

The Horseshoe Curve: 150 Years of Engineering Heritage in the Railroad City

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When visiting the lush mountains of western Pennsylvania, one can feel a sense of frontierism, with nature still in control, and it could almost seem impossible that almost 110 million gross tons of economy-driving freight move through them each year, pulled by Norfolk Southern diesel engines that squeal around the world famous Horseshoe Curve in a style that has not changed since the Curve's opening for westbound service in 1854. It almost seems ironic that these same mountains are literally the reason that the Horseshoe Curve was created so industry could literally climb the mountains.

The story begins in April of 1846, when the Pennsylvania state legislature passed an act that incorporated the Pennsylvania Railroad (PRR) in order to be competitive with the northern opening of the Erie Canal by the state of New York in 1825 and the start of the Chesapeake and Ohio Canal and Baltimore and Ohio Railroad in 1828. The Commonwealth of Pennsylvania realized that its own Pennsylvania Mainline Canal was an aging system of transportation and moved to establish its own railroad in order to not have business taken away north and south of its borders.

Using the canal routes for most of its track path, the PRR began to lay track westward under the supervision of John Edgar Thompson, civil engineer, who eventually became the president of the PRR. The project advanced along the Susquehanna and Juniata rivers until it came to the base of the Al-

legheny Mountains at Altoona, where the necessity of developing a creative way of getting over the ridges had to be devised.

Just west of Altoona, the flat valley where track was being put down abruptly met with a mountainside that had deep ravines on both sides, which created grades that were too steep for railroad operations. From the geography, Thompson recognized that there would be a way to bridge the gap by literally filling in, with dirt and earth, a massive area that would deliver the tracks from one ridge to the next. By slicing off the foot of another mountainside, a semicircle would be created, which would support the track system and progress rail traffic westward to Pittsburgh. The construction of this semicircle was done by about 450, mostly Irish, workers, totally by hand. The workers were paid about twenty-five cents each for a twelve-hour day.

The semicircle, more famously known today as the Horseshoe Curve National Historic Landmark, made travel in 1854 from Philadelphia take only about 15 hours to Pittsburgh, compared to 20 days by wagon before the canal system or to 4 days by the canal system and Allegheny Portage Railroad in 1834. Further, a railroad guide that was published in 1862 said that the view from the Horseshoe Curve was the "...the grandest view on the whole route. A vast extent of landscape is spread out before the eye... This horseshoe bend is one of the greatest engineering triumphs of the age."

As travel east and west was made easier by the Horseshoe Curve, passengers were said to have crowded to the windows of the railcars to view the landscapes below, and non-passengers began to take time to watch trains go by on the ridges or from an old dirt road that was once an Indian trail that ascended to the mountainside.

In 1925, the Horseshoe Curve was given its first monument by the PRR — a decorative stone horseshoe that was 34 feet long that was embedded into the side of the mountain leading up to the Curve and tracks.

As the area developed, due to the Altoona municipal reservoir system below along Kittaning Point Road, the road to the Curve was eventually hard-surfaced around 1922, making it easier for non-passengers to access the area to view the tracks above and the landscapes below. In 1940, the PRR gave the city of Altoona a permit to use part of the land near the Curve to accommodate visitors who came to watch trains.

The Curve became an icon of railroading in America, as well as it helped to give birth to the city of Altoona, the home of the PRR. The knowledge that the Curve was a symbol of prosperity did not belong only to those who lived in the United States, but was also information that fell into the hands of the Third Reich, which had plans to sabotage the Curve and Gallitzin Tunnels, as evidenced by the capture of eight saboteurs on June 13, 1942 off of Amagansett, Long Island, New York and off Jackson-

ville, Florida. It's reported that the saboteurs all had at one point lived in the United States, and that between them they had \$170,000 in cash and plans for two years of sabotage, which included twelve key targets — one of which was the Horseshoe Curve in Altoona, PA.

In its 150 years of existence, the Horseshoe Curve has gone from a solution to transgressing the Allegheny Mountains to accommodate westward expansion, to a National Historic Landmark over which many passengers, to the likes of Abraham Lincoln, Theodore Roosevelt, Harry Truman, Jimmy Carter, and many other famous people like George Burns and other vaudeville stars have traveled.

Today the Horseshoe Curve is available to everyone to view trackside, thanks to the National Park Service, which helped to upgrade the amenities and site in 1992 to be a beautiful place to train-watch, to photograph the Allegheny Mountains, and to learn about the site or to just relax. And thanks to Norfolk Southern, which owns and operates the freight lines and to AMTRAK, which runs the passenger service trains that run on the Curve throughout the day, observers can witness the exhilaration of 150 years of railroading on the Horseshoe Curve and a piece of what helped the Railroad City below to become known as the "Railroad Capitol of the World".

(Information for this article was taken from Railroaders Memorial Museum archives and tour guide publications.)