



DIVERSIONS, EXCURSIONS, LOCALS AND HELPERS

The Topeka Sub

BY CARL GRAVES/PHOTOS BY THE AUTHOR

“TO CONDUCTOR SPAULDING: Track Warrant eight-six-zero-dash-one-three to the BNSF fifty-two-forty-six West at Holiday... Proceed from CTC Holiday to CTC NR Junction on the main track... This warrant has two boxes, check one and two. Dispatcher is JLS.” So began the process of detouring a freight from the double-track BNSF Emporia Sub onto the roughly parallel single-track Topeka Sub on March 22, 2012.

This reroute, the first of many on that morning, is the latest aspect of a fascinating 111-mile stretch of north-east Kansas track. The original Santa Fe main line southwest from Kansas City, the Topeka Sub once hosted many

passenger and freight trains. By the early 1970s it was a quiet branch with a pair of locals, an occasional coal train, and Amtrak’s *Southwest Chief*. The vast majority of traffic from Kansas City to California and Texas flowed by way of the Emporia Sub.

During the 1990s manned helpers (an operation few would associate with Kansas) appeared on coal trains. More changes came in 2005 when the single track line began hosting occasional fleets of freights rerouted from the main line. Due to the multitude of diversions, excursions, locals and helpers, the Topeka Sub has gone through many phases and remains worthy of railfan attention.

Locals, Amtrak, and Coal

During my first two decades in Lawrence, Kan., I spent little time along the Topeka Sub because of the sparse traffic. In 1973 a railfan friend told me that the track hosted a Chicago-Los Angeles Amtrak train in the dark, an occasional coal train (also nocturnal), and a local freight. Today I suspect more trains made an appearance on the Topeka Sub than he suggested, but at the time I wanted to get the most “bang for a buck” from my scarce free time, so I focused on the double track Union Pacific line that also ran through Lawrence, as well as the busy Santa Fe Emporia Sub 26 miles to the south at Ottawa.

The Topeka Sub was not capable of handling much traffic. The rails were in good enough shape to maintain a 55 m.p.h. speed limit for freight and a 90 m.p.h. limit for passenger trains, and the route featured ABS (Automatic Block System) searchlight and semaphore signals, but eight of the 11 sidings were less than a mile in length (six were under 4000 feet) and all the siding

spring switches had ten m.p.h. speed limits.

My slide box had few images from the Topeka Sub during the 1970s and 1980s. I managed two pictures of the local (which at one point had a rebuilt CF7 on the point), a shot of snow-covered engines in the Lawrence yard, and a few images of my friend Scott Morgan, a Santa Fe extra board employee



who occasionally worked the Lawrence depot night shift. I kick myself for not getting better pictures of him hooping up orders to passing trains (he lost many of his extra board jobs when the railroad began delivering track warrants by radio). I did not get any photos in those years of the coal train that served the KPL (Kansas Power & Light) power plants in Lawrence and Tecumseh, the latter located about five miles east of Topeka. Only in the 1990s did I attempt to shoot the local (Local 31), because its schedule changed so that it headed west out of Argentine yard in Kansas City in the afternoon.

The Topeka Sub has hosted some colorful trains over the years. OPPOSITE: Train S-CHILBP1 (westbound Chicago-Long Beach stacker) is about to pass under U.S. 75 at MP 60.3 south of Pauline, Kansas, on December 21, 2005. This was an early Topeka Sub reroute. LEFT: A pair of Santa Fe-era yellow bonnets serve as manned helpers on the rear of a southbound Red Rock coal train at MP 60.3 south of Pauline on July 17, 1997. The up and down grades south of Topeka led to this unusual operation. Yes, Toto, we are in Kansas! BELOW: With a former Santa Fe war-bonnet on the point, a BNSF stack train is about to pass under the Kansas River bridge by Constant Park in Lawrence on July 14, 2008. It was one of a group of eastbound morning re-routes on the Topeka Sub.



