
Date of Construction: 1936.

Designer: Texas Highway Department: George G. Wickline, state bridge engineer; Gibb Gilchrist, state highway engineer.

Builder: John F. Buckner, Cleburne, Texas, contractor; Virginia Bridge and Iron Company, Roanoke, Virginia, steel fabricator.

Present Owner: Texas Department of Transportation and Louisiana Highway Commission.

Present Use: Vehicular bridge.

Significance: This is the only known variable-depth steel girder bridge in Texas. Its central cantilever and suspended span and unique steel railings make it distinctive. It is one of only three remaining bridges of the original six built between 1927 and 1937 connecting Texas and Louisiana over the Sabine River.


Project Information: This document was prepared as part of the Texas Historic Bridges Recording Project performed during the summer of 1996 by the Historic American Engineering Record (HAER). The project was co-sponsored by the Texas Department of Transportation (TxDOT).
Introduction

In 1928, the last bit of road was laid down on State Route 35 in East Texas, linking the roads of northern Shelby County with Louisiana State Route 9 and, thereby, the rest of the southern United States. At the Texas-Louisiana border, where the waters of the Sabine River meandered by, the road came to a timber and steel truss bridge. The citizens of Logansport, Louisiana, paid for this bridge's construction in 1897, and, up until 1917, they collected tolls from the vehicles crossing it.

For thirty-seven years, the bridge served the area; that is, until the afternoon of August 2, 1934, when a wayward spark developed into a "spectacular" conflagration that sent the steel truss, plummeting into the waters and put the bridge out of service for good. The fire only confirmed what Texas state highway officials had known for some time: the bridge was structurally unsound, capable of collapsing at any time, and not at all adequate to serve the growing traffic on the new highway.

Following the fire, Shelby County and DeSoto Parish hastily erected a temporary timber crossing, while stepping up efforts to build a new bridge to coincide with the new highway and the heavy load of motorized traffic moving along it. When the new bridge opened to traffic over two years later, demolition of the timber structure commenced that very day.

On December 17, 1936, the new Sabine River Bridge at the Logansport crossing — the third non-railroad structure over this part of the water in thirty-nine years — welcomed its first vehicles. The Logansport mayor and other public officials made a ceremonial trip. This bridge was one of six built between 1927 and 1937, officially closing the book on the era of Sabine River ferry crossings. Today it is one of only three that remain.

1 State Route 35 originally ran north-south, linking Houston with Shreveport, Louisiana, and crossing the Texas cities of Logansport, Nacogdoches, Lufkin, and Livingston. By 1942, the road from Nacogdoches to Houston was designated as U.S. Route 59, and the road from Nacogdoches to Logansport became State Route 7.

2 D. V. Purington, "The End of No Man's Land," Texas Parade, April 1938, p. 27.


4 The other two remaining bridges from the original set of six connecting Texas and Louisiana over the Sabine River are a 1936 swing girder bridge over State Route 12 between Deweyville, Texas, and Starks, Louisiana; and a 1937 truss bridge, known as the Burr's Ferry Bridge, on State Route 45. Dismantled bridges between the states include a 1927 bridge on U.S. Route 90 from Orange, Texas, to Lake Charles, Louisiana; a 1931 bridge on U.S. Route 190 between Bon Wier, Texas, and Merryville, Louisiana; and a 1937 bridge on State Route 21 at
— the only known variable-depth cantilever steel girder bridge in Texas, featuring a three-span central unit with a suspended section connected to cantilever arms by a pin-and-hanger assembly. On either side of the roadway, visible to passing motorists, are unique railings that varied from state highway department standards. The bridge’s appearance brought grandeur and monumentality to the state crossing, while its overall styling and ingenious technology was in keeping with highway modernization and expanding Texas infrastructure in the 1920s and 1930s.

Development Along the Sabine River

Prior to settlement, however, this area was anything but monumental. In the eighteenth century, both Spanish and French colonists laid claim to the forested area, until they agreed it should be a neutral zone, belonging to neither. Although legal rights to the land around the Sabine River in Shelby County were allegedly established by the stipulations of the Louisiana Purchase in 1804, later by Mexican independence from Spain, by a boundary treaty between Spain and the United States in 1819, and then again by the creation of the Texas Republic in 1836, control of the area itself remained nebulous and fugitives and brigands roamed at will, terrorizing colonists on either side. Between 1838 and 1844, a conflict broke out further south, around Shelbyville, between the “Regulators” and the “Moderators” over cattle and land acquisition. Sam Houston, president of the Texas Republic, reportedly suggested the area remain free and independent and that the warring factions fight it out amongst themselves. It was not until 1846, after Texas joined the United States, that legal rights to the land were clearly defined. Settlement began shortly thereafter, with migrants, mostly from the deep South, attracted to the area’s abundant supply of cotton and timber.

