SOUTH EIGHTH STREET VIADUCT
(Eighth Street Bridge)
(Albertus L. Meyers Bridge)
Pennsylvania Historic Bridges Recording Project
Spanning Little Lehigh Creek at Eighth St. (State Rt. 2055)
Allentown
Lehigh County
Pennsylvania

PHOTOGRAPHS
XEROGRAPHIC COPIES OF COLOR TRANSPARENCIES
WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
1849 C Street, NW
Washington, DC 20240
SOUTH EIGHTH STREET VIADUCT
(Eighth Street Bridge)
(Albertus L. Meyers Bridge)

HAER No. PA-459

Location: Spanning Little Lehigh Creek at Eighth St. (State Rt. 2055), Allentown, Lehigh County, Pennsylvania.

USGS Quadrangle: Allentown East, Pennsylvania (7.5-minute series).

UTM Coordinates: 18/460120/4493800


Designers: W. W. Wysor, chief engineer, Allentown Bridge Company; Benjamin H. Davis, consulting engineer.


Present Owner: Pennsylvania Department of Transportation.

Present Use: Vehicular bridge.

Significance: The South Eighth Street Viaduct (Albertus L. Meyers Bridge) is one of the earliest surviving examples of "monumental" reinforced concrete construction. Initially planned in 1900 as a steel truss structure over the Little Lehigh Creek, the final result, built more than a decade later, represents the financial collaboration between the Allentown Bridge Company's founders and Harry Trexler, owner of the Lehigh Portland Cement Company. At the turn of the twentieth century, concrete and related products were becoming an important component in the Lehigh Valley's economy alongside the earlier iron and steel industries. The South Eighth Street Viaduct is fine example of the adaptation of architecture and engineering to local landscapes and economic needs. The structure was listed in the National Register of Historic Places in 1988.

Historian: Dr. David S. Rotenstein, 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 (PennDOT) and the Pennsylvania Historical and Museum Commission during the summer of 1997. The project was supervised by Eric DeLony, Chief of HAER.

DESCRIPTION

The South Eighth Street Viaduct (Albertus L. Meyers Bridge) spans the Little Lehigh Creek valley for a total length of 2,600'-0". It is an average of 38'-0" feet wide, with two 16'-0" travel lanes and two sidewalks. The main structure spanning Little Lehigh Creek is comprised of nine open-spandrel concrete deck arch spans. There are eight closed-spandrel concrete deck arch approach spans. Each of the main spans is 120'-0" long and each of the approach spans is 52'-6" long. The structure’s spans are numbered sequentially from north to south: spans no. 1 and 2 are northern approach spans, spans no. 3 through 11 are the main spans, and spans no. 12 through 17 are approach spans.

Each of the main spans has two piers, the north one fixed and the south one an expansion joint. According to an article in *Engineering News*, “the piers supporting the main arches are formed of two separate monoliths, one to each arch rib ... spaced 18 ft. apart transversely,” while the approach span piers are “of cellular construction ... the small piers are braced by transverse arches in the same manner as the larger piers.”

The nine main open-spandrel arch spans have two semi-circular arch ribs 8'-0" wide and 4'-0" deep at the crown. Each rib carries spandrel walls with additional longitudinal spandrel arches and transverse semicircular arches “supporting the floor slab”; the transverse arches and floor slab brace each of the main arch ribs.

The nine main arches were “laid in alternate voussoirs of wide blocks and small keys.” “The large voussoir blocks were placed in pairs symmetrically distributed over the steel centering” to carry a uniform load weight to the piers.

Ornamental elements included in the structure were limited to pilasters on the piers and obelisk-formed light posts with a bush-hammered surface and elaborate bronze fittings to anchor

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1 “The South Eighth Street Viaduct, Allentown, Penn.,” *Engineering News* 69, No. 16 (17 Apr. 1913): 759.

2 “The South Eighth Street Viaduct,” 759.

3 “The South Eighth Street Viaduct,” 759.

4 “The South Eighth Street Viaduct,” 762.

