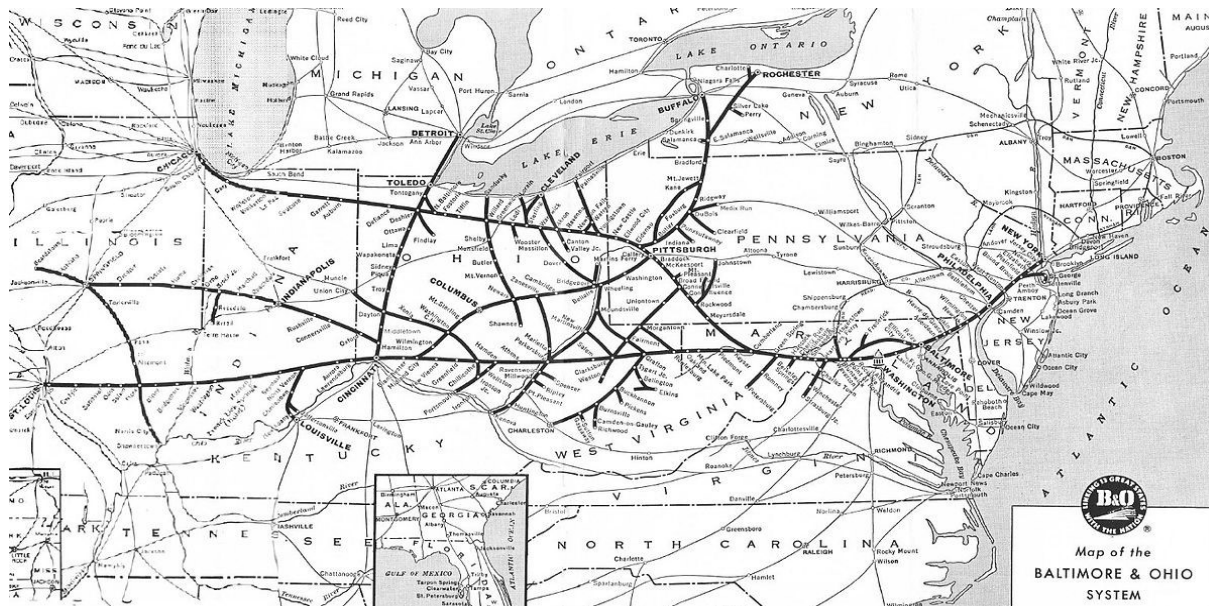


Part III - The Baltimore & Ohio - Newark Division¹

Coal on the B&O

The B&O was America's first railroad, both chronologically and in its corporate ambitions and realized destiny. Chartered in 1827, the B&O was initially conceived as infrastructure to keep the Port of Baltimore competitive in the canal era. When eastern port cities' enterprises pursued canal construction to reach inland markets, Baltimore faced the obstacle of hills and grades immediately to its west, making a canal unrealistic. The B&O's objective was to provide a rail link from Baltimore to Cumberland, Maryland, where the Potomac River cut through the Allegheny ridges, to compete for the expected westward expansion traffic with the Chesapeake & Ohio Canal building upriver from Georgetown in the District of Columbia. Interestingly, due to the relative ease of rail construction compared with canal building, the railroad reached Cumberland by 1842, eight years ahead of the C&O Canal.



Map of the B&O Railroad at its peak in the 1950s. The B&O operated 5,658 miles of main line, secondary and branch tracks, including 1,858 miles of right-of-way in Ohio. To enlarge the map →

<http://www.columbusrailroads.com/new/pdf/ajc%20b%20o%20map-3000.pdf>

The B&O did not pause at Cumberland. Unlike most of the rail enterprises in that early era, which sought to build short point-to-point links, the B&O envisioned a grander rail system of multiple

¹ This summary of coal traffic and interchange on the B&O Railroad in and around Columbus covers only a small portion of the complex and colorful history of the B&O in Central Ohio during the 19th and first half of the 20th Century. For a good summary of this background detail, see *Roots of the Baltimore & Ohio Railroad in Columbus, Ohio*, an unpublished 1952 manuscript by Rowlee Steiner, available on the Columbus Railroads website at:

[http://www.columbusrailroads.com/new/live/05Steam_Railroads/11Baltimore_&_Ohio/01Roots_of_the_Baltimore_and_Ohio/B&O_by_Rowlee_Steiner.pdf](http://www.columbusrailroads.com/new/live/05Steam_Railroads/11Baltimore_&_Ohio/01Roots_of_the_Baltimore_and_Ohio/B%20O_by_Rowlee_Steiner.pdf)

connected lines under common control, reaching not only the Ohio River, which it did in 1852, but well beyond. The B&O reached St. Louis by 1857, and Chicago in 1874.



B&O Triple-Header, Trumbull County, Ohio, 1956.

Almost from its birth, the B&O was a coal hauler. By 1915, the B&O was operating 25,000 hopper cars, carrying 33 million tons of coal annually, some 40 percent of its overall traffic.² During World War II, B&O coal movements surged to over 50 million tons annually.³ The most iconic photos of B&O freight operations in the steam era have always been teams of muscular "Big Six" 2-10-2s and workhorse EL-class 2-8-8-0s lugging coal tonnage over the road's Allegheny summits at Sand Patch, in Pennsylvania, and the Cranberry Grade in West Virginia, or dramatic lash ups of three EM-1 class 2-8-8-4s tackling Swine Creek Hill on the B&O Lake Branch in Northeast Ohio toward Fairport Dock.⁴ However the story of historical B&O coal haulage in and around Columbus is more complex and obscure.

The B&O in Central Ohio

The B&O built and assembled two main lines west from Cumberland, one built in the 1850s through Wheeling, West Virginia across Southern Ohio through Athens, Chillicothe and Cincinnati toward St. Louis, and the other following much later, through Pittsburgh and across Northern Ohio and Indiana to Chicago.

