then push it up the hump. As cars reached the crest, a "pin-puller" with a switch list would uncouple the car or cars, allowing them to roll free under their own weight down the hump. In the tower, the hump yardmaster, also with a switchlist, aligned turnouts in the throat of the "bowl" (so named because it's higher at each end than in the middle) so the cars would roll into one of 56 classification tracks, according to their destination. Keep in mind that this was in the days before handheld communications equipment, and that the pin-puller worked out in the open, in all weather conditions, usually being governed by hand and light signals. Mostly, cars went where they were supposed to, but imagine trying to read a switchlist in a cold rainstorm, in dim light. One can see how mistakes might occur.

The speed of cars rolling down the hump was controlled by retarders—hydraulic braking equipment mounted on the throat track—operated manually from the hump crest. Ideally, retarders would slow the car coming down the hump, and its momentum would cou-

ple it with the cars in the chosen bowl track at 4 mph or less. Operating the retarders was an art: If you slowed the cars too much, they would stop short of the cars in the classification track; too little braking, and the car would slam into the others, possibly causing a derailment or damaging the goods inside.

As traffic and train sizes grew, Argentine's capacity was practically doubled in the late 1960's with an eastbound classification hump and attending 48-track yard. In addition, a west transfer yard, north receiving yard, east transfer yard, and eastward departure tracks were built south of the original site.

In the expansion, finished in 1970, computers were installed to handle many of the classification duties. Hump locomotive speed control and switch alignment became automatic, and bowl track capacities were electronically monitored. To give you an idea of how much computing power Santa Fe was working with then, a brochure touted, "Hump computers have capacity to store four 150-car lists in memory." Today, many pocket calculators can do that. The art of retarder operation was lost with the new eastward classification yard; radar was installed to control the single master and six group retarders.

The yard operated that way, classifying 1800 cars a day, until January 1996.

## The song remains the same

Rebuilding the yard in 18 months required not only a herculean physical effort, but also tremendous coordination across the entire system. As the eastbound sorting yard at Argentine was taken out of service and dismantled in early 1996, the westbound hump continued to operate. Additionally, facilities as far away as Barstow, Calif., and Galesburg, Ill., took on more work, and closer yards at Emporia, Kans., and Fort Madison, Iowa, which had seen their status downgraded, suddenly became important and busy again. Across the Missouri, Murray Yard soldiered on as the sun set on its old general classification career.

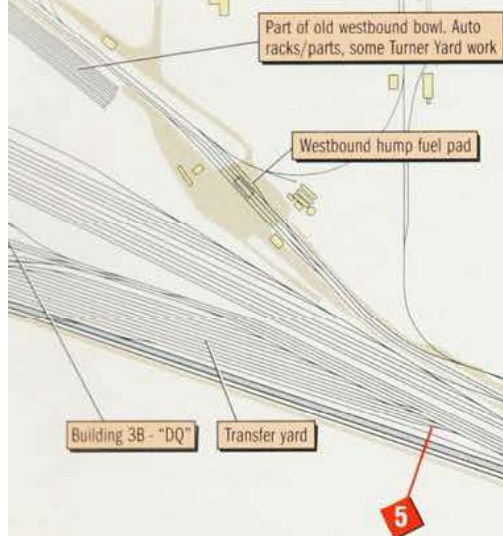
Once the tracks in Argentine's eastbound classification yard were taken up, the grain elevator complex came down. But, it didn't really leave the yard; much of the concrete rubble—70,000 cubic feet, according to BNSF—became sub-ballast for the new yard.

After moving 1.2 million cubic yards of dirt and installing drainage equipment, the land was ready for new track. Many of the rails and ties from the old eastbound classification yard were recycled, and a total of 75 new miles of





Building 3B has earned the nickname "DQ" for its resemblance to a Dairy Queen drive-in. Switch crews can take breaks and get work change orders here, but there's nary a Dilly Bar to be found.



track was laid. To meet the construction schedule, much of the track was pre-assembled—"snap-track," if you will—and construction crews had only to put it in place, connect it, make sure it was in gauge, and ballast it.

Several new structures, also prefabricated, popped up around the yard. One of them is Building 2B, at the crest of the new hump. While not a tower in the traditional sense, it does have a commanding view from the crest of the bowl through banks of large windows on three sides. Classification operations are manually- and computer-controlled from here. Additionally, a 3000-square-foot canopy offers some cover from the elements for the pin-pullers.

Though there are a few high-tech tweaks, sorting cars is pretty much the same job it was 30, or even 50, years ago. A hump engine, usually a specially equipped SD38 mated with what BNSF calls a TEBC6 (a control slug built from a BN SD9), pulls a train out of the 10-track arrival yard, then pushes it up the hump. Inside 2B, the hump foreman

uses a computer to connect with the TEBC6 and regulate the speed of the locomotive, usually about 2 mph. As the power pushes the train up the hump, the cars are met by two pin-pullers at the crest. One pin-puller watches an electronic display next to the hump track that gives the number or numbers of the cars to be uncoupled in a particular cut, as well as their destination track. As the cars crest the hump, each pin-puller opens a coupler. Normally, the cars would uncouple if only one knuckle was opened, but by opening both couplers connecting cuts of cars at the hump, a worker doesn't have to open a coupler in the bowl to make a joint.

