### **Boulevard of the Allies ramp over Second Avenue**

Second Avenue between Liberty Ave and Grant St (since renamed Boulevard of the Allies) was widened in 1920 and 1921, and construction that year began on what was planned to be a grand boulevard to connect downtown with Oakland. Boulevard of the Allies was opened to traffic on October 2, 1922, and at the



time was the most expensive roadway in the world on a per-mile basis. The on-ramp that starts at Grant St was built over a park called Second Avenue Park, which was considered a vital component of Pittsburgh's Chinatown.

# **Boulevard of the Allies/Duquesne University Footbridge**

A bridge has existed in the spot since at least 1957, offering a safe passageway for Duquesne University students to cross the Boulevard of the Allies and descend to the Tenth Street Bridge. The stairway that connects the footbridge to Second Avenue used to be the site of the Fort Pitt Incline, which operated from 1882 to 1906.

South Tenth Street Bridge - Suspension bridge, 1933, George S. Richardson

The first bridge to cross at this location was a 1861 wooden covered bridge built between the

expanding city of Pittsburgh with the borough of Birmingham and was therefore called the Birmingham Bridge. This was replaced in 1904 with a steel through truss bridge that could be called the 10th Street Bridge or the Birmingham Bridge depending on what side you were standing on. This was replaced by the current bridge in 1933. It was officially renamed on Labor Day in 2007



after Philip Murray, the first president of the United Steelworkers of America. It is the longest span over the Monongahela River and is the only true suspension bridge still standing in the city of Pittsburgh.

### Liberty Bridge - Steel cantilever truss bridge, 1928, George S. Richardson

The Liberty Bridge complemented the Liberty Tunnels, finished in 1924, and together enabled the first direct connection between downtown and the south hills that did not require going up over Mt. Washington. Its completion enabled the rapid settlement of the south hills and heralded the automobile age by allowing easy commuting downtown by car.

**Panhandle Bridge** (Monongahela River Bridge) - Steel truss bridge, 1903, S. P. Mitchell (American Bridge Company)

The Pittsburgh and Steubenville Railroad Company built a combination through truss and deck truss railroad bridge in this spot in 1863 to connect Pittsburgh with Steubenville, OH. This railroad was later absorbed into the Pennsylvania Railroad, becoming it's "Panhandle" route because it crossed the panhandle of West Virginia to reach Steubenville. A portion of deck truss was rebuilt as a through truss around 1881, but the bridge entire was replaced with the current bridge in 1903, which was raised in 1914 to eliminate at-grade crossings. It had always been used for passenger and mail service, which ended over in 1979 when Amtrak cut the New York-Kansas City National Limited route. The bridge was sold to the Port Authority, which incorporated it into the "T" light rail network in 1985, for which it is used to this day.

## Smithfield Street Bridge - Lenticular truss bridge, 1883, Gustav Lindenthal

The present bridge is the fourth bridge on this site. The first was a 1818 wooden covered bridge, engineered by Louis Wernwag, which was the first bridge to span any of Pittsburgh's three rivers. It burned down in the great fire of 1845 and was replaced by a 1846 wire suspension bridge, the first highway bridge designed by renowned bridge engineer John A. Roebling, who later built the 1866 John A. Roebling Suspension Bridge in Cincinnati and designed the Brooklyn Bridge, built by his son and completed in 1883. The 1846 bridge was, in turn, replaced by the current 1883 bridge designed by Gustav Lindenthal, who later designed the Hell's Gate Bridge and Queensboro Bridge in New York City. The bridge was widened in 1889 and again in 1911. It carried streetcars until the Panhandle Bridge started carrying light rail traffic in 1985.

Wabash Bridge - Cantilever through truss bridge, 1904, George T. Barnsley

This former bridge was constructed in 1904 along with the Wabash tunnel to connect Pittsburgh to George J. Gould's Wabash Pittsburgh Terminal Railway, which soon went into receivership in 1908. Successors to this railroad continued to use the bridge until 1946, when fire destroyed the Wabash Terminal. As it was no longer needed, the bridge was demolished in 1948. The piers remain standing, but plans to build a new bridge upon them that would connect downtown to the west busway have never come to fruition.

Fort Pitt Bridge - Steel bowstring arch bridge, 1959, George S. Richardson

This double-decker highway bridge opened to traffic 15 months before the companion Fort Pitt Tunnels opened and roughly replaced the downstream Point Bridge.

Point Bridge - Steel cantilever through truss bridge, 1927, George S. Richardson

This was built just upstream from the original 1877 trussed eyebar suspension Point Bridge, designed by Edward Hemberl of the American Bridge Company. It was closed to traffic two days after the Fort Pitt Bridge opened in 1959, but remained standing until 1970 when the structurally connected Manchester Bridge was closed and removed in 1970. A southern abutment can still be seen on the south shore of the river.

Portal Bridge - Reinforced concrete arch bridge, 1963, Charles and Edward Stotz

Three-hinged arch to carry traffic between Fort Pitt and Fort Duquesne bridges, keeping a view open through to the park. Less than 3 feet thick at the crest. "The portal had an interior hollow shell with three curved vaults, each 160 feet long, arching across and between four heavily reinforced ribs 40 feet apart, the ribs taking part in the overall arch action." The extremely complex design using thennew technology enabled the point to be connected to the rest of downtown for all pedestrians.

Manchester Bridge - Subdivided Pratt through truss bridge, 1915

This was a replacement for the original bridge on this site, the 1875 wooden covered Union Bridge, removed in 1907 due to flood damage and consistent obstruction of river traffic. The 1915 bridge was open to traffic until the day the Fort Duquesne Bridge was opened in 1969 and was demolished in 1970. A single pier from this bridge still stands on the north shore and is the location of the 2009 Fred Rogers Memorial Statue.

