The Main Line to Paoli: A Railroad or a Place?

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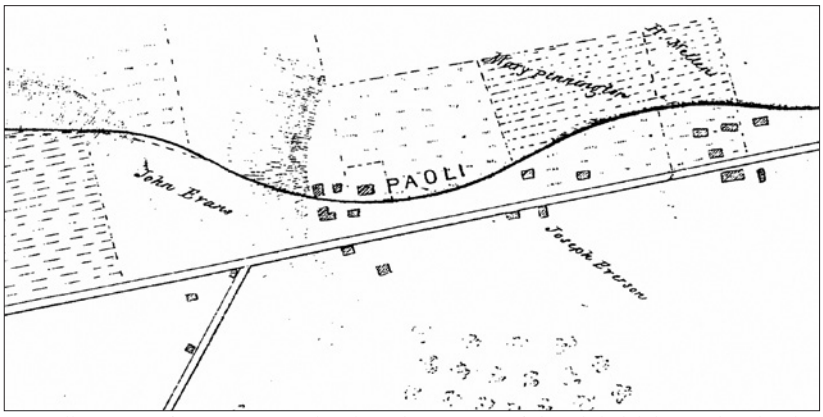
In the mid-1820s, investors considered building a canal to carry goods and passengers from Philadelphia west across the Allegheny Mountains to Pittsburgh. But as railroad technology evolved, the use of trains rather than canal boats was instead chosen from Philadelphia to Columbia. The Commonwealth was unfamiliar with the management of railroads while well experienced with canals. So "Canal Commissioners" were established to manage and collect revenues from this new system. Paoli was chosen as the site of the first Canal Collectors Office west of Philadelphia. At a meeting of the Canal Commissioners held in Harrisburg, March 12, 1834, it was announced: "*Enoch Davis was unanimously appointed collector upon the Columbia railway at the Paoli; allowed fifty dollars per month as compensation for his services; (and will) perform the duties of weigh master to weigh all burden cars using said railway*" and become the toll collector. This structure, which stood until the construction of the "new" Paoli railroad station in 1952, was located directly south of the 19th century PRR station and east of Lancaster Avenue's intersection with Valley Road. Behind the picket fence in the distance is Valley Road, which leads upward toward the bridge passing across the railroad tracks. This photograph was taken by Berwyn historian Julius Sachse in 1888. *Courtesy of the Herb & Barbara Fry Collection, TEHS Archives*



A small section of an 1851 map detailing the passage of the Philadelphia and Columbia Railroad through the tiny village of Paoli. The black line represents the P&C's undulating right-of-way, which more or less runs parallel to the Philadelphia and Lancaster Turnpike which diagonally bisects this image. Six years later, in 1857, the state-owned Main Line of Public Works passed into the possession of the Pennsylvania Railroad Company. *Map provided courtesy of Theodore Xaras.*

Let's consider what would happen if a researcher decided to conduct a random survey of residents in Tredyffrin, Easttown, Willistown, Radnor, Lower Merion and Narberth, asking them why their communities are known collectively as the Main Line. It's probable that the question would generate a variety of responses, including "I don't know," "This is the main suburb of Philadelphia," or perhaps "It's named after the railroad, isn't it?" The latter, of course, is the correct answer, although strictly speaking the expression derives from something called the "Main Line of Public Works." It's unfortunate that many of today's residents are not aware of the crucial role played by Philadelphia's first railroad, whose name has long been applied to the closely-knit suburban communities strung out between Overbrook and Malvern.