Before tackling its northern line, the B&O established a second line across Ohio through Columbus, by way of Bellaire, Zanesville, Newark and the southwest from Columbus through Grove City and Washington Courthouse to Midland City to the southwest, where it merged into the B&O's southern main line to Cincinnati. The 33-mile B&O line between Columbus and Newark, shared with the Pennsylvania Railroad's Panhandle line, was the C&N Division. The

² Ninety-First Annual Report of the President and Directors of Stockholders of the Baltimore & Ohio Railroad, <https://babel.hathitrust.org/cgi/pt?id=osu.32435064249998&view=1up&seq=3&skin=2021>

³ The Baltimore & Ohio Railroad Company, Annual Report, 1942, https://umedia.lib.umn.edu/item/p16022coll284:7679/p16022coll284:7677?child_index=19&query=&sidebar_page=7

⁴ For details and photos of this operation, see: <https://www.trumbullcountyhistory.com/baltimore-ohio-railroad-lake-branch/>

B&O's Newark Division, which was virtually all single track lines, included the 103-mile Bellaire-Newark track, known as the Central Ohio Subdivision, the 71-mile Columbus-Midland City line, known as the Midland Subdivision, the 44-mile Shawnee Subdivision south from Newark into the heart of Ohio coal country, best known as the Rock Run Branch, the 116-mile Lake Erie Subdivision from Newark to the Sandusky Coal Docks, and the Ohio & Little Kanawha Subdivision running 84 miles southeast from Zanesville to Belpre on the Ohio River opposite Parkersburg, West Virginia.

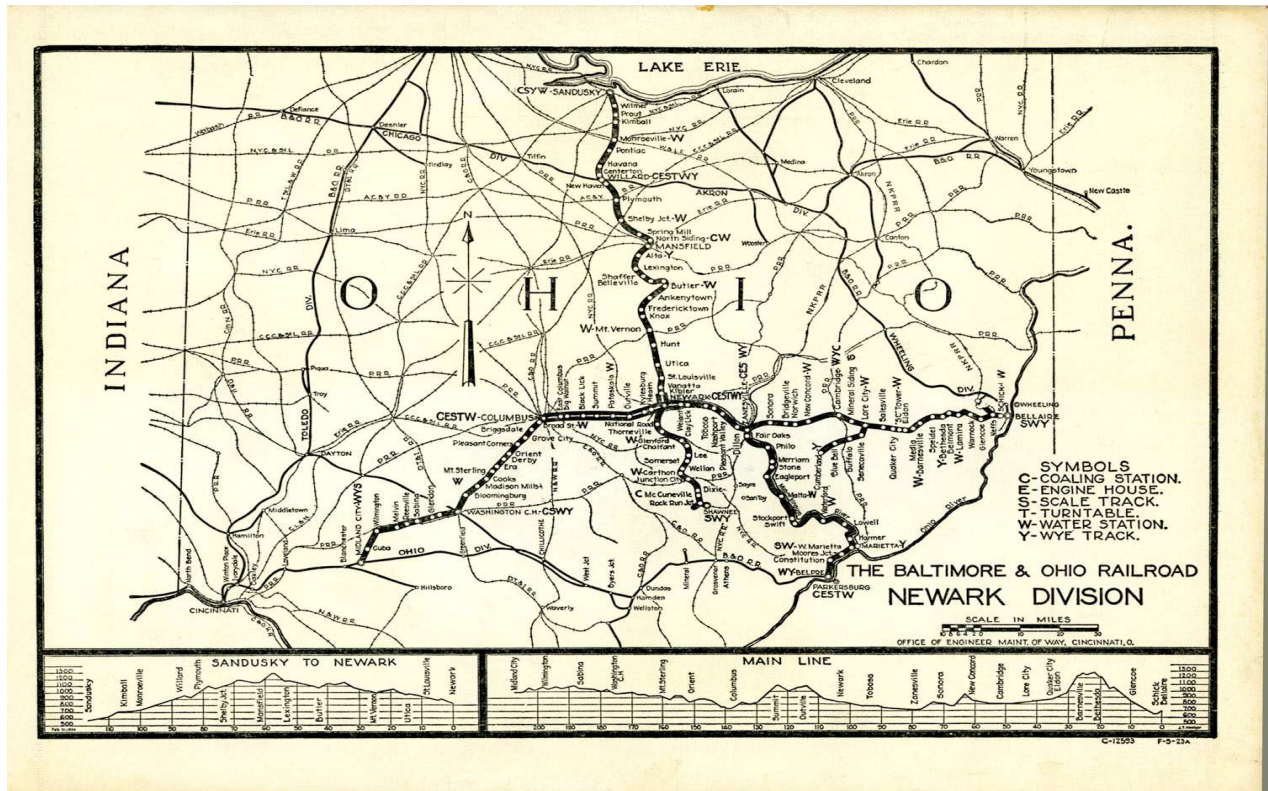
The B&O Central Ohio lines were the platform the B&O originally used to reach Chicago. The B&O built and acquired lines westward from Willard, on the Lake Erie Subdivision, reaching Chicago by 1874. From that time until completing its lines from Cumberland through Pittsburgh and Akron to Willard in 1893, the B&O's trains between Chicago and the East Coast ran over the Central Ohio lines between Bellaire and Willard via Newark. While today we think of the B&O Central Ohio lines as having been minor regional branches, B&O timetables and Official Railway Guide entries in that era showed Zanesville, Newark, Mt. Vernon and Mansfield as stations on the B&O's main line from New York to Chicago, carrying the mighty B&O's elite top varnish passenger trains for two decades. Only after the Akron Division was opened and took over the Chicago traffic, did the Newark Division lines become a secondary operation.



B&O System Map, c. 1876, showing the Central Ohio Bellaire-Newark line and Newark-Sandusky line as segments of the B&O's first through route to Chicago. To enlarge the map →

<http://www.columbusrailroads.com/new/pdf/b&o%201876%20map%20library%20of%20congress%202000.pdf>

The focal point of these Central Ohio operations, especially for coal haulage, was at Newark, rather than Columbus. The B&O had a big 25-stall roundhouse in Newark, which serviced road engines running through Columbus. The two-stall B&O engine facility near Columbus Union Depot was only used to service a pair of local and transfer service E-27 2-8-0s assigned to Columbus plus a Q-4 2-8-2 used as a helper between Columbus and Summit Station, at the top of the grade to the east. The B&O's only yard facility in Columbus was the miniscule 4th Street Yard. In the late 1950s the B&O added a new small yard near Port Columbus. But the B&O remained by far the Columbus railroad with the most modest facilities and lowest service profile.