Some of those traders settled in the area around the future bridge site, particularly on the Louisiana side. This area was first settled, however, by Dick Logan in the early nineteenth century.

Pendleton Ferry, Texas.


6 See Ron Tyler, ed. “Regulator-Moderator War,” The New Handbook of Texas, vol. 5 (Austin: Texas State Historical Association, 1996), p. 517. The area around the bridge site was not the epicenter of violence, but excavations during bridge construction revealed a group of skeletons near the adjacent N. J. Caraway and Company furniture store. Logansport historian Glenn Crockett Price surmises that these skeletons “were most probably people who were shot or hung during the early days of Logansport.” See Glenn Crockett Price, Founders and Scoundrels: History of a Town (Logansport, Louisiana: Rancho Publications, 1994).
century, when he and his brother established a ferry across the Sabine River. Known as Waterloo in the 1830s, the settlement was referred to as “Logan’s Ferry” by the 1940s, and as “Logan’s Port” by 1848. The town established a sawmill and survived for much of the nineteenth century by shipping goods — mostly timber — by steamboat along the Sabine River.

In the northern part of Shelby County, the cotton and timber industries — and the towns — received a huge boost when the Houston East and West Texas (HE&WT) Railway extended a track from the town of Timpson to the Sabine River in 1885. The railroad brought newfound prosperity to the already established inland Texas towns, such as Tenaha, and essentially created the towns of Timpson (named after one of the initial directors of the railroad), and Joaquin (approximately three miles from the Sabine River).7

On the Louisiana side of the river, tracks for the Shreveport and Houston Railway Company were in place at Logansport, awaiting both the finishing touches of the HE&WT line in Texas and the completion of the first railroad bridge to span the river at this location. Built by the King Bridge and Iron Manufacturing Company of Cleveland, Ohio, and today just south of the highway bridge, the 1,436'-0"-long wooden trestle structure featured a 160'-0"-long steel through truss as its principal span. Work on this bridge began in 1884 and finished in late 1885, and its completion created a continuous line of track from Shreveport, Louisiana, to Houston, Texas — 231 miles. The first train crossed the bridge on January 26, 1886.8

The railroad’s arrival meant the beginning of the end for steamboats along the Sabine, but it spurred an unprecedented economic boom in the immediate area and Shelby County as a whole. By 1890, Logansport’s population reached 281, and by 1900, with trains coming through on a regular basis, the population expanded to 688.

Although the Southern Pacific Railroad bought out the HE&WT by 1899, trains continued to rumble across northern Shelby County.9 In 1913, entrepreneurs W. R. Pickering and Will Haslam, representing Pickering Lumber Industries, established the company town of Haslam along the Texas side of the Sabine River. It was here, in the vicinity of a water pumping station, that they built a pine mill, planer mill, hardwood mill, and locomotive repair shop. They

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7 Joaquin was the first Texas stop for the HE&WT Railroad heading from Louisiana. Benjamin Franklin Morris donated land for the town in 1884 with the provision that the railroad build a passenger and freight depot there with day and night service for the train heading in either direction. See Patricia R. McCoy, *Shelby County Sampler* (Lufkin: Lufkin Printing Company, 1982), p. 60.


9 Ibid. The railroad was leased to the Texas and New Orleans Railroad Company by 1927.
also added a hotel, picture show, office, shops, worker housing, and a baseball field.\(^\text{10}\) To transport timber around the site to the mills, the company even built its own railroad. During peak periods, the mill operated twenty-one hours a day, and in the 1920s the community population reached 250.

**The First Bridge, 1897-1934**

With railroad stations at both Joaquin and Logansport busy by 1885, there was also a need to provide a crossing for local vehicular traffic. In 1897, the city of Logansport paid for the Indiana Bridge Company of Muncie, Indiana, to build a 744'-0"-long bridge just north of the railroad bridge with a steel through truss as the main span, a timber deck, and approaches of timber pile trestle. The bridge provided an adequate crossing for pedestrians, horses, and carriages, and its overall design blended comfortably with the railroad bridge to its south. The bridge served as a toll crossing until 1917, when it was purchased jointly by Shelby County, Texas, and DeSoto Parish, Louisiana, and freed of tolls. By this time, automobiles had replaced horse wagons, and the bridge began to weaken.