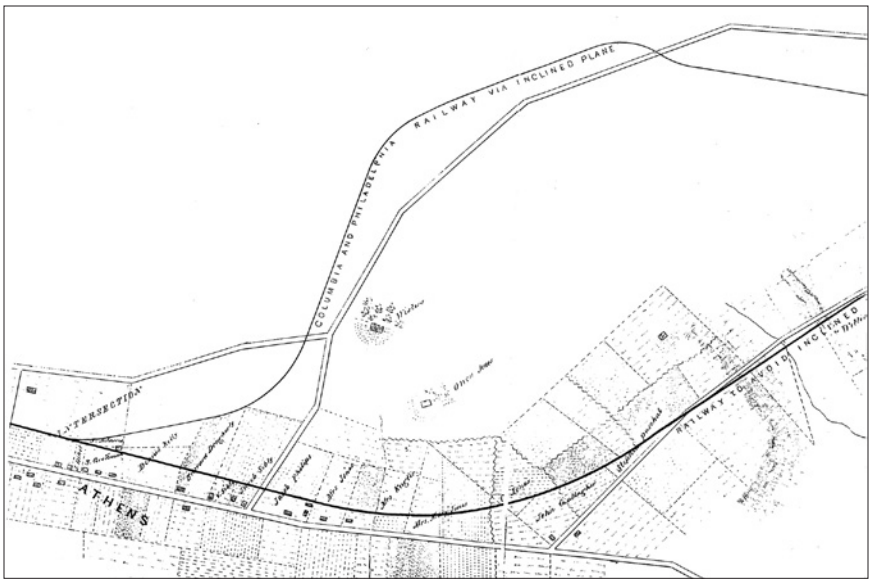
Conceived by the Commonwealth of Pennsylvania in the early 19th century, the Main Line of Public Works was a hybrid rail and canal transportation system designed to link Philadelphia with Pittsburgh. Already lagging in the competition to reach the fast-developing West, the state was forced to create this ponderous system in response to New York's Erie Canal and Maryland's Baltimore & Ohio Railroad. The first section to be opened for service was the easternmost segment of the project, the Philadelphia & Columbia Railroad (P&C) completed in 1834, which extended for 82 miles between its namesake towns by way of Lancaster. At Columbia, the passengers and freight were to be transloaded to and from canal boats for their continued journey west to Pittsburgh.

Though construction began on both ends, the first part of the railroad to host actual train service was the 20 miles between Philadelphia and Paoli, which opened on September 20, 1832. The following month, the right-of-way was extended two miles further to the town named Intersection (aka "Westchester Intersection"—later, after 1873, known as Malvern), where a connection was made with the newly-completed West Chester Railroad. The westward climb from Philadelphia to Paoli, perched at 544 feet above sea level, evidently presented few problems for the small steam locomotives employed at the time, or for the horse-drawn coaches and freight wagons which were permitted to operate on the same track until 1844.

During that early period, however, when both modes were operating at the same time, there undoubtedly were conflicts of occupancy of what in many locations was a single-track railroad.

The early P&C route included one serious impediment to smooth operation. The Belmont Inclined Plane (or ramp), near the Schuylkill River in West Philadelphia, extended from river level to the top of the Belmont Plateau in what is today Fairmount Park. The purpose of this steep 2,805-foot-long ramp, completed in the same year as the railroad, was to raise and lower the rail cars 196 vertical feet on a seven-percent grade. The P&C engineers employed stationary steam engines to power a winch attached by rope to the railroad cars. The winch system was used to pull the cars up the incline or lower them down, moving them between river level and the higher Belmont Plateau. This was a slow, cumbersome, and sometimes dangerous procedure, but several years would pass before a feasible alternative route could be located and built. Considerable traffic in the early days of the P&C was moved in horse-drawn vehicles, but increasingly locomotives came into use. Shortly after service began, an excursion train hauled by a Norris-built steam locomotive operated from the top of the plane to Paoli and back, the round trip reportedly taking nine hours. The completion in 1850 of the present route through Overbrook resulted in the abandonment of the Belmont Plane, as well as the original P&C track from the Plane to the point where it intersected with the present main line at Athensville (now called Ardmore).

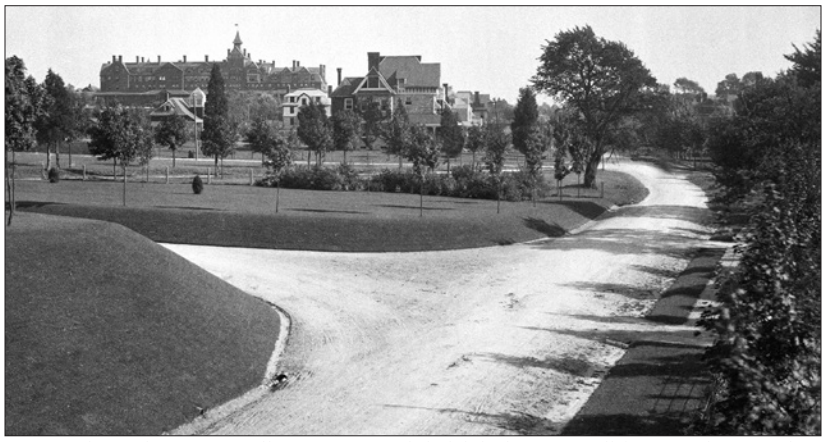
In 1846, a new corporate entity, the Pennsylvania Railroad (PRR), was chartered to build a rail line from Harrisburg to Pittsburgh, and was intended to replace the tortuous state-owned canals and the Allegheny Portage Railroad between Hollidaysburg and Johnstown. But it wasn't long before the managers of the PRR, who no doubt were motivated as much by the expectations of their investors as by the need to provide speedy transportation, began casting their eyes on the Philadelphia & Columbia as well as the privately-owned railroad which ran directly from Lancaster to the capital city of Harrisburg. With the completion of its line to Pittsburgh in 1854, the subsequent purchase of the state's rail and canal interests in 1857, and the lease of the Lancaster-Harrisburg line, the PRR controlled a 353-mile railroad all the way from Philadelphia to the Ohio River.