5 “The South Eighth Street Viaduct,” 762.
 According to souvenir postcards distributed at the opening of the bridge in 1913, the structure was built with 45,000 barrels of cement, 29,500 cubic yards of concrete, 20,000 tons of sand, 36,000 tons of crushed stone and more than half a ton of reinforcing steel. The Engineering News stated, “All the reinforced-concrete slabs, girders and main arch rings were made of 1:2:4 concrete, the broken stone passing through a 1-in. ring.” They added, the remaining part of the work was made of a 1:3:5 concrete, made up of crushed rock, sand and broken stone passing a 2 1/2-in. ring. The use of rubble concrete was permitted in the large masses of the main piers, but the contractors did not avail themselves of this privilege except in a few instances. All reinforcement was made of square corrugated bars.

Because the structure was built as a toll bridge for vehicular and trolley traffic, there were initially northbound and southbound tracks in the bridge deck. Also, on the east side of the north approach, there was a concrete toll house with colonial stylistic elements (including dentil moldings and pilasters), measuring 6'-5" by 8'-8".

**CHRONOLOGY**

16 August 1900 Allentown and South Allentown Bridge Company is chartered.

3 November 1905 Lehigh Valley Transit Company is chartered.

24 January 1912 Lehigh Valley Transit Company applies for route over proposed South Eighth Street Viaduct.

5 March 1912 Allentown Bridge Company is chartered.

4 April 1912 Allentown Bridge Company acquires $225,000 to finance construction of bridge.

1 July 1912 Construction begins on South Eighth Street Viaduct.

17 November 1913 South Eighth Street Viaduct opens.

26 December 1913 Allentown Bridge Company is bought by Lehigh Valley Transit Company.

22 April 1949 Pennsylvania legislature authorizes purchase of the Eighth Street Bridge.

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6 The bronze light fixtures have since been removed. Their removal impacted the integrity of the structure and it was further compounded by the fact that the power conduits were left in place on each light post, wrapped around the upper portions.

7 Postcard in the collection of the Lehigh County Historical Society, Allentown, Pa.

8 "The South Eighth Street Viaduct," 763.
18 October 1949  Commonwealth of Pennsylvania acquires bridge through purchase of Allentown Bridge Company stock.

1957  Toll retired on bridge.

5 June 1974  Bridge renamed “Albertus L. Meyers Bridge” for noted Allentown band leader.

1988  Bridge listed in National Register of Historic Places.

HISTORICAL INFORMATION

The South Eighth Street Viaduct was built to connect the historic core of Allentown with trolley car suburbs expanding to the south. In October 1899, a group of Allentown industrialists chartered the South Allentown Land Improvement Company to develop real estate south of Little Lehigh Creek.\(^9\) The lead investor in the South Allentown Land Improvement Company was Harry Trexler, the founder of the Lehigh Valley Portland Cement Company. South Allentown was founded at a time when Allentown was undergoing a period of “rapid physical expansion” through the development of streetcar suburbs such as South Allentown.\(^10\)

Little Lehigh Creek valley, a natural barrier between Allentown and the area that would become South Allentown, had been an industrial corridor since the mid-nineteenth century. Historic maps of the area in which the South Eighth Street Viaduct was built illustrate a brewery, tannery, and a woolen mill in 1876.\(^11\) By the turn of the twentieth century, there were steel mills, a truck factory (now Mack Trucks), a silk mill, and a furniture factory.\(^12\) The valley was an ideal location for industrial development while the hills overlooking it to the north and south provided workers with a place to live.

