

Part I - The Pennsylvania Railroad¹



The Sandusky Branch

One of the premier carriers of coal away from Columbus was the PRR Sandusky Branch. Built 1893 as the Sandusky Short Line, running through Worthington, Marion and Bucyrus to Sandusky, this 112-mile railroad quickly became the northern extension of the Columbus, Shawnee & Hocking Railroad, which aptly changed its name to Columbus, Sandusky & Hocking (CS&H). As part of a reorganization in 1902, the Pennsylvania Railroad acquired the portion of the CS&H west and north of the CS&H-Cleveland, Akron & Columbus (CA&C) crossing at Milo, with the lines to the east and south becoming the Zanesville & Western. In 1964, the N&W bought the Sandusky Branch from the PRR in connection with the N&W's merger with the Nickel Plate.

The preponderance of coal volumes moving north on the Sandusky Branch from Columbus were interchanged from the N&W, with additional traffic from Kentucky and West Virginia arriving via the C&O, Virginian hoppers off the T&OC, and L&N hoppers arriving via the PRR from the south via Cincinnati over the PRR's Miami and C&X line, and eastern Ohio mine production reaching Columbus on the PRR Panhandle line. In addition to coal interchanges with some of the major east-west railroads in the northern part of the state, the Sandusky Branch carried substantial volumes of Columbus-switched coal to load Great Lakes steamships destined for industries in Canada. The upper Midwest and Upstate New York ports, and for overseas export.

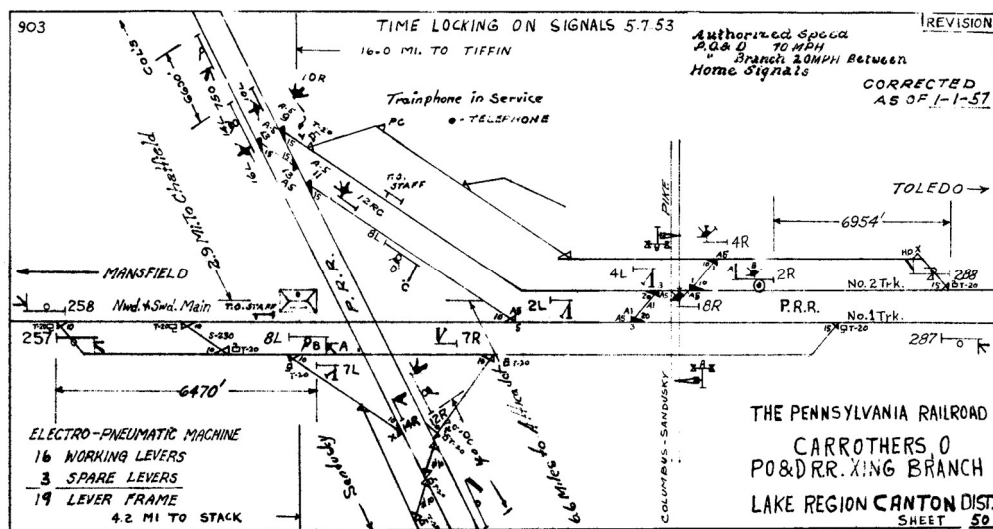
The northern termini for Sandusky Branch coal were PRR's Bayside Yard and the Sandusky Coal Docks. The original docks, Piers No. 1 and 2, were built in 1891-3 when the CS&H Sandusky line was constructed. By 1898, the docks had a steam-powered "dumper" capable of emptying 25 cars an hour. The current dock, Pier No. 3, built in 1937-39, is a gigantic 600-ft. wide rock fill marine coal transloading wharf protruding a mile out into Sandusky Bay. The Dock accommodates 1,000-ft. Great Lakes vessels, using 2.5 miles of coal handling conveyor belts, and has capacity to store 875,000 tons of coal. The "new" dumper system installed at the Dock in 1939 pours hoppers directly into ships alongside the pier. This facility was built with the capacity for 100-ton cars, even though the norm at the time was 50-ton hoppers. The Dock has a loading rate of over 2,500 tons per hour. Docks 1, 2 and 3 loaded a record 14 million tons of coal in 1944. Postwar years still saw as much as 8 million tons annually, and it is easy to see how this kept the PRR Sandusky Branch very busy. Piers 1 and 2 were closed in the late 1960s, with utility coal traffic dropping away, but metallurgical coal traffic for the steel industry remained steady. But the flow is seasonal, the Great Lakes being closed to navigation for four months of the year.

