

OLD BROWNSVILLE BRIDGE
Pennsylvania Historic Bridges Recording Project
Spanning Monongahela River at State Rt. 2067
Brownsville
Fayette County
Pennsylvania

HAER No. PA-472

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26-BROVI,
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HISTORIC AMERICAN ENGINEERING RECORD

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OLD BROWNSVILLE BRIDGE

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Location: Spanning Monongahela River and Water Street at State Route 2067, between Brownsville, Fayette County, and West Brownsville, Washington County, Pennsylvania.

USGS Quadrangle: California, Pennsylvania (1954, photorevised 1979).

UTM Coordinates: 17/595110/4430880

Date of Construction: 1914.

Designer: George Porter, engineer for Fayette County; Chaney and Armstrong, engineers for Washington County.

Builder: Crossan Construction Company (Philadelphia, Pennsylvania), substructure; Fort Pitt Bridge Company (Canonsburg, Pennsylvania), superstructure.

Present Owner: Pennsylvania Department of Transportation.

Present Use: Vehicular bridge.

Significance: The Old Brownsville Bridge's 519'-0"-long Pennsylvania truss spans the Monongahela River between Brownsville and West Brownsville. The bridge is heavily constructed of built-up members and eye-bars, and is a significant landmark in the city of Brownsville. Built jointly by Fayette and Washington counties, the bridge was considered an engineering marvel in its time. It was built along the route of old U.S. Route 40, the former National Road. The Old Brownsville Bridge was listed in the National Register of Historic Places in 1988.

Historian: J. Philip Gruen, August 1997.

Project Information: This bridge was documented by the Historic American Engineering Record (HAER) as part of the Pennsylvania Historic Bridges Recording Project - I, co-sponsored by the Pennsylvania Department of Transportation (PcnnDOT) and the Pennsylvania

Historical and Museum Commission during the summer of 1997.
The project was supervised by Eric DeLony, Chief of HAER.

Brownsville, Pennsylvania, is known in American bridge history as the location of Dunlap's Creek Bridge (HAER No. PA-72), the nation's first cast-iron bridge. Built along the National Road in 1832, that bridge was instrumental to the nineteenth-century development of Brownsville and southwestern Pennsylvania in general. It ushered in a new age of iron, and eventually steel, that came to dominate the American bridge-building industry in the nineteenth century.

Somewhat less significant to American bridge history, but crucial to the twentieth-century development of the Brownsville region, is the Old Brownsville Bridge, a 519'-0" single-span Pennsylvania through truss bridge erected over the Monongahela River in 1913. The bridge connects not only the cities of Brownsville and West Brownsville, but also the counties of Fayette and Washington. Like the Dunlap's Creek Bridge, the Old Brownsville Bridge was an important link along old U.S. Route 40, the former National Road. Its 519'-0" span makes it one of the longest single-span Pennsylvania truss bridges in the state.

Bridges and transportation-related industries have shaped Brownsville since its earliest days, when it was a site for the boat-construction industry which aided western trade and migration. By 1818, Brownsville had become an important city because of its location along the Cumberland Road (later National Road) connecting Cumberland, Maryland, with Wheeling, (now West) Virginia.¹ The National Road was the first major road in the U.S. to be built with federal funds, and its construction, between 1811 and 1818, was authorized by a board of commissioners under the guidance of Thomas Jefferson.² The road was of crucial economic importance to the nation as a whole, for the connection between Cumberland, located on the Potomac River, and Wheeling, on the Ohio River, provided a much quicker means to ship goods from the Atlantic Coast to the Gulf of Mexico.³

¹ An early history of the Brownsville area, published in 1882, noted that Brownsville had reached its "zenith" when it was the "most important" point between Cumberland and Wheeling. See J. William Kisinger, *The Three Towns: A Sketch of Brownsville, Bridgeport, and West Brownsville* (Brownsville, Pennsylvania: Freelance Publishing Company, 1883; reprint, Brownsville, Pennsylvania: Brownsville Historical Society, 1976), 8.

² The National Road roughly followed a wagon road (parts of which followed Indian trails), built to facilitate westward movement during the French and Indian War of the mid-eighteenth century. This road extended initially from Cumberland, Maryland, to the Youghiogheny River in Pennsylvania in 1752; in 1755, it was extended to the Monongahela River at Brownsville by General Edward Braddock's troops.

³ George R. Stewart argues that this section of the National Road may have been more influential to the course of American history than any other section of an American highway; see *U.S. 40: Cross Section of the United States of America* (Westport, Connecticut: Greenwood Press, 1953), 86.