The area that came to be known as South Allentown grew rapidly after its initial development by Trexler and his cohorts. In 1907 and the following year, the city of Allentown annexed much of the land embraced by the original South Allentown Land Improvement Company and incorporated the area into a new Twelfth Ward of the city.\(^13\) Although trolley lines


\(^12\) Hellerich, *Allentown*, 366.

had served the South Allentown area since the inception of service by the Allentown and Lehigh Valley Traction Company in 1893, the crevice formed by the Little Lehigh Creek valley remained a formidable barrier to transportation and development until the construction and opening of the South Eighth Street Viaduct.\textsuperscript{14}

On 10 September 1900, the Allentown and South Allentown Bridge Company was chartered with a capital of $1,000.\textsuperscript{15} The six subscribers formed the company for the purpose of erecting and maintaining a toll bridge across the Little Lehigh Creek at Allentown extending over said creek from Eighth Street on the south side of Union Street in said City of Allentown to a point on the opposite side of said creek in the Township of Salsburg in the County of Lehigh.\textsuperscript{16}

The Allentown and South Allentown Bridge Company began acquiring real estate and rights-of-way for their proposed bridge site on 29 September 1900. Their plans called for the construction of a steel trestle across the Little Lehigh Creek valley.\textsuperscript{17} Newspaper accounts of the Allentown and South Allentown Bridge Company’s exploits indicate that the company retained a German bridge firm to construct the steel superstructure.\textsuperscript{18} Construction began and several piers were built before all activities at the site suddenly ground to a halt.\textsuperscript{19} The idea of bridging Little Lehigh Creek would not be revived for more than a decade.

While the unfinished piers and steel from the aborted 1901 bridge-building effort deteriorated in the ravine separating Allentown from South Allentown, several events occurred that would lead to the revival of the idea to bridge the Little Lehigh Creek valley. During the last decade of the nineteenth century and the first few years of the twentieth century, several trolley lines competed for routes and riders in the Lehigh Valley. In 1904, the Lehigh Valley Traction Company emerged as a leader in regional transportation, with routes active throughout the Valley. Their success, however, was short-lived. In 1905, the company went into receivership.

\begin{itemize}
\item \textsuperscript{14} Kulp, “Allentown’s Original 12th Ward.”
\item \textsuperscript{15} Lehigh County, \textit{Charter Book}, 6:49.
\item \textsuperscript{16} Lehigh County, \textit{Charter Book}, 6:49.
\item \textsuperscript{17} Allentown newspaper reporter Frank Whelan wrote that the first bridge was to be constructed at the “foot of Seventh Street,” contradicting the provision in the Allentown and South Allentown Bridge Company’s charter indicating that the bridge will be built at Eighth Street. See Frank Whelan, “The Making of the Bridge at 8th Street,” \textit{The Morning Call} (4 Sep. 1988).
\item \textsuperscript{18} Whelan, “The Making of the Bridge.”
\item \textsuperscript{19} “The South Eighth Street Viaduct,” 759; Whelan, “The Making of the Bridge.”
\end{itemize}
and its routes and rolling stock went up for sale on 13 June 1905. The sale culminated in the consolidation of the routes of the defunct Lehigh Valley Traction Company and several other street railroad companies in the new Lehigh Valley Transit Company.

The principals of the newly formed Lehigh Valley Transit Company included the founders of the Lehigh Portland Cement Company, Harry C. Trexler, and Edward M. Young. It does not appear that Trexler et al. made any moves to revive their earlier attempt to bridge the Little Lehigh Creek and the idea remained dormant for five years following the founding of the Lehigh Valley Transit Company.

During the fall of 1911, moves were again underway to bridge the Little Lehigh Creek valley. On 28 November 1911, the mayor of Allentown approved a bill passed by the Allentown City Council granting the Lehigh Valley Transit Company “the right to lay a double track on Eighth Street ... over a bridge to be constructed by the Allentown and South Allentown Bridge Company.” Four months later, on 5 March 1912, Pennsylvania governor John K. Tener approved the charter of the Allentown Bridge Company. Like its predecessor, the Allentown and South Allentown Bridge Company, the Allentown Bridge Company was formed for the purpose of erecting, constructing and maintaining a bridge and approaches thereto over the Little Lehigh Creek, from the southern line of Union Street, at its intersection with Eighth Street, in the Third Ward of the City of Allentown, in the County of Lehigh and State of Pennsylvania, to a point on the opposite side of said creek in the northern line of Emaus Road at its intersection with Ninth Street, in the Twelfth Ward of the City of Allentown.