Map of the B&O Newark Division, showing B&O lines to Sandusky, Bellaire, Parkersburg, Shawnee and Midland City, c. 1952. To enlarge the map →

<http://www.columbusrailroads.com/new/images/photos-steamroad/b&o%20map-1500.jpg>

The B&O's various subdivisions carried substantial coal from mining regions in Southeast and Eastern Ohio toward Newark. But the apparent predominant routing from there was north to the Lake, not toward Columbus. The B&O, as one of the dominant and well-connected railroads in Cincinnati, also had access to enormous volumes of coal arriving there off the Louisville & Nashville and several other lines from Eastern Kentucky. There are reports of B&O moving coal traffic over the Newark Division in the 1940s, including L&N hoppers. But most of this traffic from Cincinnati moved directly north up the B&O's Toledo Division to the Lake or on to Michigan, rather than through Columbus. Although the B&O local traffic in coal between Midland City and Newark, covering Washington Courthouse and the Columbus area, was no doubt substantial, there is not much evidence of any sustained regular coal overhead traffic on these B&O lines through Columbus.

While generally if you saw a coal hopper elsewhere in Ohio the odds might be more likely it would be a B&O car than that of any other railroad, that was not the case in Columbus. Nevertheless some B&O coal and empty hopper returns did move through Columbus and interchanged with other railroads in the city.



Columbus and Newark Division (C&N).

Between Columbus and Newark, the B&O shared 33 miles of right of way with the PRR Panhandle line. This route was at times Ohio's heaviest traffic railroad, with reportedly 89 trains daily at its peak. Its distinctive features included being dead straight for many miles between Blacklick and Outville, with a continuous but undulating long uphill grade of slightly less than 1.0 percent between East Columbus (C&N Milepost 28.3) and Summit (MP 18.9). Railroaders noted that the headlight of a train coming up on this bee-line stretch would disappear and reappear three times before reaching Summit. The C&N was double and even triple track in places, laid with hefty 130 and 140-lb. rail on meticulously maintained crushed stone and slag ballast.

This line was originally built as part of the Central Ohio Railroad, a very big undertaking for its time. Commencing in 1847, and intending to be a westward connection for the B&O which was building toward Wheeling (at the time in Virginia) on the opposite shore of the Ohio River, the Central Ohio route ran from Bellaire through Zanesville, Newark and on to Columbus. The Newark-Columbus section entered service in January 1853, being the third rail line to reach the City after the PRR predecessor Columbus & Xenia in 1850 and Big Four predecessor CC&C in 1851. The Zanesville to Bellaire section opened in 1854, providing a through connection.

In spite of having such advantageous eastern connections, the Central Ohio suffered from the typical shortcomings of early US railroads caused mostly by inadequate capitalization, including poor rolling stock, unballasted lightly built track that led to derailments, insufficient passing tracks and yard capacity. It went into receivership in 1857. The B&O acquired an interest in the company, supported it through the Civil War and leased it in 1866. Under the B&O, the line upgraded its facilities substantially. The B&O also built a monumental bridge across the Ohio River at Bellaire in 1871, leading to increased traffic and economic health for the line. In 1864, the PRR Panhandle predecessor Steubenville & Indiana Railroad obtained trackage rights over the line from Newark into Columbus, leading to the B&O-PRR shared use of the C&N that continued into the modern railroad era.

While Panhandle trains moved a considerable volume of coal from the PRR's on-line mines in Eastern Ohio westward over the C&N toward interchanges in Columbus, the B&O's regular trains into Columbus did not appear to include coal drags or concentrations of loaded hoppers in their manifest trains. Most likely the vast bulk of coal moving to Newark from the B&O Newark Division lines flowed north from Newark on its Lake Erie Subdivision line toward the Sandusky Docks and Chicago.

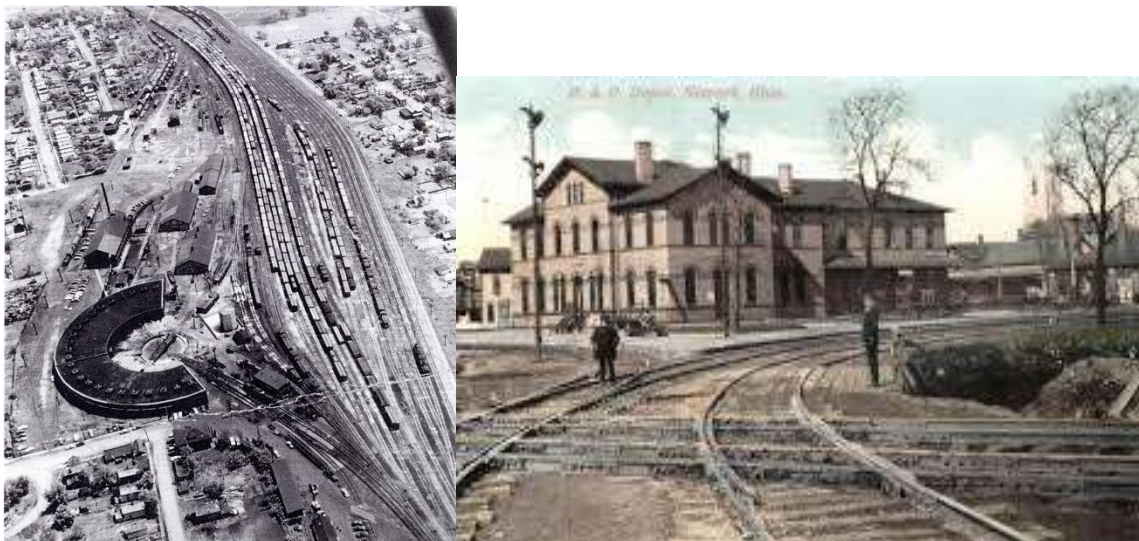
B&O locals on the C&N also served substantial coal-consuming customers. These included in-town industries such as the Ralston Steel Car plant and its neighbors in the Rarig's neighborhood near East Columbus. Reportedly the 48-acre Jeffrey Manufacturing complex ran on coal delivered by the B&O Rock Run Branch and C&N from a Perry County mine owned by Joseph Jeffery. Local home heating and commercial coal dealers also took daily deliveries off team tracks and coal tracks along the C&N through the first part of the 20th Century before gas utilities reached consumers.