¹ This summary of coal traffic and interchange on the PRR in Columbus covers only a small sliver of the rich history of the five rail lines that eventually became the Pennsylvania Railroad in Central Ohio. For a good short read with a lot of this background detail, see *Roots of the Pennsylvania Railroad in Columbus, Ohio*, an unpublished 1952 manuscript by Rowlee Steiner which is available on the Columbus Railroads website at: http://www.columbusrailroads.com/new/live/05Steam_Railroads/15Pennsylvania_Railroad/01Roots_of_the_PRR/prr%20by%20Rowlee%20Steiner.pdf



Sandusky coal loading Piers 1 and 2 in the 1930s, with the site of the future Pier 3 Sandusky Coal Dock to the left. Source - Sandusky History Blogspot.

Considerable coal moving north on the Sandusky Branch was also diverted at Carrothers onto the PRR Toledo Branch for destinations in Michigan, and likely at times for the several big coal transloading marine terminals in Toledo. The Carrothers interchange featured several mile-long transfer tracks, with interchange tracks in three of its four quadrants to accommodate transfer of big coal drags and the turnaround of engines.



Track Chart for PRR interchange between the Sandusky Branch and the Toledo Branch at Carrothers (PRR Lake Region Interlockings, 1957.) Note that "North" to Sandusky is toward the bottom of this chart.

The Sandusky Branch also interchanged some appreciable coal traffic with the Toledo & Ohio Central's Eastern Branch at the T&OC's Bucyrus Yard, which was still switching coal for local users up into the 1960s.

The southern terminus of the Sandusky Branch was at Grogan Yard, just west of the CA&C crossing at Milo. The Branch had easy access to coal arriving from several other lines, especially off the N&W at the adjacent PRR Pennor Yard.

From World War II through the end of steam on the PRR in the mid-1950s, standard power on Sandusky Branch 125-hopper coal drags would be double-headed J1 class Texas-type 2-10-4s. The J1s, built from C&O plans under restrictions of the War Production Board, featured wagontop profiles instead of the PRR's signature tapering Belpaire fireboxes, plus elegant Baker valve gear in place of PRR's otherwise universal radial apparatus. Rated at 95,000 lbs. of tractive effort, plus a 15,000-lb. steam booster engine, the PRR "War Babies" were among the most powerful steam locomotives ever to work in Central Ohio. The PRR J1 fleet was famously supplemented with a number of oil-burning Santa Fe 2-10-4s leased in to support PRR's overload of heavy coal trains during the 1956 Great Lakes shipping season. Prior to the arrival of the J1s in 1942-44, PRR used its I1-class "Big Hippo" 2-10-0 decapods, along with the somewhat camera-shy PRR N2 2-10-2s, as northbound coal road power on the Branch. The I1s and N2s were relegated to transfer service and other less glamorous assignments after the advent of the J1s. PRR used H10 2-8-0s for local traffic on the branch and switching at Bayfront.

The Sandusky Branch was also one of the last lines in Columbus to maintain a roster of steam locomotives. A favorite spot for photographers and videographers shooting these lumbering engines was Attica Junction, where the Sandusky line crossed the B&O's Chicago main line.



PRR N2sa No. 7937 in storage, 1935. Once the Great Lakes shipping season ended each year, a portion of PRR's heavy engines would be laid up until the following spring. Photo by J.H. Dean from Alex Campbell Collection.