Once over the hump, the cars pass over a weigh-in-motion scale, and their rolling characteristics are electronically monitored. The information is sent to

the master and group retarders, which slow the cars appropriately. Once the cars hit one of 60 classification tracks, tangent retarders brake them to approximately 4 mph. But with bowl tracks ranging from 1300 to almost 4000 feet in length, yet another set of retarders is called for. Called distributive speed retarders (or Joules—pronounced "jewels"—in yard parlance, for their maker, Joules Engineering North America), they are mounted inside the rails, where they slow the cars down to 2 mph as the wheel flanges encounter a hydraulic piston. A total of 7000 "Joules" were installed in the bowl.

If, while moving over the hump, a



car is determined to need heavy repairs, it can be shunted into a track for pickup by the "Rip job" (so called for the "RIP track," RIP standing for repair-in-place, not rip as in pull apart). If it can be fixed with only minor repairs, the car is routed to the new "Expediter" track, which has racks of the tools and parts alongside to get rolling stock fixed in a matter of hours and back in service.

Another new building is the "DQ," so called for its resemblance to a Dairy Queen restaurant. It's a near-twin to Building 2B, except 2B has a canopy. Officially known as Building 3B, it's at the east end of the bowl, near the new 10-track transfer yard. This is where the "trim" or "bowl" crews can rest and receive work change instructions. Awaiting duty outside are pairs of ex-Santa Fe GP7's and 9's, known as "double hookers." Most bowl locomotives, and all hump locomotives, are captive to Argentine; they've had their pilots shortened by 9 inches to clear the retarders. Also working in yard and transfer service are GP38's, GP39-slug sets, and a few B23-7's. The GE's can also be found at Turner Yard—another part of the Argentine complex—switching the intermodal ramp.

**Looking northwest over the classification bowl toward the hump, two sets of trimmer locomotives shuffle cars to make up outbound trains.**

Simply put, under direction of the trainmaster, trim jobs pull cars from one bowl track and couple them with those on another track to make up an outbound train. Then they shove the train onto one of 10 departure tracks, where mainline power is put on. Trimmers also shift cars around to make sure they are ordered properly in the train—that hazardous materials cars are in safe positions, for instance, and that weight limits are not exceeded.

Where trimmers used to have to throw turnout after turnout by hand, which took its toll on the backs of the employees as well as company injury rates, there are now electric switches. Some are remote-controlled by hump, bowl, or Turner yardmasters, or by the Kansas City yard dispatcher. More than 100 others are solar-powered, push-button Hydra-Switches [October 1998 TRAINS]. With a fully charged battery, each is capable of 800 throws; plenty, considering a switch is thrown 10 times in an average day. Switch positions and traffic on arrival and departure tracks can be monitored at computer terminals in the DQ, as well as at other locations, which helps make for a safer operation.

If the bowl is the heart of Argentine, the terminal tower, generally called "Tall Tower," is the brain. Standing 70 feet above the center of the yard, the two-level structure has a commanding view,

from the diesel-servicing facilities at the east end to Turner Yard and the hump to the west. Most yard operations are coordinated from here. Inbound and outbound traffic, bowl capacity, and traffic flow are monitored, as well as motive power status. Below the tower, which was built during the late '60's, is a newer building with offices, plus locker rooms for road and yard train crews.

As the new hump and bowl came online in July 1997, the westward classification hump was decommissioned and removed. A small part of the classification yard remains, though, for auto and Turner intermodal business. In January '98, Murray's hump was also taken out. While it brought to a close one chapter of its career, it also opened a new one, as Murray is now BNSF's regional marshaling point for bulk-commodity unit trains, mainly coal.