A prominent coal-fired facility served by the B&O on this line was the big two-stack utilities plant that served the sprawling Columbus Quartermaster Reserve Depot in Whitehall. The depot was

built in 1918 to the south of the C&N right of way between East Columbus and Hamilton Road. It eventually covered 576 acres, employing 10,000 workers and housing Axis prisoners during World War II. Popularly known as the "Army Depot," this rail-centric site was chosen because of its ready access to the adjacent B&O, Panhandle and T&OC and nearby N&W lines. The depot included more than 15 miles of track, including the right of way of the T&OC's East Columbus Branch, a ten-track yard on the north end parallel to the C&N with connections to the C&N at either end, and 17 half-mile long switching tracks serving the Army's vast materials warehouses running south toward Broad Street.⁵ As late as 1959, the Army appropriated \$2.8 million to build this coal-fired plant to replace various decentralized facilities on the depot.⁶ The B&O backed cuts of hoppers into the depot yard using a long switching lead that ran from East Columbus to the west throat of the depot yard. The depot's own small switching engine and crews spotted the cars at the power plant.

The B&O Newark Division

The B&O's Newark Division included as its subdivisions the Midland line from Columbus southwest to Cincinnati, as well as the original Central Ohio line between Newark and Bellaire, the Lake Erie line north from Newark to Sandusky, Rock Run Branch from Newark south to Shawnee, and the oddly-named Ohio & Little Kanawha subdivision that ran from Zanesville southeast to Parkersburg, West Virginia. The focal point of all these operations was at Newark.



The B&O at Newark, Ohio. (R) The B&O yard, shops and engine house just east of Lake Erie Crossing in Newark. <https://www.theclio.com/entry/102650> ; (L) Lake Erie Crossing and Newark Depot, circa 1900, looking west, with the Central Ohio line to Zanesville and Bellaire behind the camera, the PRR Panhandle crossing, and Lake Erie line to Sandusky in the upper right.

⁵ See diagram of the Army Depot rail layout and power plant and description at Columbus Railroads: http://www.columbusrailroads.com/new/?menu=06Industry&submenu=01Army_Depot&submenu4=16Railroad_Structures

⁶ Report, Hearings before the Subcommittee on Military Construction, Senate Committee on Armed Services, 86th Congress, First Session, on S. 1086 and H.R. 5674, March 10 - April 29, 1959, p. 257.



Midland Subdivision - Cincinnati to Columbus

For some 30 years after reaching Columbus from the east, the B&O terminated there without pushing on to Cincinnati as originally intended. With B&O assistance, the Columbus & Cincinnati Midland Railroad (C&CM) was completed in 1884, running 71 miles southwest from Columbus via Grove City and Washington Courthouse to tiny Midland City, 44 miles east of Cincinnati on the B&O's southern main line, then known as the B&O Southwestern Railroad (B&OSW). The C&CM was absorbed by the B&OSW in 1890, and the B&OSW was taken into the parent B&O in 1900. The C&CM was a relatively late entrant to the Columbus market, approaching the City from the west over shared track with the Big Four into High Street and the Columbus Union Depot, where it connected end-to-end with the B&O C&N Division.

Not ever apparently a heavy haulage line, with relatively modest local business between Columbus and the Cincinnati urban area west of Midland City, the Midland Subdivision for many years carried only the B&O's few Central Ohio passenger trains, several regular manifest freight trains and daily locals. The Columbus Midland City local worked from Columbus, and the C&N local worked from Newark. As noted above, the B&O did not have a fully-found engine house in Columbus, supporting only three locally-assigned smaller locomotives there. B&O's freight and passenger road engines running through Columbus were serviced at the big roundhouses in Newark and Cincinnati.

There is scant evidence of the B&O moving coal over the Midland Subdivision as overhead traffic to Columbus in any large quantity. After the big L&N Bridge was opened across the Ohio River at Cincinnati in 1872, the B&O, as the dominant connecting railroad at Cincinnati, had access to great volumes of northbound coal from Eastern Kentucky. In 1917, the B&O acquired the Cincinnati, Hamilton & Dayton Railroad (CH&D), which had a line running from Cincinnati to Toledo and into Michigan. This became the B&O Toledo Division, which gave the B&O a direct route for Kentucky coal coming onto its system in Cincinnati to the Toledo Lakefront Docks, as well as B&O's northern main line running to Chicago to the west, and Lorain, Cleveland and a number of other Lake Erie docks to the east.

The competing Cincinnati-Columbus lines of the NYC and PRR carried at least some Kentucky coal north to Columbus. With 115 miles of fairly flat road, with no long grades and shorter slopes not exceeding 0.88 percent and without any congested crossings with other railroads (the C&CM did not go through the Dayton area), the B&O would seem to have been competitive for some of this traffic. However, the C&CM had no long passing tracks and was laid with almost all 100-lb. and 115-lb. rail, and with the heavier hoppers used by the early 20th Century B&O would have had to consider a major upgrade. While apparently it was not a sustained practice, the B&O did at times bring volumes of coal destined for the Chicago area into Columbus for interchange to the PRR Bradford Line.⁷ Observers have recollections of L&N hoppers moving elsewhere on the

⁷ Rick Tipton, *The Pennsylvania Railroad in Columbus*, Pennsylvania Railroad Technical and Historical Society, 2011, p. 139

B&O Central Ohio routes. Likely these would have been carried up from Cincinnati on the Midland Subdivision.



Central Ohio Subdivision - Bellaire to Newark.

As noted above, the predecessor Central Ohio Railway was built west from Bellaire starting in 1847. The B&O intended this to be an extension of the line it was building from Cumberland, Maryland toward what was then the Virginia side of the Ohio River near Wheeling, which it would reach by 1852. The Ohio Central route had substantial on-line coal mines in Belmont County, and served Barnesville and Zanesville, which were emerging as major coal producers. Zanesville was already shipping via the Ohio Canal and Muskingum River Improvements, which reached there in 1841. However, the Central Ohio encountered daunting engineering obstacles, including a major rock cut at the Black Hand Gorge near Toboso, a challenging tunnel at Cambridge and numerous bridges including a long span across the Muskingum River at Zanesville. The route was in service from Bellaire to Newark by 1854, meeting the Columbus-Newark track finished the year previous, and the full 103 mile connection from Bellaire to Newark was then complete.

Also mentioned above, this railroad experienced severe financial difficulties and was taken over by the B&O by 1866. In 1872, the B&O opened its bridge across the Ohio, giving the B&O a through rail line to Cincinnati and St. Louis.