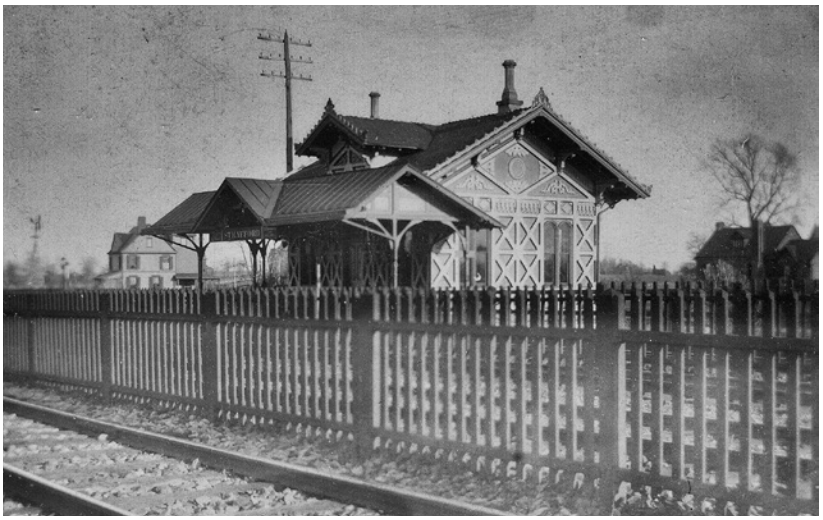
This section of the 1851 Philadelphia and Columbia route map shows the interchange of the original line westbound from the Belmont inclined plane, built in 1832, with the later bypass completed in 1850 which more closely approximates the current Main Line. The juncture point was "Athens" (also known as Athensville), and later renamed Ardmore. In April 1851, the Canal Commissioners agreed to sell the original 1832 line to the Philadelphia and Reading R.R. Company. *Map provided courtesy of Theodore Xaras.*

In 1931, the Dallin Aerial Survey Co. captured this image, looking east, of the PRR's Broad Street Station. First completed in 1882, it became the station for the Philadelphia–New York "Clockers" and the Philadelphia–Harrisburg Main Line trains. Philadelphia's City Hall can be seen immediately behind the station, with the newly-constructed Suburban Station rising to the left of the platform tracks of "Old Broad Street." *Courtesy of Hagley Museum and Library.*

There are 17 stations outside of Center City on the 19.9 miles between Suburban Station and Paoli. Old Broad Street Station was closed in 1952, and the 52nd Street station in West Philadelphia was closed in 1980. The map was originally published in 2015 by Classic Trains Magazine to mark the 100th anniversary of PRR's electrification of the Main Line to Paoli. From the Fall 2015 *Classic Trains* magazine; used with permission.



During the early 1890s, William H. Rau, Philadelphia's most well-known photographer, was commissioned by the Pennsylvania Railroad to take hundreds of official photographs along the company's routes to promote railway travel by the public. In this image, taken in 1891, Rau aims his lens from the PRR overpass south down Waterloo Road in Devon, with the majestic Devon Inn on the horizon. The first Devon Inn had burned down soon after its completion in 1883, but was immediately rebuilt in a far grander style and opened the following year. *Courtesy of the Library Company of Philadelphia*.