Topeka Railroad Days

Topeka Railroad Days caused me to take a harder look at the line, at least during Labor Day weekends. A festival which began in 1986 and ended in 2000, TRD featured exotic locomotives and passenger varnish. Spotless Santa Fe "yellow bonnets" pulling an equally spotless set of passenger cars were my first images shot in 1990.

Although I did not participate every year, I managed to capture images of Santa Fe warbonnets on a Topeka-Lawrence excursion in 1995, followed by a special appearance of Frisco 4-8-2 No. 1522 in 1996, a passenger consist pulled by a BNSF "Heritage I" unit in 1997, a visit from Milwaukee Road 4-8-4 No. 261 in 1998, and the beautiful "BN-1" executive F-unit in 1999. Each year offered something new and exotic to look forward to.

Occasionally I visited the Topeka Railroad Days displays at Forbes Field, but more often I simply attempted to capture an excursion run on its way

south or east of Topeka. The most memorable day was September 2, 1996, when I jumped into an SUV near Forbes Field with Chris Guss and Dan Munson (both railfans and railroad employees), who entertained me while we chased the 1522 pulling passenger cars south of Topeka. Since its demise, I have come to appreciate the volunteer work that went into the activity and wish it would return.

Manned Helpers in Kansas?

Many who read my claim of manned locomotives shoving on the end of trains in the Land of Oz might imagine Dorothy skeptically saying to her dog Toto, "Something tells me we're not in Kansas anymore." But it is true. For years the Union Pacific handed over a loaded coal train to the Santa Fe at Topeka. From there they took the train 60 miles southwest to Emporia on its



RIGHT: A Santa Fe CF7 leads the Topeka Sub local as it passes the Kansas Power & Light power plant northwest of Lawrence, in September 1978. The line saw little traffic back then. BELOW: Bright new Santa Fe warbonnets lead an excursion train into Lawrence on the morning of September 4, 1995, as part of the Topeka Railroad Days festivities.



ABOVE: Local 31, which for several years conveniently ran west in the afternoon, is about to pass under Highway 4 between Tecumseh and Topeka on January 19, 2003. The Westar Energy (former KPL) Tecumseh power plant is in background. This local often transferred power from Kansas City's Argentine yard to the Topeka repair shops, hence the numerous engines. LEFT: Running late, Amtrak's Southwest Chief passes MP 21 just west of Eudora on June 13, 1998.

per cent grade from MP 74 to 75, as well as one per cent climbs at MP 85-90, 96-101, and 104-105. Connecting these are stretches of .97 to 1.09 downgrades, creating a ride especially challenging for a long, heavy coal drag.

The operation was quite striking the few times I saw it. The manned helpers were usually a pair of four-axle yellow bonnets, hardly a display of high horsepower. In 1997 I caught the lead power (a handsome warbonnet stuck on the front of two UP AC4400s) and the rear helpers as they passed under U.S. 75 south of Topeka. These, pushers, modern versions of the "little engine that could," allowed the lumbering Red Rock drags to make it over the hills.

The operation changed and eventually disappeared, along with the train. Around 2005 distributed power replaced the manned helpers. In 2006 I photographed a pair of much larger

way to the Oklahoma Gas & Electric power station in Red Rock, Okla. According to one BNSF employee, in 1996 or 1997 these Red Rock loads began receiving manned rear helpers due to the high number of broken drawbars and knuckles over "Wakarusa Hill" and the grades just west of Reading, Kan. (MP 96.5). These pushers would accompany the train to MP 105, the end of the westbound grades. Most of the time

they would then cut off and return light to Topeka, while on a few occasions they would stay on the train to Emporia.