East of Newark, the Bellaire line was single track. Although operated as a secondary route after moving Chicago traffic to the Akron and Wheeling Divisions by 1893, the B&O had many substantial shippers on the line, which it eventually re-laid with 120 and 130-lb. rail and more substantial ballast in places. The Bellaire line had several long and fairly steep (up to 1.75 percent) grades, many sharp curves, bridges and tunnels through rough country, with a long grade bringing the track up over 600 feet from the Ohio River to Barnesville.

This line was among the first to reach Zanesville. This city was a vibrant industrial and mining center by the mid-to-late 1800s. Eventually Zanesville was also reached by the PRR's Cincinnati & Muskingum Valley RR, PRR's CA&C (with running rights off its Dresden Branch), the Wheeling & Lake Erie (later part of the Nickel Plate and then N&W), and the Columbus, Shawnee & Hocking (later the NYC's Zanesville & Western), plus some more obscure roads like the Bellaire, Zanesville & Cincinnati. It was served by a local "belt" switching line, the Zanesville Terminal Railroad, had one of the more complex rail layouts in Ohio.

Zanesville was the hub of an enormous flow of coal/ Related manufacturing and supply industries driven by the mining industry sprung up in the city. There was good coal traffic available on the B&O there from multiple on-line mines in Belmont, Guernsey and Muskingum Counties. Additionally, several tributary lines, including one that later became the B&O's Ohio & Little Kanawha branch to Parkersburg and other short tracks to St. Clairsville north of Bellaire, a 16.7-mile branch from Lore City to Cumberland, and an industrial spur at Fair Oaks, fed a daily stream of coal hoppers into Zanesville. From there, coal flowed north and west to various markets via B&O's trains to Newark and Columbus, as well as to Lake Erie ports via these various railroads.



Shawnee Subdivision - the Rock Run Branch

The Newark, Somerset & Straitsville Railroad (NS&S) was chartered 1867, and purchased the stalled works of a predecessor line, the Scioto & Hocking Valley, between Newark and Junction City (originally called Wolf Station). The NS&S constructed 44 miles of single track line between Newark and Shawnee by 1872, originally with 54 and 62-lb. iron rail, later upgraded but only to 90 and 100-lb. rail. The route began at a junction with the C&N track and a small yard a mile east of Lake Erie Crossing in Newark, proceeding south, skirting the east end of Buckeye Lake, through Thornport, crossing the Columbus, Shawnee & Hocking (later the Zanesville & Western) at Walser, south through Somerset, crossing the Columbus & Muskingum Valley (later Pennsylvania Railroad also used by the T&OC) at Junction City, and then southeast to Shawnee. The steepest northbound grade was 1.94 percent, with several others over 1.6 percent. The route included the 1,100-foot Bristol tunnel south of Junction City and a narrow rock cut just north of Somerset, so tight that passing trains in winter reportedly would knock snow and ice loose from the walls.

Just after completion, the NS&S was leased to the Sandusky, Mansfield and Newark Railroad, with an arrangement for the B&O to equip and operate the combined enterprise. B&O would operate this line for the remainder of its 99-year existence. In 1900, B&O affiliate the Ohio Midland Railroad purchased the NS&S, and in turn the Ohio Midland was purchased by the B&O in 1915. The former NS&S eventually became known as the Straitsville Division and later the Shawnee Subdivision or Rock Run Branch in B&O in timetables.

The NS&S built six short spurs out from Shawnee to coal mines in the immediate area. The line had an interchange track at Shawnee with the Zanesville & Western, and onto the Toledo & Ohio Central and Kanawha & Michigan via the T&OC Buckingham Branch at Glouster. The NS&S, by then operated by the B&O, also built an 2.8-mile branch track in the mid-1880s from Shawnee⁸ to what was called the Jobs Mines.

It is a matter of some debate whether the NS&S ever reached New Straitsville, which is separated from Shawnee by a high ridge. A detailed 1898 Perry County rail map shows a Hocking Valley Railroad track connection between McCuneville, on the NS&S just north of Shawnee, over to New Straitsville, and detailed Ohio rail maps from 1894 onward, available on the "Steam Railroads Maps & More" page of Columbus Railroads, show that McCuneville-Straitsville track but indicate it was part of the B&O. The McCuneville-Straitsville track is also identified as a B&O "spur" in the railroad's 1971 abandonment application.

⁸ <https://www.abandonedrails.com/rock-run-branch>



Shawnee, c. 1909, Little Cities Archive

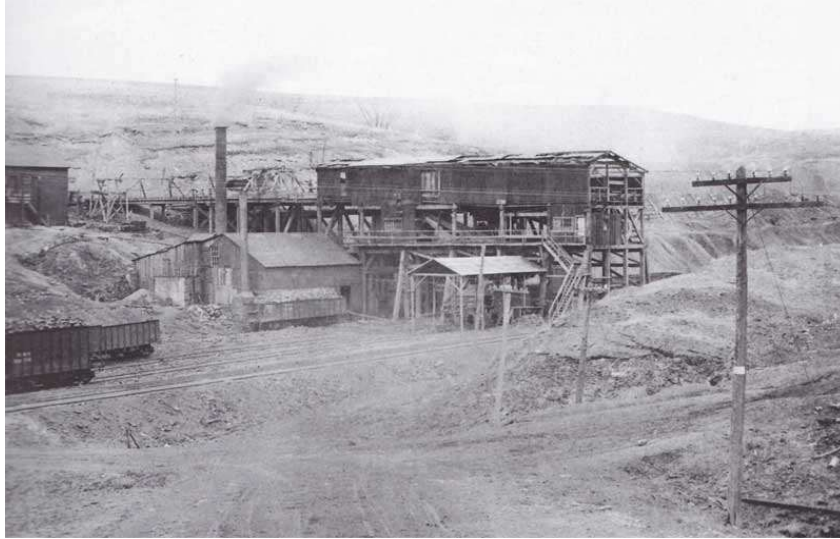
The NS&S southern terminal at Shawnee was deep in coal country, and coal was its principal "earner" commodity from the start. In its first year, 1873, the NS&S reportedly carried 115,800 tons of coal to Newark; nearly all this coal originated in Shawnee and most was bound for Great Lakes ports. As shown in an 1882 annual report, the company's 266 employees and 13 locomotives (three fitted with train brakes) hauled 181,000 tons of coal, 73 percent of its freight by weight. The line also was converting from wood to coal fuel, using over 10,788 tons of coal and only 183 cords of wood annually by 1882.⁹ A 1914 Ohio state coal mining report shows multiple coal mines on the Rock Run Branch in Perry County. Perry County's overall coal production peaked at 3.7 million tons in 1920, followed by several other 3-million ton years just after World War II, but dwindling thereafter to a small fraction of that by the 1970s.¹⁰ The NS&S also carried substantial clay and brick traffic from numerous kilns ranging from Shawnee up to Junction City.