The Panhandle

Long the densest traffic line in Ohio, the Panhandle route between Columbus and Pittsburgh originated in 1864 via a combination of several end-to-end rail lines through Newark, Coshocton and Steubenville, and across the West Virginia panhandle (and thus the railroad's popular name).

This road, consolidated in 1890 with the Little Miami Railroad between Columbus and Cincinnati, and the Columbus, Piqua & Indiana west from Columbus, did business as the Pittsburgh, Cincinnati, Chicago & St. Louis Railway Company (PCC&StL) before finally combining further by lease to become part of the Pennsylvania Railroad in 1925. The Panhandle was the biggest employer in Columbus a century ago, carrying the biggest railroad traffic volume, and operating the biggest yards, roundhouses, car shops and rail layout in the City.

The Panhandle's largest tributary rail feeder of coal traffic, still very active into recent years, was the PRR Cadiz Branch. This track ran from the Panhandle line at Cadiz Junction, some 120 miles east of Columbus, south for about ten miles to Cadiz, in Harrison County, the heart of a massive coal mining area (and the birthplace of Clark Gable, Hollywood icon of *Gone with the Wind* fame). PRR local mine runs dropped off empties and picked up cuts of loaded hoppers there. Electric utility customers in Michigan favored Cadiz coal, which the PRR delivered via Columbus up the Sandusky Branch to Carrothers, and then north via Toledo. The Panhandle also passed through areas dense with active on-line coal mines between Mingo Junction on the Ohio River, and Dennison. Coal traffic for the Panhandle also originated in Coshocton County, where Peabody Coal ran a large operation through the latter part of the 20th Century.

Due to transport economics, much of the coal originating at Cadiz and to the east most likely would have flowed into the Pittsburgh industrial area, and especially "Steel Valley" as the portion of the Ohio River Valley between Bridgeport and East Liverpool, Ohio is known. The River there was lined on both sides with a nearly continuous belt of coal-consuming steel industry complexes and tall-smokestack heavy manufacturing facilities.

The other big source of coal feeding onto the Panhandle, and probable origin of Columbus-bound loads, was the interchange at Trinway, in Coshocton County (Panhandle MP 136.0, 55 miles west of Columbus) where the CA&C Dresden Branch crossed the Panhandle. The CA&C had trackage rights onto the end-to-end PRR affiliate Cincinnati & Muskingum Valley Railroad (C&MV) near here. The CA&C switched coal mines as far down the C&MV as New Lexington, 38 miles south of Trinway, and also had coal traffic from mines at Millersburg, 38 miles north of Trinway. The C&MV also served numerous coal mines in heavy-producing Muskingum and Perry Counties. The affiliated Panhandle provided a logical interchange point to move Columbus coal from this area without giving up revenue share to competing unaffiliated roads.

There was strong competition for haulage of coal from Perry and Muskingum Counties from the B&O Zanesville line and B&O's Rock Run Branch (the former Newark, Somerset & Straitsville Railway), the T&OC, and the Zanesville & Western. But it appears the Panhandle held its own in securing coal bookings. The 1890 annual report of the PCC&StL indicates the line handled 2,668,000 tons of coal annually, which accounted for more than 20 percent of its traffic by tonnage, high for a principally east-west carrier. The Panhandle reported delivering 138,978 loaded cars to Columbus in 1890, but does not break out the portion of that represented by coal.

Interestingly, in spite of hauling 2.7 million tons of coal, and another million tons of coke in 1890, the PCC&StL reported that only 626 of its 10,261 cars were "gondolas," the equipment used to move coal in that era when hopper-bottom cars were just coming into widespread use. This suggests that much of the coal moving on the Panhandle was originating on other railroads and interchanging onto the PCC&StL.