The track profile and train weight combined to make helpers necessary. The 1989 Santa Fe Eastern Division Timetable reveals a surprisingly up-and-down route between Topeka and Emporia. There are one per cent westbound grades from MP 63 to 65, a .85

(3000-plus horsepower) BNSF engines on the rear of a Red Rock train in the Topeka yard. Starting in 2009, after the Union Pacific lost the coal contract to the BNSF, the Red Rock loads ran from Alliance, Neb., into Kansas City, then southwest on the Emporia Sub and then south on the Augusta Sub toward Oklahoma, bypassing the hilly southern part of the Topeka Sub that had spawned the manned helper operation.

Diversions: the Reroutes

Significant traffic increases on the adjacent Emporia Sub led the BNSF to make the lightly-traveled Topeka Sub into an alternate route. In 2004 and 2005, the double track Emporia Sub often saw 70 or more trains per day. As a result, any big maintenance project, derailment, or even an engine failure threatened the fluidity of operations on this key segment of the Chicago-California trancon, including the on-time performance of UPS-laden Z-trains. Sporadic detours had occurred prior to 2005, but trains could contain no high-wide loads, doublestacks, or Automax cars. After bridge clearance and brush cutting work in the summer of 2005, the BNSF began regularly diverting

trains off the Emporia Sub onto the Topeka Sub, making this single-track line hum with unprecedented levels of activity, ranging from slow grain loads (like the Iowa to Texas G-EDYDHT) to the hottest shooters (such as the Chicago-Stockton, Calif., Z-WSPSTO).

The approach is a significantly modified form of the directional running that BNSF and the Union Pacific had used elsewhere during this time. Instead of utilizing one route for westbounds and another for eastbounds, the BNSF dispatchers have kept the Emporia Sub as a primary bi-directional route. When circumstances warrant,

the railroad will siphon off some traffic onto the Topeka Sub.

Several situations trigger detours. According to one veteran Santa Fe/BNSF hogger, "It's usually congestion or maintenance they are avoiding by using the Topeka Sub." For example, major tie or rail replacement projects close off stretches of one main track and (for shorter times) occasionally two, causing dispatchers to divert three to ten (or more) trains from the Emporia Sub onto the single track route. When both mains of the Emporia Sub were washed out due to torrential rains on June 30, 2007, the BNSF detoured

all traffic via Topeka, alternating eastbound and westbound fleets until the double track line was reopened on July 2. A major derailment on the Emporia Sub near Neosho Rapids in late June 2008 caused dispatchers to use the reroute. In 2012, main line track construction and realignment connected with the new BNSF Intermodal Center near Edgerton, Kan., led to frequent detours via Topeka. Finally, if there is an especially large number of trains on both tracks, with slower manifests and

unit trains (coal, ethanol, grain, or oil) delaying fast Z and Q-trains, then the DS will send a fleet in one direction over the Topeka Sub, allowing the faster ones remaining on the Emporia Sub to pass the slower ones.

Topeka Sub detour trains run on Track Warrant Control, which is simplified because of the line's ABS signals. If it were dark territory, by contrast, each train would have to surrender part of its track warrant as it proceeds in order to allow a following

train to get a track warrant, since there would be no signal protection.