### The view from the top

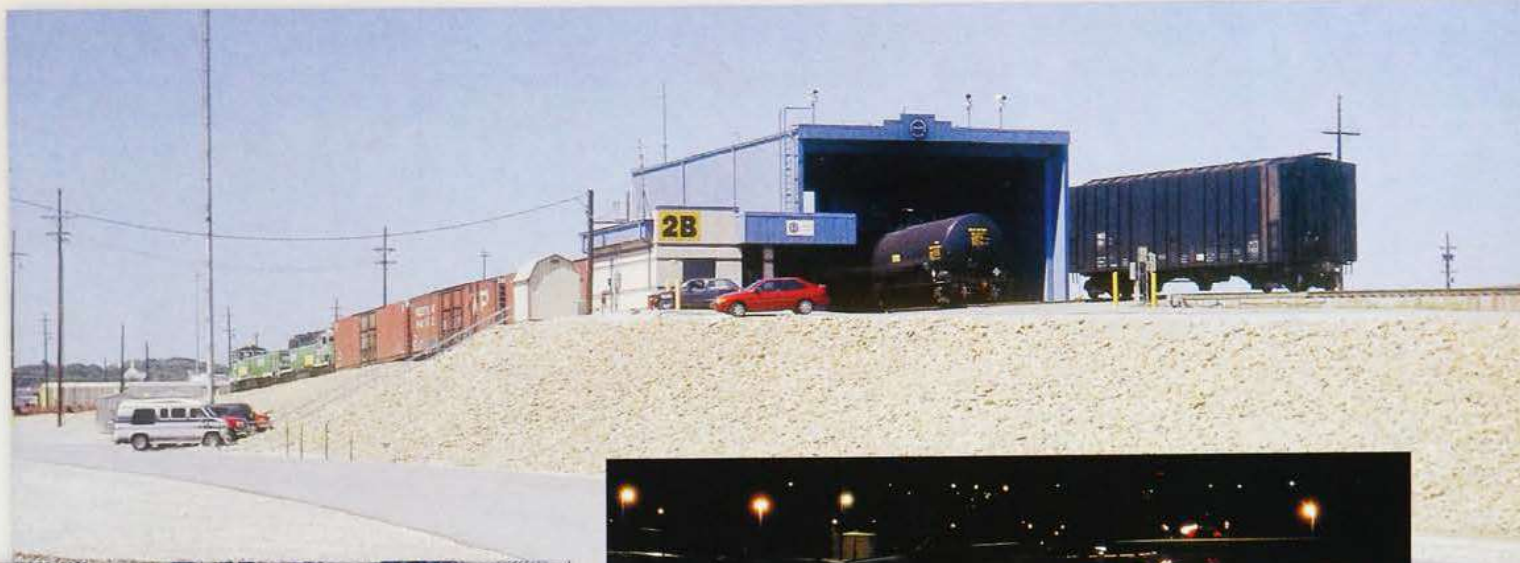
From his third-floor office at 4515 Kansas Ave., Argentine Terminal Superintendent Dick Fox can watch almost below him the operations in Turner Yard, at the northwest quadrant of the sprawling Argentine complex. Looking farther southwest, he can look over the full width of Argentine's new bowl to the tree-covered hills that mark the yard's south boundary.

Fox, a veteran railroader, hired out



DAN MUNSON





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TOP AND ABOVE PHOTOS, TRAINS: HAROLD L. MILLER JR.

with the Northern Pacific years ago in Pasco, Wash. After spending much of his career in the Pacific Northwest, he arrived in Kansas City in January 1998, about 6 months after the yard reconstruction was complete. A friendly man who would just as soon spin yarns from his days with NP and BN, he's all business when it comes to yard operations.

Despite the many yard improvements, upon arrival he found his biggest hurdles to be in personnel matters. Up to that point, despite the merger, Argentine remained a bastion of ex-Santa Fe railroaders, while across town, Murray was still a mostly BN operation. "First, we had to mix Santa Fe and Burlington Northern employees, then we had to change attitudes," he says.

The prevailing theme among yard workers was that one hump couldn't do the work of two. But Fox knew there was no going back, and he and the railroaders on the ground would have to make it work. He went to the yard employees and asked, "Are we stuck with this? Yes. Can we do this better?" Over time, the answer that came back was a resounding "Yes!"

Fox gets excited as he talks about the strides made since the reconstruction, and recognizes that none of it would have been possible without the teamwork of the railroaders in the yard, from the pin-pullers on the hump to the mechanics in the diesel shop. The biggest milestone came in March 1999, as a record 2681 cars were classified on the Argentine hump in a 24-hour period. This broke the previous record, set only weeks before, by 250 cars.

The superintendent says yard workers just needed a little success. "The bottom line is, they had to know they could do it." In regular daily operations, about 2400 cars are classified. "The old yard couldn't do half that," Fox says.

But Argentine isn't all about hump-

An SD38-TEBC6 slug set pushes a cut of cars over the hump. After the cars are uncoupled by the pin-pullers, they roll through several sets of retarders toward one of 60 classification tracks. The classification process goes on day and night. As they roll into the bowl, cars pass over distributive speed retarders called "Joules." Prior to the reconstruction, the bowl area was essentially a graded lot.

ing. Each day, 120 or so BNSF trains move through the Kansas City area, and, while many are general merchandise moves, there are also a lot of inter-modal and unit grain and coal trains. Another important part of the mix is transfers. "It's amazing how many cars we throttle between Norfolk Southern, Union Pacific, and Gateway Western [a KCS property]," Fox says.

Even with all the changes made to Argentine and Murray since 1996, Fox says it will be another few years before traffic is fluid through Kansas City. But BNSF, in its effort to bring its customers the service levels it promised in 1995, has helped assure the city a secure place on the railroad map for years to come. **1**