Because the Cumberland Road met the wide (and, initially, un-spanned) Monongahela River at Brownsville, goods and passengers had to be transferred to boats and ferries before they could continue on their journey. The town thus grew quickly as an important transfer point.⁴ Shortly thereafter, with the establishment of the Snowden Iron Works, Brownsville became an important manufacturing site for steamboats.

In 1817, the city built its first crossing when material from nearby hillsides was pushed into Dunlap's Creek to create a causeway. This causeway was initially part of Market Street, and later became part of the National Road. A wooden bridge followed the causeway, and during a reconstruction of the National Road in 1832, the U.S. Army Corps of Engineers erected the iron Dunlap's Creek Bridge.

By the 1830s, Brownsville had become a bustling town due predominantly to the growth of the coal mining industry. A solid connection spanning the Monongahela became more necessary than ever, and in 1833, a three-span, 630'-0" wooden covered toll bridge was erected by the newly incorporated Monongahela Bridge Company for \$37,000.00.⁵ This provided the first road link between Brownsville and Washington County. The bridge was in continuous use from 1833 to 1910, withstanding ice floes and numerous floods.⁶

While the National Road's importance had declined by the late nineteenth century due to increased use of a Baltimore and Ohio Railroad line bypassing the town, the city of Brownsville nevertheless continued to grow and prosper.⁷ Brownsville's growth stemmed from its proximity to the Connellsville and Klondike coal fields, which yielded bituminous coal of a low sulphur and phosphorous content that was suitable for the making of steel. City leaders took advantages of Brownsville's position along the Monongahela to ship coke made from this coal to other markets, particularly Pittsburgh, which soon became the steel capital of America. Later, in 1903, the Monongahela Railroad Company was founded to connect the coal fields directly with Brownsville and the shipping ports along the Monongahela River.

By 1913, the year construction began on the Old Brownsville Bridge, the Monongahela Railroad Company had extended its lines into northern West Virginia and northward to Pittsburgh. Brownsville was the center of the railway's hauling and repair operations and, in 1928, became its administrative headquarters. The jobs provided by the coal fields in particular

⁴ For a brief discussion of the road's early importance to Brownsville as a "transshipment" site, see Stewart, 93.

⁵ Kisinger, 12.

⁶ Charles M. Stotz, *The Architectural Heritage of Early Western Pennsylvania: a Record of Building Before 1860* (Pittsburgh: Buhl Foundation, 1936; reprint, Pittsburgh: University of Pittsburgh Press, 1966), 176.

⁷ The National Road began to decay in the 1830s, and federal funds for its maintenance were scarce. It was finally placed under the jurisdiction of the individual states through which it passed, and turnpikes were established. The road continued to be well-used up until the 1852 completion of the Baltimore and Ohio Railroad line from Baltimore to Wheeling.

brought an influx of southern and eastern European immigration into Brownsville at the turn of the century. By 1920, the city's population had swelled to nearly 80,000.

But in the first decade of the 1900s, it was the success of the railway that ultimately marked the end for the wooden covered span. As more and more companies used the railroad rather than the overland highway to ship their goods, the covered bridge became unprofitable for the stockholders of the Monongahela Bridge Company. Furthermore, it was determined in 1906 that its clearance did not meet the new requirements mandated by the U.S. Army Corps of Engineers for bridges spanning navigable waterways, pursuant to an act of Congress adopted on 23 March 1906.⁸ The Monongahela Bridge Company offered the bridge to the city, but city officials balked at providing funds for its restoration. The bridge was eventually bought by the Monongahela Railway Company, which tore it down in 1910 in compliance with an order from the U.S. Secretary of War. For the next four years, travelers paid a three-cent toll for a ferry across the river.

Another act of Congress authorized the "Fayette Bridge Company" to "construct a bridge over the Monongahela River, Pennsylvania, from a point in the borough of Brownsville, Fayette County, to a point in the borough of West Brownsville, Washington County" on 23 April 1906 — eight years before the actual completion of the bridge. The U.S. House of Representatives reserved the right to nullify the act unless construction was commenced within one year and finished by 23 April 1910.⁹

Four years after the passage of the act, however, there was still no bridge over the Monongahela. On 25 June 1910, Congress amended the act to extend the completion date for the bridge to four years from the date of this amendment.¹⁰

Petitions for a new bridge over the Monongahela between South Brownsville (now simply Brownsville) and West Brownsville were presented in September of 1910 to the Fayette County commissioners. Following meetings on 31 October 1910, 2 December 1910, and 25 January 1911, viewers appointed by the commissioners indicated that the cost of the bridge was such that it could not be privately built. Although the act of Congress had authorized the Fayette Bridge Company to build the bridge, the petitions asked for the bridge to be built with public funds provided by the counties of Washington and Fayette.¹¹

The viewers specifically called for an 810'-0" bridge, beginning with a 290'-0" approach on the South Brownsville side at the intersection of Bridge and High streets, passing over the tracks for the Monongahela Railway Company, crossing the Monongahela River, and finishing at

⁸ Frances Borsodi, "B'ville Bridges in Roll," *Uniontown Daily Standard* (19 July 1979): 31; *U.S. Statutes at Large* 34 (1906): 84.