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22 Trexler also was a subscriber to and an officer in the South Allentown Land Improvement Company. See Kulp, *History of the Lehigh Valley Transit Company*, 17; Lehigh County, *Charter Book*, 5:187.


All of the assets, rights-of-way, etc., of the earlier company were transferred to the new company by way of a merger executed on 18 April 1912.\textsuperscript{26} The Allentown Bridge Company was chartered at $5,000 with five subscribers, including the company's chief engineer, W. W. Wysor. Only days before, on 4 April 1912, it applied to the Commonwealth of Pennsylvania to increase its indebtedness from zero to $225,000 through a bond issue.\textsuperscript{27} Construction on the new bridge began 1 July 1912.\textsuperscript{28}

Although the Allentown Bridge Company had its own engineer, W. W. Wysor, the company hired Benjamin H. Davis (1882-1927) as consulting engineer for the project. Davis, a veteran bridge-builder and civil engineer, was trained at the Case School of Applied Science (now Case Western Reserve University) in Cleveland, Ohio, where he received his engineering degree in 1905.\textsuperscript{29} Davis specialized in concrete construction early in his career. According to one obituary, Davis worked from "May, 1910, to the time of his death ... as a Consulting Engineer on the design and construction of all types of concrete structures."\textsuperscript{30} During his career, Davis supervised the construction of more than one hundred concrete bridges, many of them for the Lackawanna Railroad Company, his first employer. In addition to the South Eighth Street Viaduct, Davis is credited with building the Paulin's Kill Viaduct in Hainesburg, New Jersey, and the bridge over the Delaware River at Slateford, Pennsylvania.\textsuperscript{31} Davis died at age 44 on 17 August 1927.\textsuperscript{32}

According to the \textit{Engineering News} article, "The old piers which were placed for the 1901 bridge were not utilized.\textsuperscript{33} "[B]ut the abutments which were then built of stone masonry were utilized for a portion of the extreme abutments to the new bridge."

\textsuperscript{26} No legal instruments were filed in Lehigh County to reflect the merger. The merger between the Allentown and South Allentown Bridge Company, and the new Allentown Bridge Company, is noted in the chain of title presented in the transfer of assets from the Allentown Bridge Company to the Commonwealth of Pennsylvania. See Lehigh County, \textit{Deed Book}, 740:73.


\textsuperscript{28} "The South Eighth Street Viaduct," 763.

\textsuperscript{29} George J. Ray and George L. Dresser, "Memoir of Benjamin Herman Davis," \textit{Transactions of the American Society of Civil Engineers} 104 (1939).

\textsuperscript{30} Ray and Dresser, "Memoir of Benjamin Herman Davis," 1901.

\textsuperscript{31} Ray and Dresser, "Memoir of Benjamin Herman Davis," 1901.

\textsuperscript{32} Ray and Dresser, "Memoir of Benjamin Herman Davis," 1901.

\textsuperscript{33} "The South Eighth Street Viaduct," 759.
support structures to facilitate building of the permanent structure. The *Engineering News* article covering construction of the bridge recounted the construction sequence:

At the beginning of the work a low heavy trestle was laid along the center line of the bridge for the distance covered by the 120-ft. arches. On this trestle a track was laid upon which were run two heavy locomotive cranes. These cranes were used for all the work in constructing the piers up to a point about 25 ft. above springing line. They are used in excavating the pier sections, in building the monolithic section of the pier, and on account of their extreme strength and boom length were also used in the higher part of the pier work....

To the east of the bridge there was erected at the same time a light trestle ... upon which run flat cars drawn by locomotives, which trains were used in bringing concrete and lumber to the piers and in removing all excavated material.

The concrete for the middle or main section of the bridge was mixed at a large central mixing plant located about the middle of the bridge, and equipped with a 2-cu. yd. mixer. All material was brought in by rail on a spur track from the main-line railroad which runs down the valley....