A significant portion of the coal traffic arriving in Columbus on the Panhandle from eastern Ohio was destined for utilities and other consumers in Toledo and Michigan, and for "Upper Lakes" destinations, including paper mills, which received coal via water carriers. This traffic off the Panhandle moved north via the PRR's Sandusky Branch. Northwest Ohio and Michigan hoppers interchanged to the PRR Toledo Branch at Carrothers, with the Upper Lakes hoppers moving up to Sandusky Dock for transloading to steamships.



The Cleveland, Akron & Columbus Railroad

Possibly the most obscure of the railroads historically linking Columbus with coal producing regions of Ohio was the Cleveland, Akron & Columbus Railway Company, including both its original main line to Columbus and the CA&C Dresden Branch into the heart of Ohio's Coal Country.

The CA&C began with a charter granted in 1851 to build a branch of the Cleveland & Pittsburgh Railroad to run from Hudson, some 25 miles southeast of Cleveland in Summit County, through Akron and Millersburg in Holmes County, where coal mines opened around this time, and on to Columbus. The CA&C also opened short branches to very productive mines at Clover Hill in Stark County and Turkey Foot Lake in Summit County. This line was not completed to Columbus until 1873. The CA&C became affiliated with the Pennsylvania Railroad by 1899, and was fully consolidated with the PRR in 1925.

There is little history available regarding coal traffic over the CA&C main line into Columbus. Most likely Pittsburgh and Cleveland were initially bigger destinations for the Holmes, Summit and Stark County coal originating on this line. However, available annual reports of the CA&C from the early 1890s show that a significant and growing portion of the company's rolling stock consisted of "gondola coal cars" and 40 percent or more of its tonnage hauled was bituminous coal.

The CA&C's 260-car Chase Avenue Yard in Columbus, with a maximum track length of only 35 cars, was ill-suited for interchange of coal traffic. However, Chase Avenue was replaced by the expansion of Yard B with the CA&C portion of Yard B on the north side. This expansion would have facilitated coal traffic in both directions on the CA&C, as well as interchange to other PRR lines.

The CA&C's stake in coal haulage expanded dramatically with the completion of its Dresden Branch in 1888. This 36-mile track ran from Killbuck, in Holmes County, south through Warsaw, crossed the Panhandle at Trinway, and terminated two miles farther south at Dresden in Muskingum County, some 15 miles north of Zanesville. The Dresden Branch connected end-to-end with the long-time PRR affiliate Cincinnati & Muskingum Valley Railroad. The CA&C had operating rights by contract (railroaders often call this "running powers") over the C&MV, enabling the CA&C to run trains between Dresden and Zanesville, and south from Zanesville as far as New Lexington. Ohio government reports and other resources indicate the CA&C served various coal mines in Muskingum and Perry Counties. A 1914 Ohio Industrial Commission

Division of Mines Annual Report shows the CA&C serving mines along the C&MV track at Roseville, Crooksville, Goston and as far south as New Lexington.

Other than Columbus coal loads and empties interchanged into the PRR Panhandle at Trinway, it seems unlikely much on-line origin CA&C coal country traffic would have been destined for the capital city. The Dresden Branch ran 50 miles from the coal mining area to the CA&C junction at Killbuck, which was 80 miles from Columbus, with the challenging Baddow Pass 1.25 grades over five miles of sharply curving track in between. The track arrangement at Killbuck also appeared to be set up mostly for movements toward Cleveland. In contrast, New Lexington was only 52 miles from the T&OC's South Columbus coal receiving yard, with gentle grades. Coal moving over the Hocking Valley Railroad or over the B&O from Shawnee via Newark only had to roll about 70 miles.