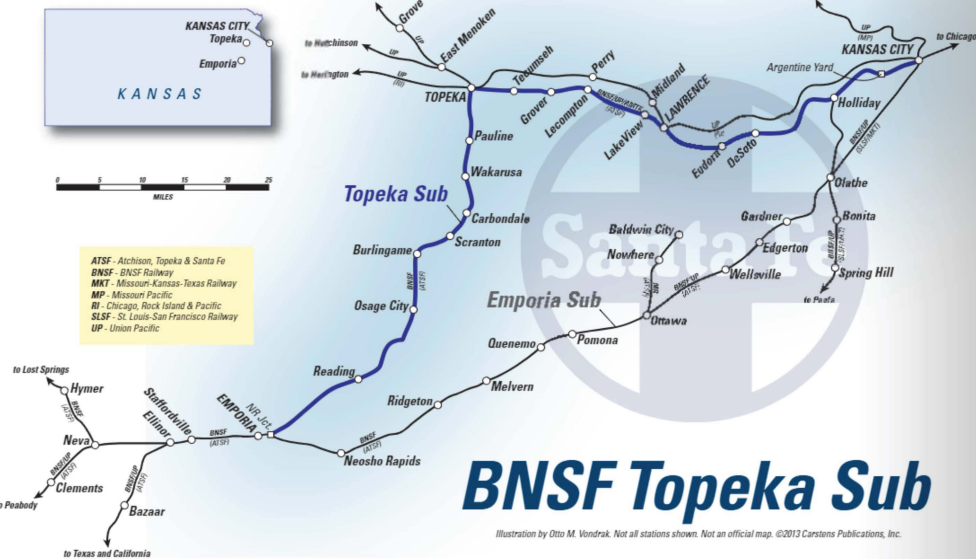
Reroutes almost always occur during daylight hours. According to one recently retired trainman, this situation happens "because Amtrak has [the Topeka Sub] pretty much tied up between midnight and 6:00 a.m., give or take" [an hour or two]. (Today Amtrak is limited to 79, not 90, m.p.h.) The 2012 schedule shows that Amtrak No. 3, the westbound *Southwest Chief*, enters the sub around midnight, stopping at Topeka at 1:09 a.m., while eastbound No. 4 halts at Lawrence at 5:47 a.m. and clears Holliday by about 6:30 a.m. Sometimes westbound reroutes are waiting at Holliday for a late No. 4, while less often, eastbounds will enter the Topeka Sub at Emporia's NR Junction some time after the passenger train has cleared most or all of the 111 mile line.



RIGHT: A southbound Red Rock coal train, with a former Santa Fe warbonnet on the point, heads south at MP 60.3 under the U.S. 75 bridge south of Pauline on October 4, 1997. Manned helpers brought up the rear of this train, which the UP turned over to the Santa Fe (and later BNSF) at Topeka.



LEFT: A very late eastbound *Southwest Chief* pulls into the depot at Lawrence on the morning of May 27, 2012. On mornings like this, westbound reroutes may be waiting east of here at Holliday, the junction with the double-track Emporia Sub, until Amtrak passes through. BELOW: Eastbound California-Chicago stacker Q-RICCHI passes by the old Santa Fe-era cantilever signal at MP 19 in Eudora on June 19, 2007. It was one of several Topeka Sub reroutes that day. The old signal hardware is slated for replacement, so catch them while you can.





Since the detour route is only a single track, a problem with one train can slow down or stop everyone else behind. Because of the sections of one per cent grade, the horsepower-per-ton ratio needs to be higher for westbound reroutes, and if just one of the engines on a lightly-powered train has trouble, then delays multiply.

Most of the time, however, the fleet of eastbounds and westbounds serves its purpose. One engineer estimated that it took him an average of one hour longer to run via the Topeka Sub, which is 16 miles longer than the Emporia Sub. In addition the lower speed limit (55 vs. 70 on the main line), supplemental speed restrictions for some trains (45 m.p.h. for freights over 10,000 feet or over 10,000 tons), the hilly terrain between Topeka and Emporia, and the often-malfunctioning "museum quality" signal system all work to slow down reroutes. That being said, detour trains usually make better time than if they had stayed on the Emporia Sub when congestion, major maintenance, or accidents were happening. The entire line will have modern, PTC-compatible signals by 2015.

Photographing the Line Today

Getting pictures on the Topeka Sub requires a scanner, patience, and luck. The Emporia Sub dispatcher (DS4) is



on AAR Channel 36 (160.650), while the Topeka Sub dispatcher (DS104) broadcasts on Channel 69 (161.145). Locating Amtrak No. 4 is relatively easy because of Amtrak's automated telephone system (800-USA-RAIL), where one can talk to "Julie" by asking for "train status." Finding locations where one can pick up both Channel 36 and 69 can be a challenge, so sometimes one must make a choice about where to go.