After the piers were completed ... large 80-ft. derricks were mounted on steel towers resting on timbers spanning the opening between the two sections of each pier ... and the further work of construction, including a large part of the floor slab, was carried on by means of these derricks taking material from the light trestle along the east side of the bridge.

The final operation in the erection of the main spans was carried on by a traveling derrick moving along the completed portion of the floor system.

At the same time work was going on at the large arches, the construction of the piers of the approaches was being carried on by hand labor, assisted by portable mixers, which could be moved from one part of the work to another. At the south approach a wooden tower elevator ... was erected to elevate the concrete to the floor level of the approach.  

The bridge was thrown open to the public in a ceremony held on the rainy afternoon of 17 November 1913. The event included a parade, speakers including local officials and state...
legislators, and a performance by the Allentown Band.35 The bridge opened as a toll bridge for trolleys, automobiles, and pedestrians. A final accounting of what the bridge’s construction cost the Allentown Bridge Company is presented in Table 1.

**Table 1  Construction Costs, South Eighth Street Viaduct.**

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
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<tbody>
<tr>
<td>Organization</td>
<td>$1,740.73</td>
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<tr>
<td>Right-of-Way</td>
<td>$28,157.68</td>
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<tr>
<td>Real Estate</td>
<td>$8,406.00</td>
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<tr>
<td>Bridge Construction</td>
<td>$409,069.06</td>
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<tr>
<td>Miscellaneous Construction Charges</td>
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<tr>
<td>Interest and Discount During Construction</td>
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<tr>
<td>Taxes During Construction</td>
<td>$525.94</td>
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<tr>
<td>Bond Interest During Construction</td>
<td>$9,896.33</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>$507,241.55</strong></td>
</tr>
</tbody>
</table>

Source: Allentown *Leader* article, City Engineer’s Office, Allentown, Pennsylvania.

Newspaper accounts of the bridge’s history recount recurring tensions between Allentown residents, city officials, and the operators of trolley car lines over tolls on the South Eighth Street Viaduct.36 A 1932 review of the Allentown Bridge Company books by the Allentown City Controller and reported in the Allentown *Leader*, indicates that the bridge company had a contract with the city that read, “[W]hen the total gross receipts from the operation of the bridge equal the cost of the bridge plus maintenance and interest on the investment, the Bridge Company will turn the bridge over to the City of Allentown free of any expense to the city....”37 Although the South Eighth Street Viaduct never was acquired by the city of Allentown, the 1932 assessment made by the City Controller provides some interesting insights into the bridge’s early years.

According to the Allentown City Controller’s report, the Allentown Bridge Company, a subsidiary of the Lehigh Valley Transit Company, was to pay the parent company one quarter of a cent for each passenger and ten cents per car “other than a passenger car” crossing the bridge. By 1931, according to the audit, more than 48 million passengers traveled across the bridge, paying tolls equaling $119,608.56. Traffic counts (as reflected in toll receipts) show several


37 Allentown *Leader* article, City Engineer’s Office, Allentown, Pa.
trends between 1914 (the first full year of operation) and 1931. First, there was a tremendous jump in the number of motorized vehicles using the bridge after 1920, which was attributed to the increased availability and popularity of the automobile. The second trend identified by the report reflects local economic conditions reacting to the Depression beginning in 1929:

Last year [1931] was one of the leanest in the history of the company, total receipts both from the Transit Company and pedestrians and vehicles showing a decided decline, due, it is believed [in part] ... to the depression and the consequent shutting down of industries with the resulting falling off of travel by trolley and automobile.\(^{38}\)

Declining revenues were not the only barometer of local economic woes reflected in the bridge’s history. According to Allentown newsman Frank Whelan, the bridge long has been the site of attempted and successful suicides by despondent Allentown residents.\(^{39}\) Whelan explained that the first suicidal leap occurred two years after the bridge opened, in 1915.\(^{40}\) During a two-year period ending in 1986, Allentown’s declining economy (and other reasons) drove a dozen people to attempt suicide, three of whom succeeded.\(^{41}\)