"The usual rate of charge for coal over Ohio roads is one and a quarter cents per mile, per ton, so that the carriage to [Sandusky, Cincinnati, Cleveland and Toledo, each about 160 miles from the Hocking Valley mines] will not vary much from \$2.00 per ton. Adding to this \$0.90, the average estimated cost of mining the coal of the great vein, including expenses at the coal bank, this coal will then cost, when delivered at the principal points of consumption and of the shipment in Ohio, about \$3.00 per ton."

T. Sterry Hunt, *Hocking Valley Coalfield*, published 1874, Salem, Mass.

⁹ Annual Report of the Ohio Commissioner of Railroads and Telegraphs, 1882, https://www.google.com/books/edition/Annual_Report_of_the_Commissioner_of_Rai/UBk-AQAAMAAJ?hl=en&gbpv=1&dq=newark,+somerset+%26+straitsville+railroad+report&pg=PA1103&printsec=frontcover

¹⁰ James L. Murphy, *An Archaeological Study of the Rock Run Reclamation Area, Coal Township, Perry County, Ohio*, Grovetucky Press, 2011.



B&O Mine No. 3, Perry County, <https://littlecitiesarchive.org/tag/coal-mining/>

Rock Run coal was all carried to Newark. From there it could be dispatched on up the B&O Lake Erie Subdivision line toward the Sandusky Coal Docks or B&O northern main line. Rock Run coal could also move westward toward Columbus, but the available evidence suggests most of this volume moved north from Newark rather than into Columbus.



Lake Erie Subdivision - Sandusky Branch

This 116-mile B&O branch was the former Sandusky, Mansfield, and Newark Railroad (SM&N). The line ran north from Newark through Mt. Vernon, Mansfield and Shelby, crossing the B&O's Chicago main line at Willard, (originally called Chicago Junction, re-named in 1917 to honor then B&O President Daniel Willard), connecting at its northern terminus with the coal docks in Sandusky. Work on the SM&N began in 1846, and construction was completed by 1856. The track was originally 4 feet 10 inch gauge, then known as the "Ohio Gauge," supported by Ohio political interests in an ongoing self-destructive "Gauge War" with Pennsylvania.

The SM&N was leased to the Central Ohio Railroad almost immediately following its completion, with the lease guaranteed by the B&O. The B&O then acquired the line in 1869, and reset the gauge to standard 4 feet 8.5 inches. The B&O later upgraded the line with new rail, varying from 100-lb. to 130-lb. with the majority of its mileage being 115-lb. rails. Its grades were relatively gentle, with no sections over 1.0 percent.

The B&O built and acquired lines westward from Willard to Chicago, reaching that key market in 1874-5. As noted previously, through the late 1870s and 1880s, the B&O lines from Bellaire to Newark and Newark to Willard were part of the B&O through route from the East Coast to Chicago, with Zanesville, Newark, Mt. Vernon and Mansfield being prominent stations for the hottest trains in the B&O timetables. The B&O's ultimate northern route from Cumberland,

Maryland through Pittsburgh and Akron to Willard was completed in 1893, after which the Central Ohio lines were relegated to secondary status.

The Sandusky Coal Docks were among the early premier transloading facilities on Lake Erie, with three piers and a high capacity steam-powered car dumper in operation by 1898.¹¹ Sandusky also had facilities for handling other rail-transported bulk commodities such as ore, stone and grain. The B&O had other sizable industrial shippers there, including a big Hinde & Dauch paper mill (later acquired by Westvaco).

But the B&O also had excellent connections to four other Lake Erie coal docks (Toledo, Lorain, Cleveland and Fairport) using its northern main line to Chicago (denominated the Akron Division east of Willard and the Chicago Division west of Willard) and a series of feeder branches running north from that main line toward Lakes ports. By the 1950s, the B&O was moving much of its Eastern Ohio coal north and west over its Wheeling Division to Warwick, on its Akron Division, and then on west to Chicago or over the Cleveland Division's former Cleveland, Lorain & Wheeling (CL&W) routes to Lorain or Cleveland. The B&O scheduled 130-car coal drags over these routes from its main coal origination point at Holloway, in Belmont County near Bellaire.

The B&O could also utilize its bigger engines, including its T-3 and T-4 4-8-2 mountain types and "Big Six" 2-10-2s on those routes (some of these being on the roster at its Willard roundhouse), while the heaviest engines permitted on the Lake Erie Subdivision were the Q-4 mikados. The B&O's Lakes transload focal point shifted from Sandusky to more modern facilities its affiliates had built in Toledo and Lorain. Coal originating from Shawnee on B&O's Rock Run Branch continued to flow through Newark up the Lake Erie Subdivision until the Shawnee mines eventually played out in the 1950s. B&O coal traffic on the Lake Erie Subdivision all but ceased by 1960. Beyond that time, B&O moved its Eastern Ohio coal to its various Lake docks and toward Chicago on its Wheeling Division and the east-west main line across Northern Ohio. There are reports of B&O successor C&O moving N&W coal north on the Lake Erie Subdivision into the 1970s, which ended following a derailment at St. Louisville (MP 8.5 just north of Newark), apparently due to inadequacy of the 100-lb. rail. However, in 1975-6, the C&O abandoned most portions of Lake Erie Subdivision.



Ohio & Little Kanawha Subdivision

This oddly-named B&O branch is obscure and far from Columbus, but was in its day a significant B&O Central Ohio coal feeder line, worth mentioning here.