The Dresden Branch only operated as a through CA&C connection to the coal counties until 1936. A portion of the right-of-way in Coshocton County was abandoned then due to a washout and continuing maintenance issues with the unstable 1,500-ft. Noland Tunnel (named after the owner of the farm on which it was built) between Warsaw and Trinway, and more likely, the devastating economic impact of the Great Depression. An eight-mile stub of the Dresden Branch between Killbuck and Blissfield remained in the timetable as the "Dresden Industrial Track" of the CA&C up into the 1970s. The orphaned piece of the Dresden Branch running north a few miles from Trinway was still in service as a Panhandle industrial lead until the 1960s.



CA&C Dresden Branch, Noland Tunnel, abandoned in 1936, North Portal (left) and South Portal (right) (2012).

For all its shortcomings, the CA&C was the PRR's link between Columbus and the traffic-rich Cleveland area. In the post-war era, it still supported some 18 daily trains, operating as the PRR Akron Division through the 1960s. After the 1968 PRR-NYC merger, the PennCentral held both the double-track 137-mile Big Four line between Cleveland and Columbus and the meandering 170-mile CA&C route to Cleveland through Hudson. The PCRR moved overhead traffic over to the Big Four line, and re-branded the 108-mile segment of the CA&C between Columbus and Orville as the "Akron Secondary Track," maintaining service with a pair of daily locals, all while eagerly looking for abandonment opportunities. After a July 4, 1969 storm caused a section of a bridge between Holmesville and Fredericksburg to collapse, the PC elected not to repair the damage, leaving the line cut at that point, effectively ending any CA&C role in Columbus coal traffic.



The Bradford Line

Also called the "Piqua Line" and "Bradford Side," this busy PRR line did not originate coal traffic but requires mention as a significant hauler of coal outbound from Columbus toward the massive Chicago area market. It was also one of the earliest components of what ultimately became the Pennsylvania Railroad in Central Ohio.

The Bradford Line, which departed Columbus via Grandview and Hilliards, began life as the Columbus, Piqua & Indiana Railroad between Columbus and Urbana in 1853, adding service through to Union City at the Indiana border by 1856. Later becoming the Columbus & Indianapolis Railroad, the line forked at Bradford, in Miami County, with the southern branch heading for Indianapolis via Richmond, Indiana, and the northern fork running via Union City to Logansport, Indiana and on to Chicago. After multiple reorganizations, the Bradford Line was leased to the Pittsburgh Cincinnati & St. Louis Railroad, which became the Pittsburgh Cincinnati Chicago & St. Louis Railroad, and later was leased to the Pennsylvania Railroad.

This line was reworked in 1900 to eliminate its steeper grades, making it more suitable for heavy coal drags.

As described below, the main coal traffic on this line was Chicago-bound L&N and N&W coal hoppers, with trains likely made up on the PRR leased tracks on the south side of Joyce Avenue Yard, and for a time during World War II, at the Hilliard Relay Yard.



The Miami Line

The PRR Miami Line also was not a notable coal hauler, and did not have on-line coal mines. But it should be included here, briefly at least, because it handled substantial overhead coal traffic coming up to Columbus from Kentucky, especially L&N hoppers moving through Undercliff Yard in Cincinnati. As noted below, much of this L&N coal, moving in the road's distinctive red-orange "Old Reliable" and "Dixie Line" hopper cars,² was destined for Chicago markets, departing Columbus via the PRR Bradford Line.

The Miami Line was a combination of the Columbus & Xenia, completed in 1850, which connected with the Little Miami Railroad running between Cincinnati and Xenia. The Little Miami and the C&X entered a joint operations agreement in 1853, thereafter competing as a single rail line. In 1869, the Little Miami was leased to the Pittsburgh Cincinnati & St. Louis Railroad,

² There is a significant body of literature on rail car livery colors. See, *L&N, Louisville & Nashville Color Guide to Freight and Passenger Equipment*, Vol. 1 Hardcover – January 1, 2000, by [Steven D. Johnson](#), Morning Sun Books.

which became the Pittsburgh Cincinnati Chicago & St. Louis Railroad, and was later leased to the Pennsylvania Railroad.