The railroad station at Strafford, in Tredyffrin Township, is an outstanding example of the late Victorian Stick Style architecture used for many of the new homes built in this section of the suburban Main Line area in the 1880s. Prior to its use as the station at Strafford, the building served a similar purpose in Wayne. An article in the West Chester *Daily Local News* on August 9, 1884 noted: "The old Wayne station was, on last Tuesday, successfully moved by rail from Wayne to Eagle [later called Strafford], where it will, after painting and general fixing up, serve as a new passenger station." *1896 photo courtesy of the Radnor Historical Society.*

In the early years, passenger train service did exist in some form between Philadelphia and Paoli, but by the end of the 19th century, the PRR was very much in the passenger-hauling business. Frequent local service connected the massive Broad Street Station, located immediately west of Philadelphia's City Hall, with Paoli and other Main Line stations. Some of these trains continued on to Downingtown or West Chester. Demand for the service had increased many times over as the once-rural area west of Philadelphia evolved into a 17-mile-long series of towns and villages that grew up along the iron spine of the railroad. Commuter rail operations, as they are defined in America today, really began here on the Main Line. But at that time, the PRR was simply trying to find a way to efficiently handle the thousands of passengers who for the most part wanted to "commute" — to travel into the city during the "peak" morning hours and return home after the close of business in the afternoon.

Conversely, the railroad also was seeking to fill its off-peak trains traveling in the opposite direction, especially in the summer when many city residents, in that era before air conditioning, were looking to escape the heat by "going to the country." In 1890, the PRR went so far as to build a resort hotel designed by famed Victorian-era architect Frank Furness, located close to its Bryn Mawr station, but ultimately that venture was unsuccessful, and today the building is home to the Baldwin School. Another pre-eminent attraction in the suburbs was the highly-regarded Devon Inn, opened in 1882 on property a short distance south of that railroad station. In the words of an article published in the History Quarterly of the Tredyffrin Easttown Historical Society, the Inn catered to "many wealthy and socially prominent families from Philadelphia and elsewhere," who "held sway" there until the Inn closed in 1913.[1] To reach this upscale retreat, a number of those families relied on the trains of the Pennsylvania Railroad. In the heyday of the Bryn Mawr Hotel and the Devon Inn, it is said that these two splendid hostelries carried on a lively competition with each other. After the Devon Inn closed, the building was to have several incarnations, and when the structure finally burned to the ground in January of 1929, it was serving as home to the Valley Forge Military Academy.

Just over a year later, on the morning of April 10, 1930, Devon suffered a second disaster. Thirty kegs of black powder blew up at the Pennsylvania Fireworks Display Company on Old Lancaster Road, less than a mile away from the remains of the erstwhile hotel but on the opposite side of the railroad. Ten people died and the force of the explosion shattered windows in a train at the Devon station, injuring several passengers.

Amidst the widespread damage, a number of brick walls, the last vestiges of the fire-ravaged former Devon Inn, were leveled by the blast.[1]

Beginning in the late 19th century, the Pennsylvania Railroad had been busy building stations at an average distance of only nine-tenths of a mile apart to serve the tightly-clustered villages along the Main Line. Remarkably, 11 of the 18 structures dating from that period remain in service today. They are: Overbrook (1858), the second oldest PRR station still in active use; Wynnewood (1871); Haverford (1880); Rosemont (1892); Villanova (1871); Radnor, originally known as Morgan's Corner (1872); Wayne (1885); Strafford (circa 1875) ; Devon, originally Eagle (1883); Berwyn, once called Reeseville (1881); and Malvern (1900). A long-surviving urban legend holds that the Strafford station building, with its distinctive "stick" architectural style, was built for Philadelphia's Centennial International Exposition of 1876 and later purchased by the PRR. Recent research has refuted that theory, and in reality, the station was erected by the PRR in Wayne and moved to Strafford about 1885 when a larger building was needed at Wayne.

For several decades, the PRR faced virtually no competition in carrying commuters between their homes on the Main Line and Center City Philadelphia. That changed in 1907 when the newly-created Philadelphia & Western Railway (P&W) opened an electric interurban line between Strafford and the 69th Street Terminal in Upper Darby, paralleling the PRR's main line at varying distances to the south. The P&W had more frequent service than did its entrenched competitor, and according to transit expert Ronald DeGraw, in his book *Pig & Whistle*, its one-way fare in 1910 between Strafford and Center City (in combination with the Market Street elevated) was only 27 cents versus 39 cents on the PRR. Then, in 1911, P&W management decided to spend $100,000 on a half-mile extension of the line from its terminal at Sugartown Road, Strafford, to a point adjacent to the PRR's Strafford station. The P&W's expectation was that carloads of passengers would transfer between the two lines at the new junction. That hope was in vain, and the original section of the P&W between Villanova and Strafford was abandoned in 1956. However, the branch to Norristown, constructed in 1911–12, soon became the road's major route, and survives today as the Norristown High Speed Line.