Fort Duquesne Bridge - Steel bowstring arch bridge, 1963, George S. Richardson

This is Pittsburgh's infamous "Bridge to Nowhere", built in 1963 but idle until 1969, when ramps connecting it to PA-65 were completed. This meant that two of the four bridges situated at or near the point were unused between 1963 and 1970 until the Manchester and Point Bridges were demolished.

### The Three Sisters - Vernon R. Covell, chief engineer

These are a unique set of three near-identical self-anchored suspension bridges, the first of their kind to be built in the United States. All three replaced earlier bridges that did not conform to War Department standards for bridges built over navigable rivers. A 1924 bond issue funded the near-simultaneous construction of these three bridges.

## Roberto Clemente Bridge (Sixth Street Bridge) - 1928

This is built on the site of three previous bridges, including 1819 Allegheny River Bridge, a covered wooden bridge engineered by Louis Wernwag as a companion to the Monongahela Bridge built one year earlier. It was the first bridge to be built over the Allegheny and the second river bridge built in Pittsburgh. This was replaced in 1859 by the St. Clair Street Bridge, a wire suspension bridge designed and built by John A. Roebling, the third of his bridges built in Pittsburgh. It was also the last of his Pittsburgh bridges to be torn down as it was replaced in 1892 by a subdivided Pratt through truss bridge designed by Theodore Cooper. This third bridge was removed in 1927 to make way for the current bridge, but was reinstalled over the back channel of the Ohio connecting Coraopolis with Neville Island. It was finally demolished in 1995 after 103 years of service in two different locations. The current bridge was renamed after famed Pirate Roberto Clemente in 1998.

# Andy Warhol Bridge (Seventh Street Bridge) - 1926

This location was originally spanned by the 1885 Seventh Street Bridge, a suspension bridge designed by Gustav Lindenthal that was torn down in 1925 to make way for the new Seventh Street Bridge. It was renamed in 2005 after native Oakland artist Andy Warhol.

## Rachel Carson Bridge (Eighth Street Bridge) - 1926

This is the third bridge at this location, the first two being the 1839 Hand Street Bridge, a covered wooden bridge built by Sylvanus Lothrop, and the 1890 Eighth Street Bridge, a Pratt through truss bridge designed by G.W.G. Ferris and Gustave Kaufman, Ferris being best known by the wheel that bears his name. The current bridge was renamed after native Springdale environmentalist Rachel Carson on Earth Day in 2006.

## Fort Wayne Railroad Bridge - Steel Pratt truss bridge, 1904, American Bridge Company

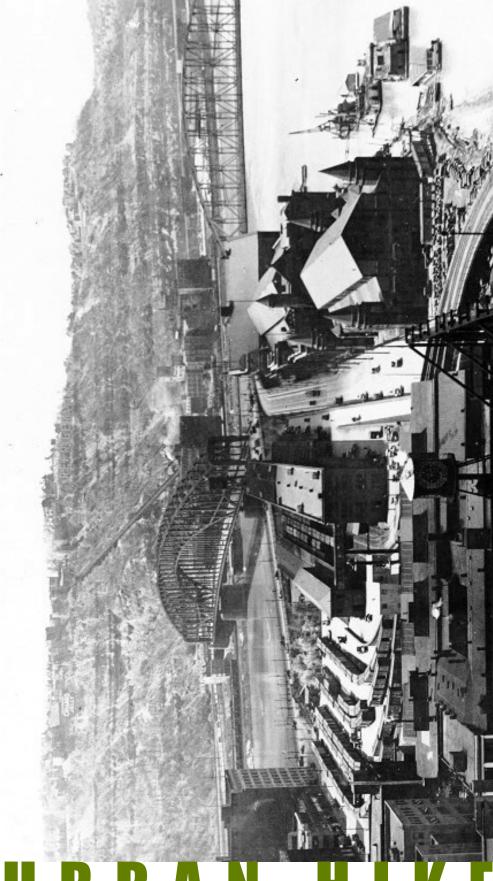
This is the fifth bridge to cross the Allegheny River at this location. The first two carried the waters of the Pennsylvania Canal into downtown Pittsburgh: a 1829 covered wooden bridge designed by Sylvanus Lothrop, and a 1845 wire suspension bridge built by John A. Roebling, his very first. The canal was very quickly rendered obsolete, and the last canal bridge was demolished in 1861, four years after a wooden truss railroad bridge was built just downstream. This first railroad bridge was replaced in 1868 by an iron lattice railroad bridge, the piers of which were extended to support construction of the current bridge from 1901-1904, with the old bridge and its piers being torn down after completion. The bridge deck was raised in 1918, evidence of which can be seen in the lighter concrete atop the older stone piers. The bridge is double-decked, but the tracks for the lower deck and all connections to it were removed in the 1950s. Today is carries Amtrak passenger trains and Norfolk Southern freight trains.

## **Bridge of Sighs** - Stone arch bridge, 1888, Henry Hobson Richardson

This bridge was constructed as a component of the Allegheny County Courthouse and Jail complex, designed by famed architect Henry Hobson Richardson and considered by himself to be his masterpiece. The bridge connects the courthouse to the old jail and was inspired by the 1600 Bridge of Sighs in Venice, which connected the New Prison with the interrogation rooms in the Doge's Palace. The name was bequeathed by Lord Byron, who romantically wrote of condemned prisoners who would sigh while crossing the bridge and taking in the last view they would ever have of Venice. The bridge can be crossed today by non-prisoners as a part of a Pittsburgh History and Landmarks tour.

Cover Image: Second Point Bridge and Manchester Bridge

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