The Miami Line featured relatively easier grades, making it more attractive for Eastern Kentucky coal haulage north from Cincinnati than other options such as the C&O's Cincinnati-Chicago line.

PRR Coal Interchange and Distribution in Columbus

The Pennsylvania Railroad and its predecessor companies were the first to bring coal into and through Columbus by rail.³ With lines coming into the City from the east, north and west, the PRR did not carry a significant portion of the inbound coal arriving at Columbus, which originated largely from the south and southeast. Nevertheless, overall, it was at times the leading player in the coal trade. The PRR hauled huge volumes interchanging onto its tracks from other railroads toward major consumption points in northern Ohio, for loading to Great Lakes steamships, and to huge markets in the Chicago and Detroit industrial complexes. The PRR was also a major distributor of coal for local industrial and household consumption in Columbus and populous areas to the north and northeast.

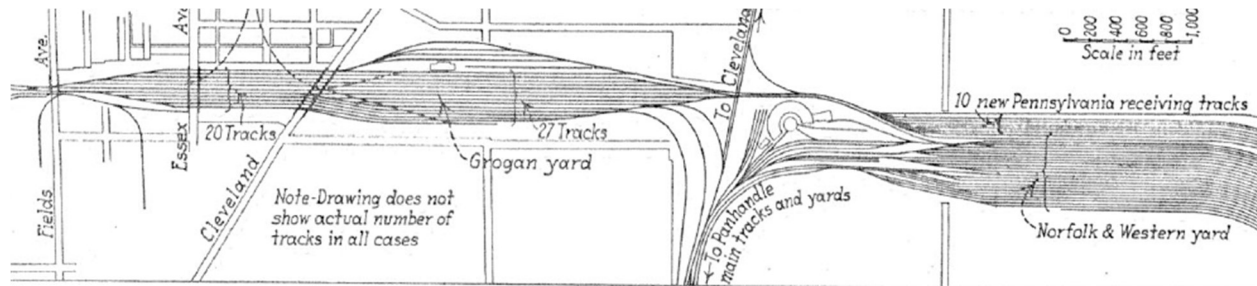
A main source of traffic interchanging onto the PRR at Columbus was Pocahontas and Thacker Coal from vast fields in eastern Kentucky, western Virginia and southern West Virginia. Pocahontas coal, rated above 15,000 Btu/lb. with good coking qualities, was a special favorite with the electric utilities and steel industries. The N&W and C&O lines from Kentucky, and the single-track T&OC, which reached far into southern West Virginia, were major haulers of this coal.

The N&W delivered northbound coal to the PRR at Pennor Yard. Inbound C&O coal arrived at Parsons Yard, south of Columbus, and would be transferred to the PRR at Grandview Yard. The PRR also operated an interchange track from the east end of Yard A over to the N&W right-of-way near the junction of Maryland Avenue and Sunbury Road. Virginian Railroad coal which reached Columbus via the T&OC over those two railroads' connection at Deepwater, WV, transferred onto the PRR via the T&OC's Auburn Track just west of LM Tower.

Cuts of colorful L&N coal hoppers originating in Eastern Kentucky were routed to Columbus via the PRR in Cincinnati, and north on the PRR's Miami Line past High Street Tower to Grogan Yard, sometimes with a helper engine up through Columbus Union Depot.⁴

³ For a far more detailed and well-researched history of PRR coal traffic and interchange in Columbus, and in particular the Sandusky Branch, with photographs, see *The Pennsylvania Railroad in Columbus, Ohio* by Rick Tipton, Pennsylvania Railroad Technica; 1st Edition (January 1, 2011), especially Chapters 8-10.

⁴ For the best view of historical rail yards and interchanges in Columbus, see the 1934 Unification Committee map on the Columbus Railroads website.



Grogan, Pennor and Joyce Avenue Yard. Diagram courtesy of Columbus Railroads.