The PRR was behind much of the residential development on the Main Line, and several of its presidents owned substantial estates in the area, including George Roberts' "Pencoyd," Alexander J. Cassatt's "Cheswold" home and "Chesterbrook" farm, and Samuel Rea's "Waverly Heights." The PRR-controlled Manor Real Estate Company, and the railroad itself, owned many parcels of land near (or in some cases well removed from) the tracks, which can be plainly seen on the property atlases of the time. Some of

The original Pennsylvania Railroad station in Devon was located about a quarter mile east of its present location, on the east side of Valley Forge Road in Tredyffrin Township. Construction on a replacement station began early in 1883 on the east side of Waterloo Road, and by January 1884, that station, complete with its new Devon post office, was fully operational. What is today Devon Blvd. was originally referred to only as "the Boulevard," and its 300 yard length directly connected the Devon railroad station south to the Devon Inn's main entrance. This image was taken by Berwyn photographer Lucy Sampson on September 17, 1906. *Courtesy of the Tredyffrin Easttown Historical Society.*

Soon after Reeseville was officially renamed Berwyn in 1877, an effort was begun to replace the old railroad flag stop with a new passenger and freight depot. That new PRR station, initially completed in 1881, was captured by local historian Julius Sachse from the Cassatt Avenue (or "Lower") bridge in the summer of 1888. The BERWYN sign positioned on the station's overhang states, "Philadelphia–17.2 miles"; and "Pittsburgh–335.8 miles." To the east of the station is the William H. Fritz Company, which stood for over 150 years. *Courtesy of the Herb & Barbara Fry Collection.*

From February 28, 1834, when the tracks of the Philadelphia and Columbia Railroad connected Paoli for the first time, John D. Evans' Paoli Inn, located immediately west of Valley Road, served as the station for that village. By January 1884, however, a new fully-dedicated station for the PRR was in use as shown above c.1891. This was to remain in use, with several expansions, until 1952 when it was razed and replaced by the one-story utilitarian brick station that stands today. This current structure is slated to be replaced as part of the strategic plan for the Paoli Transportation Center. *Courtesy of the Tredyffrin Easttown Historical Society*.

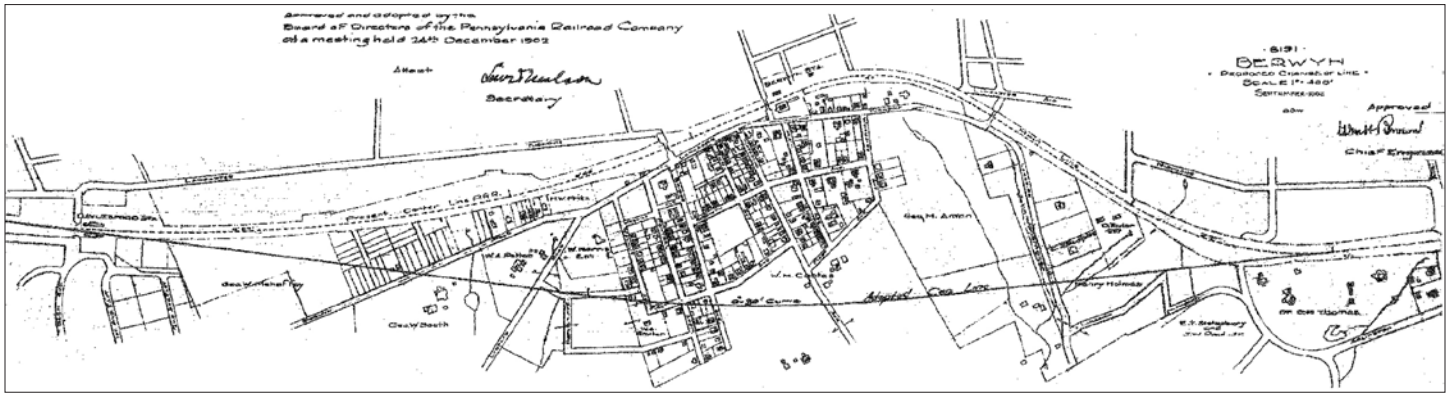
Fourteen years after the Philadelphia &Western created a half-mile extension to connect its Sugartown Road station in Strafford to a point adjacent to the Pennsylvania Railroad's Strafford station, the Dallin Aerial Survey Company took this image in 1925 looking north. In the lower center one sees the Sugartown Road station, and the continuation of the line over the Lincoln Highway and then back to the terminus at Old Eagle School Road. In the middle of this image stands the still-active Our Lady of the Assumption Church. *Courtesy of Hagley Museum and Library.*

