



## Historic Bridge Foundation Facebook Archives

### Focus Bridges: Waco's Highway Bridges

March 2015

Crossing the Brazos River, the bridge known as the Waco Suspension Bridge has a somewhat complicated history. The bridge was originally built in 1870 by the famous suspension bridge company, the John A. Roebling Company, under the direction of engineer Thomas M. Griffith. Griffith had earlier in 1855 designed a suspension bridge which is generally accepted to be the first bridge over the Mississippi River and was located on Hennepin Avenue in Minneapolis. The Waco Suspension Bridge was originally operated as a toll bridge by the Waco Bridge Company, an entity that was created by local citizens to build and operate the bridge. In 1889, the bridge was sold to the county who turned it over to the city to operate as a free bridge.

As originally built, the bridge featured brick towers and anchorages with a medieval-like appearance, including details like crenellation. For the towers, a single arch connected the tower posts over the roadway. The bridge included a timber stiffening truss. Cedar trees from the Chalk Bluff area were used in constructing the bridge substructure. Local firms were contracted for the construction of the brick and timber work. An 1870 issue of *Van Nostrand's Engineering Magazine* specifically notes that African Americans were employed for pumping inside the cofferdams using "log pumps."

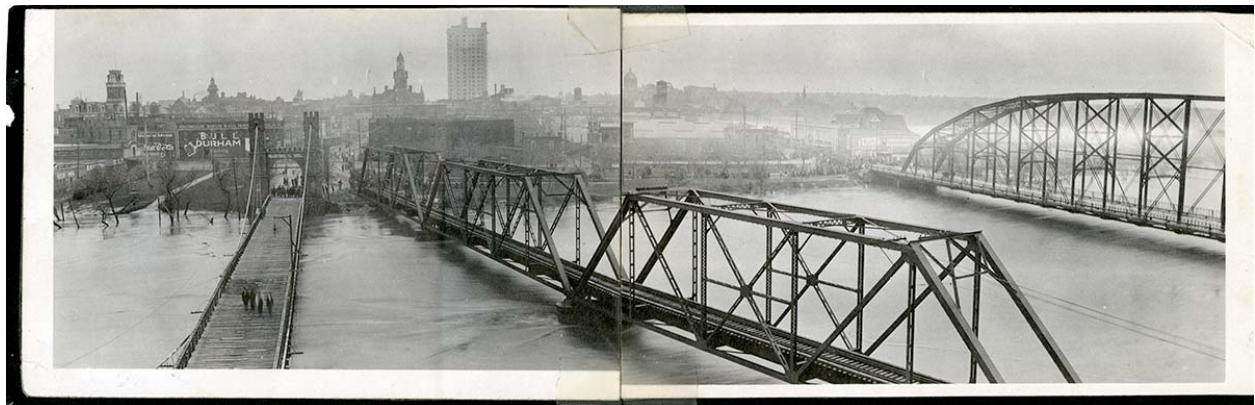
In 1913-1914, the bridge was largely rebuilt from new materials. The contractor for the reconstruction was the Missouri Valley Bridge and Iron Company. The entire original lightweight stiffening was removed and replaced with a heavy-duty rivet-connected Warren pony truss stiffening system. The arrangement of the cable suspension system was also reconfigured. The towers were also reconfigured by adding a second arch over the roadway. Towers and anchorages were altered by removing many of the original architectural details and stuccoing over the brick. The only place where the original brick remains exposed today is on the towers under the bridge deck.

The Waco Suspension Bridge, when first completed in 1870, with its 475 foot span, was certainly not the longest or earliest suspension span in the world. The Menai Bridge in Wales with its 577 foot span was