The PRR's main coal traffic handling facility was its 1,162-car capacity Pennor Yard, consisting of ten long tracks on the north side of the N&W's "L"-shaped Joyce Avenue Yard. PRR also leased an additional four tracks on the south side of the Joyce Avenue yard. These tracks, and Grogan Yard just to the east across the CA&C diamond at Milo, were the main receiving and departure points for the PRR's outbound coal. These yards fed directly onto the Sandusky Branch and CA&C, and also had easy interchange access to the Panhandle, and thereby onto the PRR's westward Bradford Line, via the CA&C-N&W shared track south from Milo to Yard B.

The main outbound route for N&W coal interchanging onto the PRR from the N&W was the Sandusky Branch. From World War II on through the end of steam, the PRR would dispatch pairs of its J1 2-10-4s to back down to Pennor Yard to pull 125-car coal drags across the CA&C, through Grogan Yard, and swing north up the hill through Worthington toward Sandusky. As noted above, a portion of the Sandusky Branch traffic was also destined for Toledo and Michigan, switching onto the PRR Toledo Branch at Carrothers. The Sandusky Branch also saw substantial Virginian hopper traffic off the T&OC.

The PRR also shipped significant volumes of coal to the high-demand Chicago market via the Bradford Line, through Logansport, Indiana. The PRR made up its coal trains for Chicago principally in the four leased tracks in the south side of the N&W Joyce Avenue yard, with the trains departing via Union Station and High Street onto the Bradford Line. During World War II, as traffic congestion through High Street reached a near-paralysis level and the leased tracks at Joyce Avenue were in high demand for inbound coal from the N&W, PRR began transferring Chicago-bound loads to the Hilliard Relay Yard for train make up and departure. These Bradford coal drags were often double-headed with a pair of PRR N2 2-10-2s, or with a rear helper engine, with the helper usually dropping off at Bradford. C&O coal transferred to the PRR at Grandview Yard also moved on the Bradford Line toward Chicago, and a portion of the Virginian loads PRR received off the T&OC was also Chicago-bound via this route.



The PRR Coal Interchange Epicenter - PRR 7693, CC2s-class 0-8-8-0, June 10, 1936 crossing the Norfolk & Western - Cleveland, Akron & Columbus junction at Milo, later called Pennor Crossing in the PRR timetable, MP 142.0 on the CA&C. Grogan Yard is behind the camera. The west throat of Pennor Yard is in the background, and the N&W roundhouse is on the right. To the rear is what appears to be a Norfolk & Western "Y" class compound 2-8-8-2, brakeman hanging wide off the tender, likely backing down the lead to the N&W Joyce Avenue Yard just behind the roundhouse. Photo by Dick Acton, Sr. from Jay Williams Collection. For excellent map and photos of this area see: <http://www.columbusrailroads.com/N&W%20joyce%20ave.htm>

In the 1950s, the PRR used its venerable I-class 2-10-0 decapods, by then retired from road service on the Sandusky Branch, for transfer and yard switching work, and sometimes for fetching coal cuts from Pennor over to a departure track at Grogan for the big engines to take up the branch.

The PRR also had one of the larger industrial and switching track layouts in Columbus, distributing coal by the carload to perhaps several hundred commercial consumers along its lines. The detailed Columbus City maps provided on Columbus Railroads' links show the web of PRR tracks, especially to the south of the B&O Panhandle Line between East Columbus and downtown, and West of High Street.

Today

The once dominant Pennsylvania Railroad survives only in fragments in these parts of Ohio. The healthy N&W, now the Norfolk Southern, still operates the former PRR Sandusky Branch as its Sandusky District. What was the massive Grogan, Pennor and Joyce Avenue Yard complex, the largest hub for coal traffic interchange in Columbus, is now just the Norfolk Southern's through right-of-way along Bonham Avenue.