⁹ *U.S. Statutes at Large* 34 (1906): 128-30.

¹⁰ *Ibid.*, vol. 36 (1911): 909.

¹¹ Fayette County, Pennsylvania, *Road Docket* (Fayette County Courthouse, Uniontown, Pennsylvania), 10:195 (September Sessions 1910).

Bridge Street in West Brownsville. The approach would require the removal of some property, and those affected would be awarded cash payments. The viewers also stressed the importance of providing enough clearance for the passage of trains and boats beneath the bridge.

While the viewers suggested cash payments to a few property owners whose property had to be removed or destroyed for the proposed bridge (to be paid jointly by the two counties), they specifically explained that other unaffected property owners in the vicinity, who had complained about the bridge's construction, should not be awarded any money because of the "advantages and benefits" they would receive upon completion of the bridge.¹² The viewers presented their case on 8 March 1911, and it was approved on 9 June 1911 by the grand jury.

Court records indicate that the Monongahela Railway Company, owners of the wooden covered span that it had recently purchased and demolished, attempted to prevent the bridge's erection. They asked the court for "exceptions" and called for damage payments. On 20 July 1911, the court "quashed" these exceptions and ordered the bridge to be constructed "at once."¹³

It took some time, however, for work to actually begin. The delays may have been due to the need for the bridge plans, drawn up under the supervision of Fayette County Engineer George A. Porter and Washington County Engineers Chaney and Armstrong, to comply with vertical and horizontal clearance laws of the U.S. Army Corps of Engineers. These laws required bridges built over the Monongahela River to provide a minimum horizontal clearance of 502'-0" and a minimum vertical clearance of 55'-0". An annual report from the Pittsburgh District of the Corps shows that on 17 January 1913, the U.S. Snagboat Swan, towing coal, was used in an experiment to determine if a 400'-0" span would be sufficient for the proposed location. Apparently, this length was not sufficient, for the Secretary of War approved the plans for a bridge with a 520'-0" principal span on 19 April 1913.¹⁴

It was not until 14 July 1913 that the \$70,000.00 contract to build abutments and piers was let to the Crossan Construction Company of Philadelphia, and the \$456,903.00 superstructure contract was let to the Fort Pitt Bridge Company of Canonsburg. The Crossan Construction Company finished work on the substructure by early 1914, and viewers were sent in to inspect it on 9 January of that year.

In mid-April of 1914, once timber for the falsework and 1,700 tons of steel for the truss began to arrive at the site, work began on the superstructure. The construction was carried out by "steel men" of the Fort Pitt Bridge Company, but all work was to be supervised and inspected by

¹² Fayette County, *Road Docket*, 10:202 (2 February 1911). The records did not indicate the precise nature of these benefits, although it is likely they had to do with increased business.

¹³ Fayette County, *Road Docket*, 10:203 (20 July 1911). It is possible that the railway company tried to obstruct construction of the bridge because its owners knew that completion of the span would threaten the viability of their business.

¹⁴ Francis R. Shunk, "Appendix: Improvement of Rivers and Harbors in the Pittsburgh, PA., District," 30 June 1913 (Records of the U.S. Army Corps of Engineers, Pittsburgh District, National Archives, Philadelphia, Pennsylvania).

the engineers for the two counties. A newspaper from nearby Uniontown indicated that the bridge would provide an economic boost to the area even during construction, as the workers would spend their earnings in the three towns of Brownsville, West Brownsville, and nearby Bridgeport.¹⁵

Work was completed in early October of 1914, and a formal dedication was held to celebrate the new bridge, built at a cost of approximately \$250,000.00. Prior to the dedication, the Uniontown newspaper noted that the bridge was an "engineering achievement of a very credible nature" and that its construction would mean increased economic activity for the city. The paper contended that "thousands" would find it "more convenient to come to Brownsville than to Charleroi, Donora, and other towns further down river."¹⁶ The new bridge was built as a toll-free structure, following years of tolls on the wooden covered span and the three-cent ferries that had been operating since the covered bridge's removal. The bridge's completion opened up economic activity for West Brownsville in particular and Washington County in general. It also provided a new life for the National Road, and hence directly affected the economies of the cities of Washington and Uniontown.¹⁷