The O&LK ran 84 miles southeast from Zanesville along the west shore of the Muskingum River through Malta, just opposite McConnellsville, on to Marietta and down the north bank of the Ohio River to Belpre, opposite Parkersburg, West Virginia, where the B&O's southern main line to Cincinnati and St. Louis crossed into Ohio. This route was a key link of the early Ohio canal

¹¹ For a detailed history of the Sandusky coal docks, see: <http://sanduskyhistory.blogspot.com/2018/12/a-history-of-coal-docks.html>

network, which included the "Muskingum River Improvements," a series of eleven locks and dams built in 1836-41 between Marietta and the Ohio & Erie Canal at Dresden to make the river navigable for canal boats. The O&LK railroad featured mostly 100-lb. and even smaller rail, with multiple short grades over one percent, some as steep as 1.68 percent. The significant grades are surprising as this track hugs the west shore of the Muskingum and north shore of the Ohio for its entire distance.



Roxbury on the O&LK Subdivision, c. 1900, West2K Ohio Station Database.

Historical records for this line are sparse and inconsistent, with one otherwise reliable 1898 map calling it both the Ohio River & Western Railroad and part of the B&O Southwestern. However, the OR&W was a narrow-gauge line from Zanesville to Bellaire via Woodsfield, built in 1875-1884 and abandoned by 1931, which seems to have no connection with the O&LK's riverside route. Other good sources, including the reliable West2k Ohio Station Database refer to this line as originally the Zanesville & Ohio River Railroad, and later the Ohio & Little Kanawha Railroad (O&LK). Detailed historical maps provided through the Columbus Library, available on the Columbus Railroads website,¹² show a partially completed rail line from Zanesville to Roxbury in 1883, with no name indicated. By 1888, that line is shown as completed from Zanesville to Marietta, with the name "Zanesville & Ohio River," and this legend appears on maps up through 1899. Beginning with the 1901 map, that line is labeled as the "O&LK." By 1906, this map series lists the line as part of the B&O. A B&O subsidiary company by the name Ohio & Little Kanawha is listed as part of the Newark Division in some B&O corporate history references, one of which suggests the B&O acquired the O&LK between 1901 and 1904. Another academic resource indicates the O&LK corporation was formed in 1900 and existed until 1966.

The O&LK name seems strange, because the Little Kanawha River is actually on the West Virginia side, flowing into the Ohio at Parkersburg. There was a B&O-owned Little Kanawha Railroad, following that river southeast from Parkersburg for about 30 miles, abandoned in the 1930s except for a two-mile stub at Parkersburg that continues to exist as a short line.

¹² See Columbus Railroads "Steam Railroads Maps and More" page.

The O&LK served a rich coal mining area in its day. Detailed 1914 Ohio Industrial Commission reports show many active coal mines on this route in Muskingum and Morgan Counties, and at McConnellsville feeding volume onto the line toward Zanesville.

Little evidence exists regarding the volume or directional movements of coal from this Subdivision. Given various known traffic flows, coal likely would have moved north on the O&LK Subdivision and then west from Zanesville, and then either west or north from Newark. But it also could have gone north or west from Zanesville on any of four other railroads covering that interchange, or possibly even moved east on the B&O main line from Parkersburg at times.

B&O Lakes Coal

B&O was among the earliest rail lines to haul coal to Lake Erie ports, and for much of its life, the B&O was also among the largest volume hauler servicing the Lakes trade.

<i>Ohio's Lake Erie Coal Docks</i>	<i>Principal Affiliated Railroads</i>
Toledo Lakefront Dock	NYC (T&OC), C&O (Hocking Valley), B&O
Sandusky Docks 1, 2 and 3	PRR (Sandusky Short Line), B&O, NYC (Big Four)
Lorain Coal Dock	B&O
Huron Dock	Wheeling & Lake Erie
Cleveland - Coal Dock 24, also Docks 1,2,3 and 6 and Whiskey Island	PRR, NYC (Big Four), Erie, B&O
Fairport Harbor Coal Dock	B&O
Ashtabula	N&W, B&O, PRR
Conneaut	N&W

Through the B&O's Newark-Sandusky Lake Erie Subdivision line, and five short feeder lines between the B&O's Chicago main line Chicago and Akron Divisions and the Lake shore, B&O connected not only with the Sandusky Coal Docks, but also with Toledo Lakefront Docks, and other coal docks at Lorain, Cleveland and Fairport, near Painesville. While the B&O Lake Erie Subdivision fed coal from mines on the Rock Run and Bellaire Branches toward Sandusky, the B&O Cincinnati-Toledo-Detroit line carried coal coming into Cincinnati off the L&N to Toledo, and multiple B&O eastern Ohio lines fed coal from the big mining areas in Belmont and Jefferson Counties to Lorain, Cleveland and Fairport.

Evolution of the Hopper Car

Primeval railroads hauled coal and other minerals in open-top gondola cars. These could only be discharged at destination by crews of workers with shovels, a slow and costly process.

By the 1820s and 30s, mines were using two-axle, horse-drawn "jimmies," with a capacity around 1.5 tons, to carry coal or ore to be dumped into barges. The car bottom could be opened using a lever. The first railroad to adapt this bottom-opening hopper arrangement for over-the-road haulage was the Lehigh's Mauch Chunk & Summit Hill Railway in Pennsylvania.

Led by the Delaware & Hudson Railroad, through the 1840s and 1850s U.S. railroads developed four-axle cars with one and eventually multiple improved discharge chutes. These eventually reached capacities of up to 40-50 tons in the late 1800s, with three and even four chutes.

Whether loading, riding or discharging, coal, ore and gravel are hard on equipment, which was still largely wooden in the mid-19th Century. Hoppers would quickly wear out from abrasion of the cargo on the sides and chutes, and stress of heavy loads on the frames. Car builders added metal side and bottom linings, and iron chutes, and quickly progressed to longer-life all-steel cars. As early as the 1830s, top covers were added to hoppers facilitating carriage of grain and other commodities that required protection from the weather.

Beginning in the 1890s, marine terminals, utilities and industrial facilities receiving coal and ore developed dumping machinery, capable of grasping and rotating an uncoupled car sideways to discharge its entire load instantaneously onto a ship or bulk handling conveyor. The big Lake Erie coal terminals in Ohio featured this capability by the late 1890s. The Sandusky Dock car dumpers were sized to handle cars of up to 100 tons capacity, even though cars that large did not appear until some decades later. These dumpers also enabled construction of 100-ton "bathtub" gondolas, with no chutes, assigned to unit trains that only ran between mines to unloading destinations with dumpers.