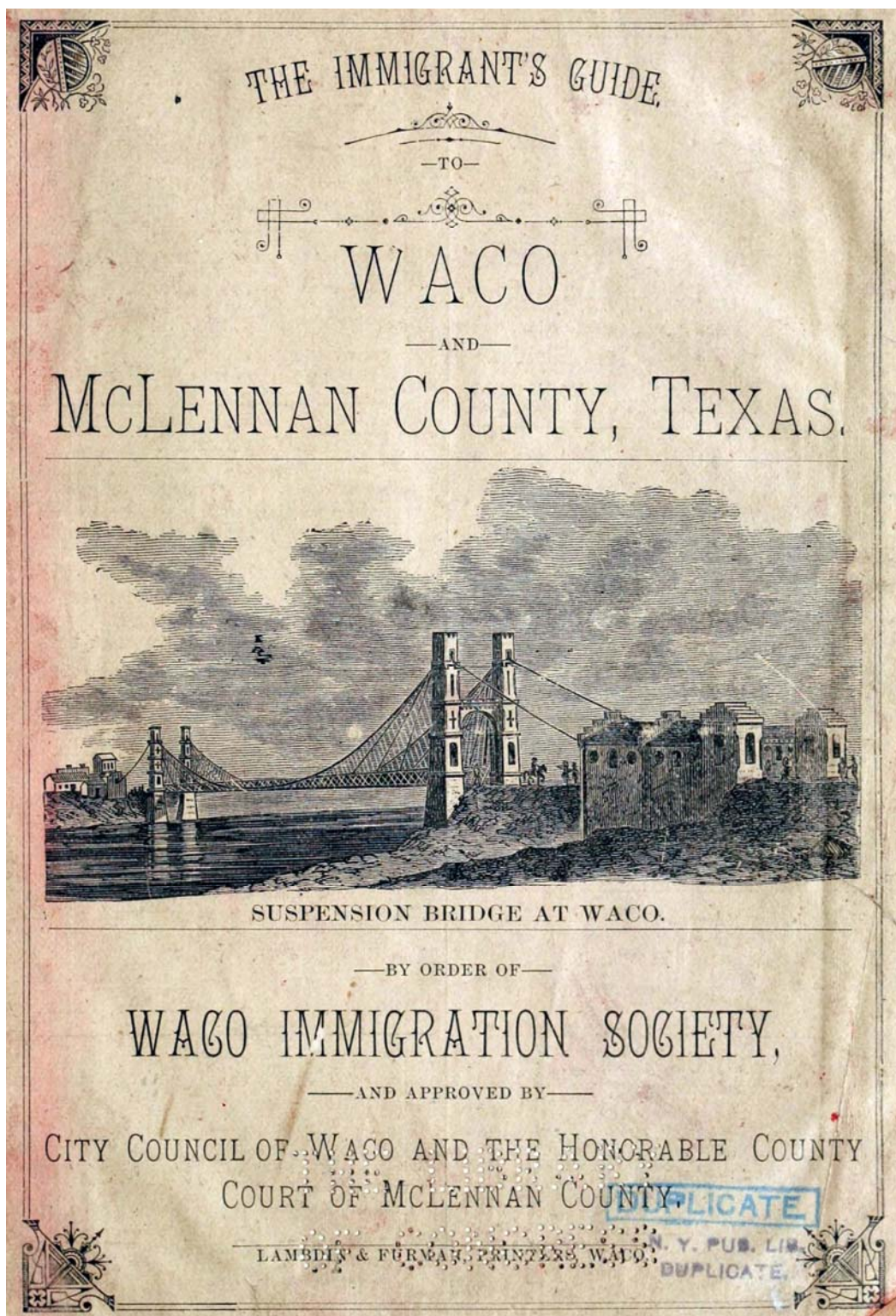
built in 1826. In the U.S., the Wheeling Suspension Bridge had been completed in 1849 with a 949 foot span. Despite this, Waco's suspension bridge was reportedly the longest suspension span in the country west of the Mississippi River when completed. As such, the bridge was a significant engineering achievement in the region and instantly became a major area landmark when completed. Even today, it remains a notable landmark in Waco, and was listed on the National Register of Historic Places in 1970.

For many years in the 20<sup>th</sup> Century, a through truss for an interurban railroad line existed just west of the suspension bridge. A historical postcard indicates this bridge was later operated as a one-way vehicular bridge in conjunction with the suspension bridge. This interurban bridge was ultimately removed, leaving only the piers which are still visible today. The suspension bridge in turn has been maintained to this day for non-motorized traffic only.

Today, the next bridge west of the suspension bridge is the Washington Avenue Bridge. This bridge is a historic bridge in its own right. Built in 1901-1902 to address an increase in traffic on the suspension bridge, the bridge features a 450 foot pin-connected Pennsylvania through truss main span. Although a number of railroad bridges had been built as early as the 1880s with simple-span trusses exceeding 500 feet, this span was reportedly the longest simple-span highway truss in the United States when completed. The record was short-lived however. For example, a much larger, 586 foot truss span was completed in Elizabethtown, Ohio a few years later in 1906, and in 1908, the Donora-Webster Bridge in Pennsylvania with a 517 foot span was completed. The Washington Avenue Bridge was rehabilitated in 2009-2010, which also included repainting the bridge in its original color of black. The bridge appears to be the longest surviving simple-span highway truss built before 1903 in the United States.