As built, the eight-span bridge included a principal Pennsylvania through truss span of 519'-0", two smaller steel girder spans each 109'-0" long, and a five-span approach ramp totaling 205'-0" in length.¹⁸ The main span has twenty panels, ranging in height from 51'-0" to 80'-0" in the center. Each panel point of the bottom chord includes multiple eye-bars between pins, and the top chord is pin-connected at every other panel point. The vertical and diagonal members, providing compressive strength, are built up from channels and lacing. Eye-bars comprise the tension diagonals. The main span is among the largest of its type in the state.¹⁹

The roadway, 23'-0" wide from curb to curb, originally included two streetcar tracks for an intended line of the West Penn Railways Company and a 6'-6" granolithic sidewalk cantilevered out from the bridge's north truss. The main span and the spans over the railroad tracks were paved in wood block, and the approach spans featured brick paving.

¹⁵ "Brownsville Bridge Will Cost \$258,000, Says Engineer," *Uniontown Daily News Standard* (10 March 1914): 1.

¹⁶ "Dedication of Bridge at Brownsville," *Uniontown Daily News Standard* (6 October 1914): 3.

¹⁷ There is no official record of an original name for the bridge. Some of the early plans called it "Highway Bridge over Monongahela River," although others included the names of the counties involved. Today, it is generally known as the "Old Brownsville Bridge."

¹⁸ A Pennsylvania, or Petit, truss is a variation of the Pratt truss with a polygonal top chord and subdivided panels. A patent for this type of bridge was granted in 1875 to engineers for the Pennsylvania Railroad, who needed a bridge type to support larger trains as the railroad company progressively increased the size and weight of its cars. Its frequent use by the Pennsylvania Railroad eventually gave it the name "Pennsylvania truss."

¹⁹ While relatively large for a Pennsylvania truss (most range between 250'-0" and 600'-0" in length), the Brownsville Bridge is neither an exceptionally early nor unusually large example of its type. In 1896, for example, a bridge with a 575'-0" Pennsylvania truss span was erected for the Chesapeake and Ohio Railroad at Cincinnati.

The West Penn Railways Company, which had planned to operate a loop linking major cities in Western Pennsylvania, never put its project into operation.²⁰ The tracks were removed in 1934 and the bridge's roadway was re-paved in asphalite. Today, the deck on all spans consists of an asphalt overlay on top of reinforced concrete panels. The approach spans retain their original decorative wrought-iron railings lining both sides. The main span is flanked by a standard picket railing.

The bridge rests on three principal piers. Two of these, in the river, are built of concrete with masonry cladding. The other pier, supporting the girder that spans the railroad tracks, is made of reinforced concrete with a stone cap. Each of the approach spans is anchored in reinforced concrete abutments, with the Fayette County approach resting upon four steel bents founded on concrete pedestals.

On the Fayette County side of the bridge, piers were sunk six or eight feet below the riverbed to bedrock, but on the Washington County side, the pier was set on piles. Apparently, the relative shallowness of the Monongahela River at the site during construction (ten feet deep) made the sinking of piles, normally a difficult task, somewhat easy.²¹

In 1929, the Old Brownsville Bridge became a state highway bridge when an act was passed giving the state responsibility for maintaining bridges along state highway routes.²² The bridge's deteriorating condition necessitated a reconstruction in 1947, which included superstructure repairs and deck replacement. It continued to carry U.S. Route 40 until the 1960s, when a new concrete girder bridge, part of the new U.S. 40, bypassed the Old Brownsville Bridge to the north. The bridge was repaired periodically in the 1960s, but was damaged during a flood in 1985, when an empty barge broke loose from its moorings and struck the pier and part of the span on the Washington County side. This merited another reconstruction, including re-decking, replacement of the girder spans, and more superstructure repairs.

Today, the Brownsville Bridge is considerably less traveled than its U.S. Route 40 neighbor to the north, serving mainly local traffic between the towns of Brownsville and West Brownsville. But while the Dunlap's Creek Bridge is now surrounded by buildings and barely visible — its significance apparent to historians of engineering but less apparent to locals — the Old Brownsville Bridge is still a prominent and characteristic landmark in the city. While not entirely uncommon as a bridge type, the Old Brownsville Bridge retains importance as a link along the old National Road and as an important regional economic link for much of the twentieth century.

²⁰ The loop would have run from Pittsburgh, through California (Pennsylvania), Brownsville, Uniontown, Connellsville, Greensburg, and then back to Pittsburgh. California apparently resisted inclusion in the loop and the plan fell through. See Borsodi, 31.

²¹ "Dedication of Bridge at Brownsville," 3.

²² *Laws of Pennsylvania*, No. 408 (1 May 1929): 1054.

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