A close-up of the P&W Strafford Station, looking east, and taken c. 1925. Beyond the walkway which connects to the eastbound PRR passenger platform, one can see the distinctive architecture of the Pennsy station. *Courtesy of the Tredyffrin Easttown Historical Society*

these were intended for use by the railroad, and others appear to have been acquired for profitable resale. One interesting note is that both the PRR and Manor owned numerous properties in and near Berwyn, which had been acquired with the intention of relocating the railroad on a straight line through the village, thus eliminating the troublesome 4-degree curve just east of the Berwyn station. That plan, approved and adopted by the Board of Directors of the PRR on December 24, 1902, was subsequently abandoned sometime prior to World War I, although the property ownership in and near Berwyn by the Manor Real Estate Company and the Pennsylvania Railroad continued to be noted in the 1913 edition of the Main Line Atlas.

The Pennsylvania Railroad struggled to accommodate its customers along the Main Line, doing the best it could in making the many local stops with steam-powered locomotives. But early in the 20th century, top officials began to look for ways to improve the service while at the same time reducing costs. The concept of electrically-powered trains already had emerged, and the consulting firm of Gibbs & Hill was hired to study its practicality while giving particular attention to the New Haven Railroad's pioneering 11,000-volt alternating current (AC) system which utilized overhead wires known as catenary. This was in contrast to the PRR's previous experience with direct current (DC) technology, in which 650-volt power was delivered by means of a third rail. DC was already in use elsewhere on the railroad (e.g., the eight miles from Pennsylvania Station in New York through the tunnels to Manhattan Transfer, N.J., where electric and steam locomotives were exchanged).

After studying the consultant's report, management agreed with its conclusion that AC power was superior to DC for high-density operations over longer distances. It was determined that the main line from Philadelphia to Paoli was the ideal candidate for electrification because it carried a heavy volume