This view during a flood in 1913 shows three bridges. From left to right, the Washington Avenue Bridge, the Interurban Bridge, and the Waco Suspension Bridge.



The Waco Suspension Bridge was a major local landmark when completed. It was featured on the cover of this 1884 guide to Waco for immigrants.





A historical postcard showing the bridge after its 1914 reconstruction.



A modern-day photo taken from a similar position as the previous historical postcard.



This historical postcard shows the suspension bridge prior to the 1914 reconstruction.

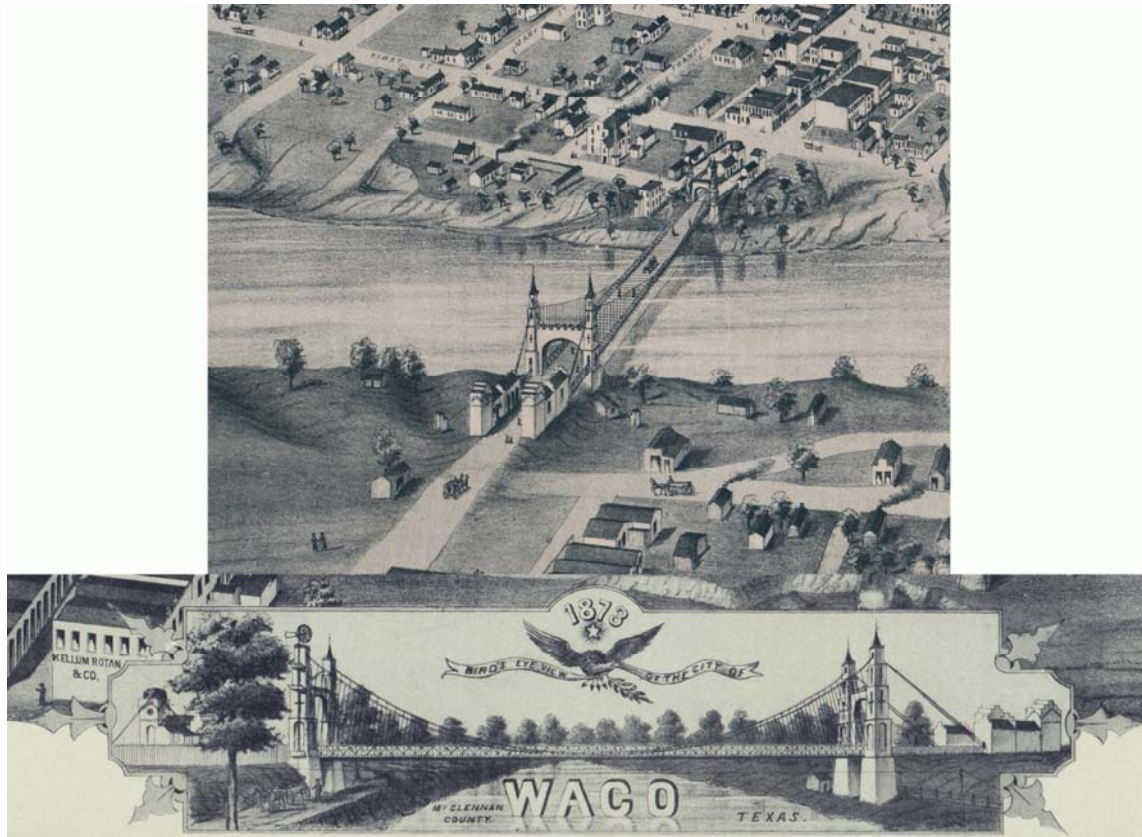




This is a side-by-side comparison of the anchorages of the suspension bridge. The top image is from a historical postcard of the anchorage prior to reconstruction, while the modern-day photo below contrasts the appearance of the anchorage today.



This is a side-by-side comparison of the towers of the suspension bridge. The left image is from a historical postcard of the tower prior to reconstruction, while the modern-day photo below contrasts the appearance of the tower today. Note the second upper arch between tower posts in the modern-day photo.



The original suspension bridge was twice featured on a birds-eye view map of Waco in 1873.





A modern-day view of the Waco Suspension Bridge.