Since its completion, the bridge has undergone several official and unofficial changes of name. Although the bridge’s official name continued to be the South Eighth Street Viaduct, it also was known locally as the Eighth Street Bridge. In 1974, the bridge was officially renamed to honor Allentown Band conductor Albertus L. Meyers, then 83 years old.\(^{42}\) Meyers had spent his entire musical career in Allentown; in fact, he was present with his coronet as a member of the band playing the day the bridge opened in the fall of 1913.\(^{43}\)

In 1949, the bridge was acquired by the Commonwealth of Pennsylvania through a purchase of the Allentown Bridge Company’s stock, its rights of way, and its franchise to operate

\(^{38}\) Allentown Leader article.

\(^{39}\) Rising more than 120 feet above the Little Lehigh Creek valley, the South Eighth Street Viaduct is one of the highest free-standing publicly accessible spaces in the Allentown vicinity.

\(^{40}\) Frank Whelan, personal communication.

\(^{41}\) Allentown Morning Call (5 May 1986).

\(^{42}\) The Pennsylvania Department of Transportation’s volume, *Historic Highway Bridges in Pennsylvania*, incorrectly identifies the renamed bridge as the “Alburn’s L. Meyers Bridge” (Pennsylvania Department of Transportation, 1986), 184. The error was repeated in the multiple resource nomination to the National Register of Historic Places for “Highway Bridges Owned by the Commonwealth of Pennsylvania, Department of Transportation.”

\(^{43}\) Whelan, “The 8th Street Bridge.”
the toll bridge. The purchase of the bridge was authorized under an act passed by the Pennsylvania legislature authorizing the Secretary of Highways "to acquire toll bridges located wholly within Pennsylvania." The act, passed 22 April 1949, empowered the Highway Department (now PennDOT) to:

continue the collection of tolls and charges on such bridge or bridges or reconstructed bridges until the Commonwealth has been reimbursed to the full extent of the original cost of acquiring such bridge, together with such interest thereon as shall have been expended by the Commonwealth and the cost of compensation of toll collectors."

Newspaper accounts of the bridge’s history indicate that the bridge’s toll was retired in 1957, eight years after its purchase by the Commonwealth of Pennsylvania.

Except for several short-term closures for routine maintenance and the addition of pedestrian barriers, the bridge has remained in continuous operation since its completion in 1913. Modifications to the structure by PennDOT include the removal of toll booths in 1957 and the widening of the western approach spans in 1973. In 1994, at the request of the City of Allentown (acting on complaints by local residents), PennDOT erected a concrete pedestrian safety barrier on the eastern side of the bridge. In June 1988, the bridge was listed in the National Register of Historic Places as a contributing element in the multiple resource nomination "Highway Bridges Owned by the Commonwealth of Pennsylvania, Department of Transportation."

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45 P.L. 715 (1949).

46 P.L. 715.

47 Whelan, "The 8th Street Bridge"; Whelan, "The Making of the Bridge." Records on file at the PennDOT District 5-0 office in Allentown cannot confirm any details regarding the toll.

48 Louis Berger and Associates, Inc., Cultural Resource Group, "Proposed Barrier Installation, Albertus L. Meyers Bridge, Criteria of Effect Report" (East Orange, N.J.: Louis Berger and Associates, Inc., 1993), 5. Despite repeated attempts by local governments (the City of Allentown and Lehigh County) and pleas by local residents, PennDOT has been blocked from constructing protective fencing to prevent suicides by the Pennsylvania Bureau for Historic Preservation. A 1994 letter from Allentown City Engineer Stephen F. Turoscy admitted that although PennDOT would allow the City of Allentown to build the protective fence at its own expense, "PHMC approval of construction of a chain link fence will be difficult to obtain" because of the bridge’s historic status; see letter from Turoscy to Kenneth Fogle, PennDOT, 17 Feb. 1994, Allentown City Engineer’s office.
SOURCES CONSULTED


City Engineer's Office, Allentown, Pa.


Lehigh County Historical Society, Allentown, Pa.


______. Personal communication.