

PENNSYLVANIA RAILROAD, WEST BROWNSVILLE JUNCTION BRIDGE  
Pennsylvania Historic Railroad Bridges Recording Project  
Spanning Monongahela River, north of U.S. Rt. 40 Bridge  
West Brownsville  
Washington County  
Pennsylvania

HAER No. PA-556

HAER  
PA  
63-BROW,  
1-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD  
National Park Service  
1849 C Street, NW  
Washington, DC 20240

HISTORIC AMERICAN ENGINEERING RECORD

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**Location:** Spanning Monongahela River, north of U.S. Rt. 40 Bridge, between West Brownsville, Washington County, and Brownsville, Fayette County, Pennsylvania.

**USGS Quadrangle:** California, Pennsylvania (7.5-minute series).

**UTM Coordinates:** 17/595855/4431890

**Date of Construction:** 1912.

**Basis for Dating:** Plaque on bridge.

**Date of Alteration:** 1914.

**Designer:** H. R. Leonard (Engineer of Bridges & Buildings, Pennsylvania Railroad).

**Fabricator:** Pennsylvania Steel Co. (Steelton, Pennsylvania).

**Builders:** Pennsylvania Steel Co., main span; Lucius Engineering Co. (Pittsburgh), approach spans.

**Present Owner:** Norfolk Southern Railroad.

**Present Use:** Railroad bridge.

**Structure Types:** Pin-connected Petit through truss; deck girder.

**Significance:** This bridge's 401'-0"-long Petit through truss is typical of long spans required by Monongahela River navigation. Its approaches feature an early installation of a reinforced concrete slab floor.

**Historian:** Justin M. Spivey, April 2000.

**Project Information:** The Historic American Engineering Record (HAER) conducted the Pennsylvania Historic Railroad Bridges Recording Project during 1999 and 2000, under the direction of Eric N. DeLony, Chief. The project was supported by the Consolidated Rail Corporation

(Conrail) and a grant from the Pennsylvania Historical and Museum Commission (PHMC). Justin M. Spivey, HAER engineer, researched and wrote the final reports. Preston M. Thayer, historian, Fredericksburg, Virginia, conducted preliminary research under contract. Jet Lowe, HAER photographer, and Joseph E. B. Elliott, contract photographer, Sellersville, Pennsylvania, produced large-format photographs.

### Description and History

The Pennsylvania Railroad (PRR) had great interest in the Monongahela River valley as a route for retrieving coal for Pittsburgh's steel industry. By 1905, it had acquired a line on the river's west bank, and owned one-half of the Monongahela Railroad on the east bank. The west bank line, the Pittsburgh, Virginia & Charleston Railroad (PV&C), was incorporated in 1867 as the Monongahela Valley Railroad but changed its name in 1870 as construction progressed southward to Monongahela City. The PRR purchased bonds to finance the initial segment as well as an extension that opened to Brownsville in 1881.<sup>1</sup> This inspired another company, the Brownsville Railway, to begin constructing a line down Redstone Creek, intending to cross the Monongahela at West Brownsville and connect with the PV&C. According to the merger agreement, the Brownsville Railway had "in large part graded its road" by the time it was acquired by the PV&C on 20 April 1880.<sup>2</sup> Subsequently known as the Redstone Branch, it opened from West Brownsville Junction to Redstone Junction (near Uniontown) on 25 September 1882, with an iron through truss bridge over the Monongahela.<sup>3</sup>

From the turn of the twentieth century, the PRR became progressively more involved in the PV&C's affairs. Incorporated in 1901, the Monongahela Railroad (a joint venture of the PRR and the Pittsburgh & Lake Erie Railroad) constructed a line southward from the PV&C's bridge along the river's east bank. Samuel Rea, who was not only President of the PV&C but also the PRR's Fourth Vice President, negotiated with the U.S. War Department for permission to alter the Monongahela River bridge.<sup>4</sup> Because the railroad planned only to add a diverging track to the existing structure, Secretary of War Elihu Root claimed no jurisdiction. In the same letter, however, he reminded Rea, "the Department may require further alteration of the bridge in the future to accommodate the commerce and navigation of the river."<sup>5</sup>

The War Department exerted its authority when the entire bridge was replaced a decade later. The PRR had acquired the PV&C outright on 1 April 1905, and subsequently began double-tracking efforts. Plans drawn up in 1910 showed a new bridge parallel to, and 50'-0" south of, the previous crossing.<sup>6</sup> The War Department's approval was required, and contingent on widening the main channel span from 272'-8" to 401'-0".<sup>7</sup> The new bridge widened at its east end like its predecessor, and now accommodated not one, but two diverging tracks for the Monongahela Railroad.<sup>8</sup>