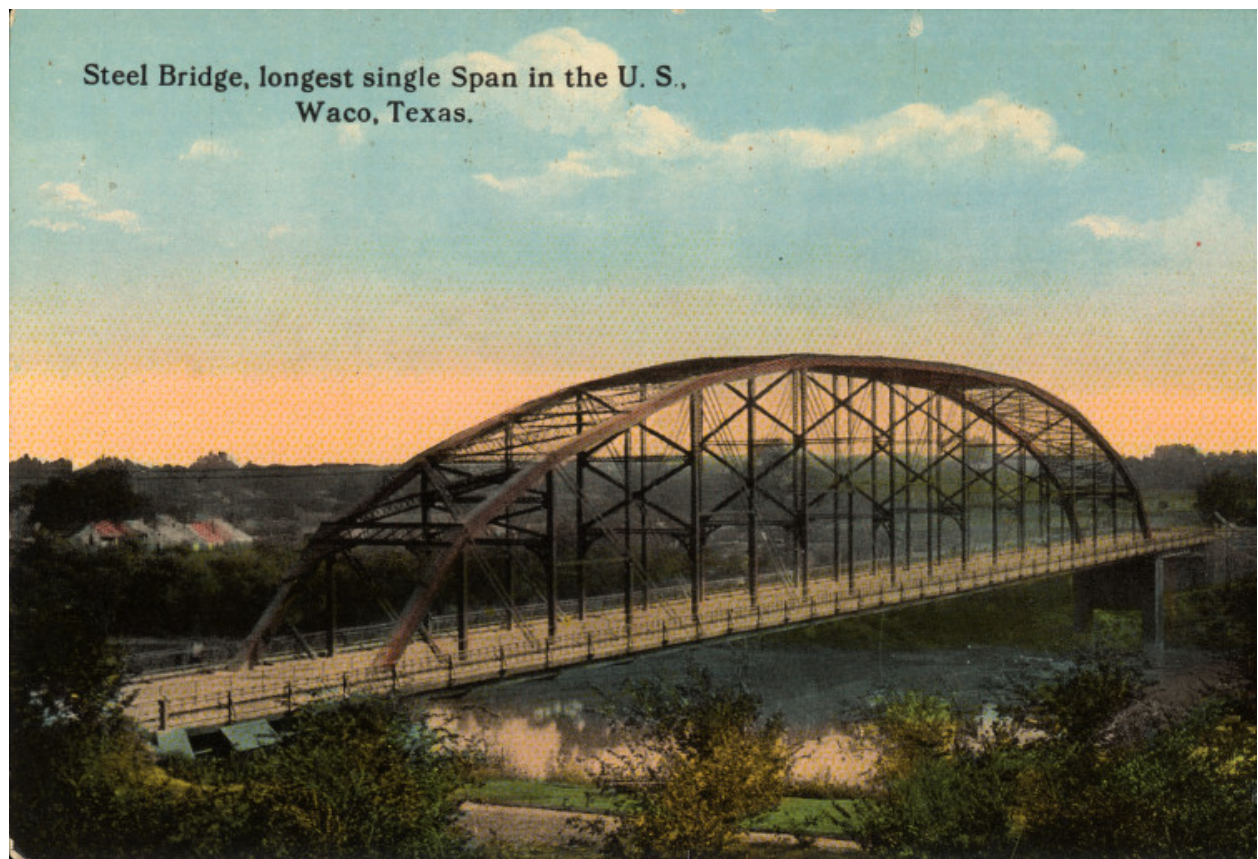


A view of one of the suspension towers from below the deck, where the original 1870 brick remains exposed and visible.



This undated historical postcard appears to show the Interurban Bridge to the left, carrying vehicular traffic. It appears that the Interurban Bridge and the Suspension Bridge at this time were operated as a one-way couplet of bridges.





This postcard from 1908 lists the Washington Avenue Bridge as the longest simple span in the United States, a statement which was untrue.



These photos show the Washington Avenue Bridge shortly before its 2010 rehabilitation.





These photos show the Washington Avenue Bridge after its 2010 rehabilitation. Photos courtesy Mark Randolph, City of Waco.



This 1902 photo shows the Washington Avenue Bridge under construction, but nearly completed. Note the falsework under the bridge. The tower-like structure at the left (north) end of the bridge may be an erection traveler, a temporary construction that was used to handle truss bridge parts during erection. They were used in the years before vehicles such as crawler cranes became common.