My experience has been that reroutes due to major maintenance of-

ten occur on slow traffic days, Monday and Tuesday, while congestion-related detours happen on busy days, Friday, Saturday, and Sunday. Tie and rail replacement projects often begin in the spring and last into the summer. It is impossible, however, to predict reroutes due to derailments or bad weather.

Getting the detours to come at the right time can be a problem. Often I have seen a westbound fleet in the morning and eastbounds in the afternoon, all of them therefore coming out of the sun, which makes for bad pictures. On the other hand, the north-south stretch of the line through Topeka is a great place to capture morning westbounds, and in winter afternoons, eastbounds have good sun angle passing through the Lawrence north-south stretch near 2nd Street and Burcham Park.

Overhead photo locations are scarce, but grade-level spots are numerous. Goodell Road just northwest of Tecumseh is a good place to wait for trains, while nearby the Route 4 overpass is also scenic but highway traffic is too heavy for lingering. I can no longer endorse getting shots from the U.S. 75 overpass south of Topeka because its interstate-level traffic makes such a move dangerous.

Wyandotte Street in De Soto can work for eastbounds on a weekend

morning, but only if you position yourself awkwardly in the railing adjacent to the narrow roadway. Ground level locations on the Topeka Sub are too numerous to mention, but I will list a few. Grain elevators at Pauline and Scranton provide a backdrop for morning westbounds.

If Amtrak No. 4 is late enough, one can get photos on or next to the historic Lawrence and Topeka depots. The Lawrence Amtrak station is particularly attractive thanks to major 2011 work that installed a new platform and lights. Such stations are also decent places to photograph freights.

The semaphores are now gone, but as of July 2013, one classic Santa Fe cantilever signal at Eudora (MP 19) is still standing.

On days with no reroutes, the Topeka Sub reminds me of the line as it was in the 1970s and 1980s. After Amtrak No. 4 goes east to Holliday, the Lawrence switcher will sometimes take cars from the small yard to an industrial park a few miles west of town. A six-day-a-week westbound manifest, the M-KCK-EMP, which since 2008 has replaced Local 31, might be working the Topeka yard before heading to Emporia, where its crew will lay over and return east the next day as M-EMPKCK.

Several days a week the KPL train power may be setting out loads or pick-

ing up empties at Westar Energy plants in Lawrence or Tecumseh, then heading to Emporia and eventually returning to the western coal fields. In the afternoon the Topeka switcher will service customers near the Forbes Field facility that once hosted Topeka Railroad Days. For most of the line, rails may be silent for hours except for a passing track inspector or signal maintainer.

Ever Changing Challenge

At any moment the traffic situation can change. Such was the case on October 9, 2006, when DS104 informed a maintenance-of-way worker that the track weld would have to wait. "545 West has left Holliday with two more at the fuel pad. It looks as if the whole world's coming this way." The excursions and the manned helpers are gone, but the locals, coal train, and Amtrak continue to share the rails with diversions on the Topeka Sub, a line that has gone through many phases and which is still worthy of attention. ■

Some of the information for this story came from David Berner, Dennis Garrett, Russell Honey, Keel Middleton, Austin Seely, and Trainorders.com forum users. They are blameless for any errors which might exist in this article.



TOP: Distributed Power on the rear of westbound Chicago-Long Beach stack train S-LPCLHG1 (on the right) pass stopped eastbound BNSF manifest at Ottawa, on May 18, 2008. The heavily-traveled Emporia Sub can easily get backed up, which leads to reroute traffic onto the Topeka Sub. **ABOVE:** The hot Los Angeles-Chicago train Z-LACWSP is eastbound at MP 19 in Eudora on December 23, 2005. **RIGHT:** With Kansas state capitol dome behind it, westbound Chicago-Long Beach S-LPCLHG1 passes through Topeka on April 26, 2008. This creek-side spot, next to the Branner Street Trafficway, is a good place to shoot morning westbounds because here the tracks are running almost north-south.