The new structure, supported on sandstone piers, spanned the wider channel with a pin-connected Petit through truss. Each of the trusses, placed 30'-8" on center, is divided into sixteen

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panels and measures 66'-4" high over the middle eight.<sup>9</sup> The Pennsylvania Steel Co., a "captive" fabricating plant wholly owned by the PRR, fabricated and erected this span. Although Pennsylvania Steel also fabricated deck girders for approach spans (26'-0", 55'-0", and 110'-0" from the east; two at 100'-0" from the west), it subcontracted their erection to Lucius Engineering Company of Pittsburgh. The latter firm's 60-ton derrick lifted the heaviest girders, weighing 55 tons, into place. The derrick, which garnered attention from the national engineering press, was apparently special equipment designed or adapted for this particular project.<sup>10</sup> In 1914, the PRR added a reinforced concrete slab floor to the approach spans.<sup>11</sup>

Notes

1. Howard W. Schotter, *The Growth and Development of the Pennsylvania Railroad Company: A Review of the Charter and Annual Reports of the Pennsylvania Railroad Company 1846 to 1926* (Philadelphia: Press of Allen, Lane, and Scott, 1927), 98-99, 134, 200.
2. "Agreement for the Consolidation and Merger of the Brownsville Railway Company into the Pittsburgh, Virginia & Charleston Railway Company, 20 Apr. 1880." Located in file: General Counsel, Box 302, Pennsylvania Railroad Records, Historical Collections and Labor Archives, Paterno Library, Pennsylvania State University, University Park, Pa. [hereinafter cited as HCLA].
3. David E. Gratz, Rail Transportation Consultant, Brownsville, Pa., to author, Jan. 2000; cf. Schotter, *Growth and Development*, 203. Gratz was once Superintendent of the Monongahela Railway, successor to the Monongahela Railroad.
4. See Michael Bezilla, "Samuel Rea," in Keith L. Bryant, ed., *Encyclopedia of American Business History and Biography: Railroads in the Age of Regulation, 1900-1980* (New York: Facts on File, 1988), 359.
5. Samuel Rea, President, PV&C, to Elihu Root, Secretary of War, 21 Mar. 1901, and Root to Rea, 17 Apr. 1901, located in Monongahela Railroad Board File 86/66, Box 441, Pennsylvania Railroad Records, HCLA.
6. Pennsylvania Railroad, "Proposed Bridge to Replace Present Bridge over Monongahela River at West Brownsville Junction, Monongahela Div., W. Pa. Div.," dated 12 Jan. 1910, milepost 52.17, region/division/branch 402258, aperture card files, Consolidated Rail Corp., Philadelphia, Pa. [transferred to Norfolk Southern Railway Co., Atlanta, Ga.; hereinafter cited as Conrail aperture cards].
7. U.S. War Department, Corps of Engineers, *List of Bridges over Navigable Waters of the United States* (Washington, D.C.: U.S. Government Printing Office, 1936), 334-5, indicates that the War Department granted approval on 2 Mar. 1910.
8. The predecessor bridge appears in J. Percy Hart and W. H. Bright, *Hart's History and Directory of the Three Towns: Brownsville, Bridgeport, West Brownsville* (Cadwallader, Pa.: J. Percy Hart, 1904), 116, cited in Norma Grimes, Washington County Historical Society, to author, 28 Jan. 2000.
9. Pennsylvania Railroad, "Truss Span for Bridge at West Brownsville Junction, over Monongahela River, Monongahela Div., W. Penna. Div.," dated May 1912, Conrail aperture cards.
10. "Erecting 100-Foot Plate Girders with a 60-Ton Derrick Car," *Engineering Record* 68, No. 10 (6 Sep. 1913): 269.

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11. Pennsylvania Railroad, "Standard Reinforced Concrete Slab Floor for Deck Plate Girder Bridges," dated Sep. 1914, Conrail aperture cards.

**Acknowledgments**

The author is grateful to David E. Gratz, P.E., Rail Transportation Consultant; Norma Grimes of the Washington County Historical Society; and Richard Price, Researcher in the Heinz Pittsburgh Regional History Center, Historical Society of Western Pennsylvania, for responding to a preliminary survey form.

**Additional Source**

1. Coverdale & Colpitts, Consulting Engineers, *The Pennsylvania Railroad Company, Description of Important Bridges and Stations* (New York, 1945). Located in file: PRR Office of Secretary, Studies by Consultants and Published Reference Materials, 1855-1958, Box 1, Penn Central Railroad Records, MG 286, Pennsylvania State Archives, Harrisburg, Pa.