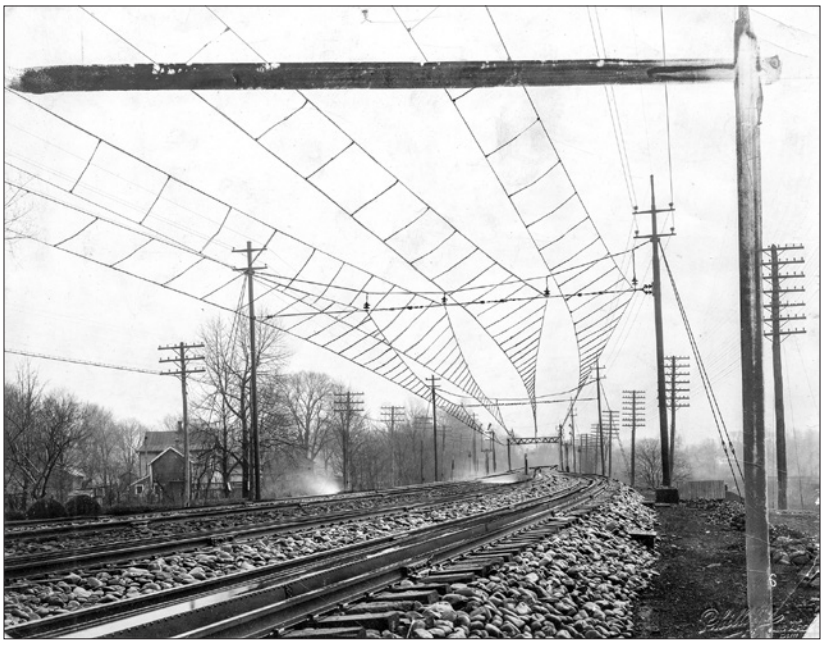


The Main Line right-of-way connecting Devon and Berwyn contained the most severe curve between Philadelphia and Harrisburg. In December 1902, the Board of Directors of the Pennsylvania Railroad decided to do something about that, and approved a plan to purchase sufficient land through Berwyn required to straighten this potentially dangerous curve. At the beginning of the 20th century, the PRR was the largest publicly-traded business corporation in the world. Yet even the "mighty Pennsy" could not have everything it wanted, and the plan was never executed. Today the "Berwyn curve," with a maximum speed restriction of 50 mph historically, remains the slowest, tightest curve on the Main Line. *From the Jim Brazel Collection, and courtesy of the Tredyffrin Easttown Historical Society.*

of traffic, including many commuter trains that obviously contributed to the severe congestion at Broad Street Station in Philadelphia. Broad Street was referred to as a "stub-end" terminal, one which required that all trains be switched out after arrival so that their locomotives could be turned—a time-consuming operation. By contrast, electric multiple-unit trains could be operated from either end and quickly made ready for departure. As a result, shortly after Samuel Rea was installed as president of the PRR on January 1, 1913, the railroad's board of directors approved the electrification of the Main Line from Broad Street Station to Paoli at a cost of $4 million, with work to begin immediately. Rea, who strongly backed the plan, was well-respected for his leadership in the construction of Pennsylvania Station in New York and the two North (Hudson) River tunnels, which had been opened for service in 1910.

The decision to electrify was good news for the residents of the communities abutting the railroad along the Main Line. Westbound movements, including almost 50 weekday local trains, 25 daily long-distance passenger trains and the numerous local and through freight trains, were all headed by steam locomotives which often made much smoke and noise while climbing the grade out of Philadelphia. In some locations the grade was close to one percent, significant for heavy trains. The cleaner and quieter electric operation certainly would be welcomed by residents in all of the on-line towns! One of those residents, ironically, was William L. Austin, president of the Baldwin Locomotive Works, whose estate "Beaumont" was directly adjacent to the railroad near Rosemont station. It was said at the time that Austin had complained that the noise of the locomotives—some of which his own company had built—was very disturbing at night, and he wished to leave. So in 1912 he moved into a new "Beaumont" mansion on property he owned about a mile and a half north of the railroad, and presumably enjoyed the peace and quiet afforded by that location. ("Beaumont" today survives as the center of a well-known retirement community.)

An intensive two years of work, carried out mostly by PRR forces, included the installation of hundreds of tubular steel poles spaced about 300 feet apart on both sides of the track, with overhead catenary wire strung over all four main tracks. The catenary consists of three wires—the messenger, auxiliary, and contact—hung from steady-span wires cross-mounted between the poles. Electrical substations were erected in West Philadelphia, at Bryn Mawr, and at Paoli. Their function was to step down the 44,000-volt, 25-cycle, single-phase AC power transmitted from a Philadelphia Electric generating station to 11,000 volts of propulsion power. A large car-storage yard and maintenance shop were built just west of Paoli station, adjacent to the still-active Paoli signal tower. At the same time, the traffic control system was modernized, with the old semaphores being replaced by position light signals mounted on steel bridges, some of which survive today.



This extraordinary image of the PRR catenary between Philadelphia and Paoli is actually an illustration for a newspaper article, enhanced by a graphic artist who drew the lines and parts of the background so that the effect would show up well in print. The location of the original photograph is looking eastbound between the Radnor and St. David's stations, behind what is today the parking lot of Lincoln Financial Group. The catenary on the photo is obviously hand-drawn, as the PRR used a three-wire catenary—messenger, auxiliary and contact—which, in 2018, still remains in place on Amtrak. The overhead bridge in the distance is now a signal bridge, so this photo was taken in the early days before the signals were installed. Because the artist neglected to draw the catenary east of the signal bridge, this image was concocted prior to 1913. *Courtesy of Temple University Libraries, Urban Archives, Philadelphia, PA*

In 1938, Pennsylvania Railroad M1-class steam locomotive #6934 hauls a mixed freight train up and westbound through Daylesford amidst much steam. The Daylesford passenger platform and the Lincoln Highway are seen at right. *Image taken by David Cope, and provided courtesy of the Railroad Museum of Pennsylvania.*

Continue to Part 2