The Sandusky Coal Dock is still in operation, now almost exclusively handling metallurgical coal for the steel industries in the US and Canada. For a fascinating look at how the dock's gigantic full carload dumper works, along with its roller-coaster like gravity return for empty hoppers coming off the dumper, see video at: <https://www.youtube.com/watch?v=ynjSgkwDL8c>

The mighty Panhandle, long among the busiest lines in Ohio with upwards of 100 trains daily at its peak over the joint PRR-B&O C&N division's three and four-track main line between Columbus and Newark, still exists as the Ohio Central Railroad. But now it is now a quiet single track, with its iconic ponderous overhead signals removed. The interchange track between the former Yard "A" and the N&W near Sunbury Road is still there.

All but 1.7 miles of the original 105-mile CA&C Akron Secondary Track between Grogan Yard and Orrville was abandoned in stages beginning in 1969, continuing into the Conrail era, with the Columbus to Mt. Vernon portion hanging on until the very end. The formerly bustling CA&C Pennor Crossing is now a lonely diamond plus a few switches in a weedy industrial area just off I-670. But the old shared track with the N&W still runs down toward the former Union Station site, and portions of it still serve several very active industrial shippers via the old Z&W right of way near Woodland Avenue.

Fragments of the Bradford Line continue to serve as switching tracks west of Columbus. The Miami Line remains intact as far as London where its traffic moves over to the former Big Four toward Springfield. Some of the abandoned PRR rights-of-way have been repurposed as recreational trails, with the rest of the routes now growing new forest covers with only a few bridges and abutments remaining.

Part 2 - The New York Central Lines - The Big Four, CS&H, T&OC and Z&W

Notes and References:

Note: If the link does not work, copy and paste the link into your browser.

Annual Reports of the Cleveland, Akron & Columbus Railroad - 1889-1904:

[https://urldefense.com/v3/__https://digitalcollections.nypl.org/items/4d2e18a0-debb-0131-bf6a-58d385a7b928*/?uuid=4de88e90-debb-0131-1e05-58d385a7b928_!w!!IxpIwRwUhHKm2S8!X6kw3NhiG1zOBzbzxVntzuNw9hayXSWPnpWeSqueK0E8LC5Xw8p9qj06bfbQAHRJ25_ZCg\\$](https://urldefense.com/v3/__https://digitalcollections.nypl.org/items/4d2e18a0-debb-0131-bf6a-58d385a7b928*/?uuid=4de88e90-debb-0131-1e05-58d385a7b928_!w!!IxpIwRwUhHKm2S8!X6kw3NhiG1zOBzbzxVntzuNw9hayXSWPnpWeSqueK0E8LC5Xw8p9qj06bfbQAHRJ25_ZCg$)

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CA&C Station Photos from West2K Ohio Station Database:

<https://www.west2k.com/ohstations/stations.htm>

PRR Track Charts, 1967 (Panhandle Cadiz Jct. - Columbus, Sandusky Branch, CA&C and Dresden Branch, C&MV):

<http://www.multimodalways.org/archives/rrs/PRR/PRR%20Track%20Charts/PRR%20Track%20Charts.html>

Industrial Commission of Ohio, Division of Mines, 40th Annual Report, December 31, 1914: <http://genealogytrails.com/ohio/athens/coal.htm> Mines listed as being served by the CA&C: Keystone Nos 1 and 3 at Crooksville, Rend Mine at Crooksville, Keystone No. 4 at Roseville, Lilly Mine at New Lexington, Bear Run No. 1 at Goston

Annual Reports of the Pittsburgh Cincinnati Chicago & St. Louis Railway Company, 1890-91:

https://www.google.com/books/edition/_/j4ApAAAAYAAJ?hl=en&gbpv=1

History of the Sandusky coal docks, 1891-present:

<http://sanduskyhistory.blogspot.com/2018/12/a-history-of-coal-docks.html>

Video of PRR J1s and Santa Fe 2-10-4s at Sandusky, 1956-7: <https://youtu.be/u5zOCNNw6t0>