The last major technical development was the rotary coupler, for which the first patent filings appeared in 1964. This device allowed coupled cars to be pulled through the dumper device and rotated without uncoupling and individual handling. Here is an interesting brief video of a model railway showing how the rotary coupler car discharge device operates: <https://www.youtube.com/watch?v=8bnCUKXpe54>



Virginian 120-ton, six-axle gondola.

Beginning around 1914, most notably the Virginian, and also the N&W, C&O and Pennsylvania, launched fleets of six-axle "battleship gondolas" with capacities of up to 120 tons. Trains of "battleship gons," bound for Lake ports, made their way through Columbus on several railroads, especially the PRR Sandusky Branch, T&OC and N&W. These rode poorly, tending to derail at certain low speed ranges due to the harmonic interactions of the cars' wheelbase length, high center of gravity and spacing of rail joints. Some had to be rebuilt with a smaller capacity.

B&O Coal Hauling Steam Power



Q-4 Mikado 2-8-2 in Columbus, on helper duty, waiting at West Broad Street. Photo by Don Kaiser, 1956.
http://www.columbusrailroads.com/new/?menu=05Steam_Railroads&submenu=44Steam_1945-1960&submenu4=x1B%26O_Locomotives

The B&O freight and passenger engines on trains running through Columbus were serviced at Newark or Cincinnati roundhouses. B&O used an E-27 2-8-0 consolidation for yard and transfer duty, and Q-3 or Q-4 2-8-2 mikados for helper work.

B&O generally used bigger engines, especially T-4 class 4-8-2s mountains, on their manifest freights and coal trains on the main east-west lines in Ohio. The B&O also stabled some of its legendary "Big Six" 2-10-2 Santa Fe types at its roundhouse in Willard, where the Lake Erie Subdivision crossed the B&O Chicago main line. It is easy to imagine a Big Six lash-up nursing a heavy drag of B&O hoppers north on the Lake Erie Subdivision toward Sandusky Coal Dock, but this was not likely ever a reality. These big engines would have exceeded the loading gauge of the Newark Division lines.

According to its 1957 Newark Division ETT, B&O only allowed its Q-3 and Q-4 Mikados on most of the Newark Division subdivisions, and only permitted E-27ca and E-27da 2-8-0 consolidations on the Rock River Branch, with its 90 and 100-lb. rails. There did not appear to be any class of locomotive weight restrictions on the heavy-haulage C&N Division, which was eventually re-laid with 130 and 140-lb. rails.

B&O Coal Interchange in Columbus

The B&O had functioning interchanges with all four of the other big railroads in Columbus, including both of the NYC's roads.

<i>Railroad</i>	<i>B&O Interchange Points</i>
<i>PRR</i>	4th Street Yard; east end of Yard "A"
<i>N&W</i>	Taylor Avenue
<i>C&O</i>	4th Street Yard and Yard "A"
<i>NYC (T&OC)</i>	West Columbus Yard, near GN Tower
<i>NYC (Big Four)</i>	4th Street Yard and Big Four East Yard

Source: <http://www.columbusrailroads.com/new/pdf/map-1934-steamroad.pdf>

However, with the exception of the PRR, with which the B&O shared its C&N right of way into downtown Columbus past Yards A and B, and the PRR Bradford Line and NYC Big Four west of High Street, the B&O's potential interchange locations and facilities for coal loads and empty hopper drags were far from ideal. The B&O's only Columbus yard at Fourth Street had no track with more than 28 car lengths. While smaller cuts of hopper cars from manifest trains could be delivered to or picked up from other railroads, and the "B&O Transfer" jobs of several railroads were constantly in motion, it would have been very awkward to move whole train-sized coal hook-ups onto another railroad.

But, there is no doubt that coal in moderate to significant quantities was finding its way from the B&O to other railroads in Columbus. Reportedly, at least occasionally, the B&O could deliver larger numbers of Chicago-bound loads to the PRR Bradford line.

Today:

The Chesapeake & Ohio Railroad acquired majority ownership of the B&O Railroad and was approved by the Interstate Commerce commission to assume operational control of the B&O in 1963. In 1987 the B&O was merged into the CSX Corporation, into which the C&O had previously been merged.

The B&O C&N Division still survives as part of the Ohio Central, although reduced to single track for most of its length. The massive PRR overhead signal bridges of its glory days are long gone.

CSX sold or abandoned the former B&O main line east of Midland City to Parkersburg in the 1980s. The former B&O Midland Subdivision southwest from Columbus to Midland City was leased by CSX to the Indiana & Ohio Railway. This continues to be active as a local service railroad between Columbus and a junction with the Norfolk Southern at St. Bernard, in Cincinnati.

Most of the Central Ohio Subdivision east of Zanesville has been abandoned and pulled up, except for some portions used as switching tracks around Concord. All the smaller branches off the Central Ohio Subdivision between Zanesville and Bellaire are gone.

The Lake Erie Subdivision track remains in place from Newark up to Mt. Vernon and from Willard to Mansfield. The rest was abandoned by CSX in several stages in 1975-76, with portions now being a nice paved bike trail. The Willard roundhouse was demolished in 1994.

The Ohio and Little Kanawha Subdivision is gone, except for the southernmost 24 miles of track from Belpre through Marietta up to an American Electric Power generating station near Waterford, Ohio.

Virtually no trace of the Rock Run Branch remains. The Jobs Mines track beyond Shawnee was abandoned in 1927. Most of the remainder of the Rock Run Branch was abandoned by CSX in August, 1971. Most Central Ohioans will be familiar with the overpass on I-70 near the Newark exit which crossed the Rock Run line, just north of a big scrap yard, below which a line of gray passenger coaches or interurban cars sat rusting for years, waiting for a collector rescue or a museum assignment that apparently never came. The little city of Shawnee still stands, with several interesting shops opening to serve visitors; a most photogenic, a weekend "must see" for Coal Country history. The former station locations and rights of way of the B&O and Z&W are visible.



Shawnee, Ohio Exploration Society Archive.

Corrections, Clarifications and Additions Welcome - These articles flow from a combination of research into ancient railroad corporate records and news sources, inferences from maps and satellite images, railroaders' and others' personal recollections and anecdotes, often of the hearsay variety, and other sources which may be incomplete or occasionally incorrect (or perhaps outright fantasy). Comments are most welcome.

Acknowledgments: Much credit goes to Columbus Railroads, for editing suggestions, concepts and overall encouragement. Many thanks to those on B&O history social media links who contributed interesting information.

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