As in other parts of Texas and the United States, the coming of the automobile adversely affected the vitality of the railroad. The railroad bridge remained an important crossing for goods and people over the Sabine River at Logansport for some time. However, with paving finished on State Route 35 by the 1920s — paralleling what had become the Southern Pacific tracks from Logansport all the way to Houston — the railroad began to decline.

The highways nonetheless had a positive and immediate impact on the economies of the towns through which they passed. When State Route 35 reached Joaquin, for example, the town shifted practically overnight from one dependent upon the railroad to one focused around the highway. Gas stations, automobile repair shops, and stores of all kinds catering to locals and tourists heading to and from Louisiana cropped up along the road in Joaquin.\(^\text{11}\) Logansport, whose population had dropped to 632 in 1920, increased dramatically to 1,040 by 1930. This increase was due, at least in part, to the new highway. As with the arrival of the railroads some thirty and forty years earlier, the completion of highways through Texas towns was also reason for celebration, as it linked these towns to larger markets.\(^\text{12}\) As traffic grew on Texas State Route

\(^{10}\) Shelby County Historical Commission, *History of Shelby County, Texas* (Dallas: Curtis Media Corporation, 1988), p. 120.

\(^{11}\) *Center Daily News*, 28 May 1936, reprinted in Pinkston, *People, Places, Happenings*. The article mentions that the highway, nicknamed the “Airline,” was a “boon to an already steadily growing town.”

\(^{12}\) When State Route 22 was completed, there were local festivities in the nearby town of Eagle Mills. This route had become State Route 7 by 1936. See *The Champion*, 29 August 1928, reprinted in Pinkston, *People, Places, Happenings*, p. 151. An article in the same
35 and Louisiana State Route 9, however, it became imperative to replace the already shaky bridge connecting those two highways over the Sabine River. During a three-day span in June of 1931, for example, 1,212 vehicles crossed the bridge — an average of 404 per day.\(^\text{13}\)

This need was officially recognized at least by 1932, when Texas state highway officials, including bridge engineer George G. Wickline, noted the flimsiness of the bridge. A new bridge project was also backed by Logansport Mayor F. K. Johnson, who considered a new, up-to-date bridge necessary to accompany the new, up-to-date highway.\(^\text{14}\)

Johnson soon got his wish — on August 2, 1934, at approximately 3:45 p.m., a fire began on the bridge and burned for four hours. At approximately 8 p.m., the main span fell into the water. No injuries were reported, but two men were arrested that day as arson suspects.

Two days later, with traffic detoured about fifteen miles to the northwest through Carthage and a temporary timber crossing hastily under construction over the river, correspondence between representatives of the highway departments of both Texas and Louisiana regarding a new permanent bridge resumed with some alacrity.\(^\text{15}\) The fire allowed both highway departments to seek federal national recovery funds for the new bridge.\(^\text{16}\)

\(^{13}\) George G. Wickline, to Gibb Gilchrist, 2 January 1934, in project correspondence (Shelby County [Pt. 175-1-1], Index Nos. 3861-3862, Records Management, Texas Department of Transportation, microfilm).

\(^{14}\) See F. K. Johnson, to Center Chamber of Commerce president, 7 October 1932; T. E. Huffman, to Gibb Gilchrist, 16 December 1932; and George G. Wickline, to Gibb Gilchrist, 26 December 1933. All in project correspondence. In 1933, the Latex Utilities Company of Logansport proposed stringing an 8"-diameter wrought iron pipe along the bridge from its plant in Haslam to provide a new water system for the citizens of Logansport. The request was denied by state highway officials because of the bridge's condition. See Gibb Gilchrist, to O. H. Siler, 4 May 1933, in project correspondence.

\(^{15}\) The temporary bridge was 356'-0" long, with a series of 19'-0" approach spans and an 18'-0"-wide roadway made of untreated timber piling and local lumber. It was opened to traffic on September 13, 1934.

\(^{16}\) One concrete pier from the burned bridge still sits in the river on the Texas side, between its replacement and the railroad trestle.
Design and Construction, 1934-1936

By September 1934, the highway departments of the two states agreed to share costs for a new bridge at the crossing, with the Texas Highway Department handling the surveys, plans, and engineering supervision, pending approval from the Louisiana State Highway Engineer. This agreement was reached because Louisiana had been in charge of the most recent bridge project over the Sabine River at Bon Wier.

Some complications arose regarding the exact placement of the new bridge, but it was finally agreed that the bridge should be placed just north of the burned structure, extending from the unincorporated area of Haslam and feeding into Second Avenue in Logansport. Texas Governor James V. Allred officially approved the project on July 2, 1935, and the highway departments opened contracting bids to be received by October 15, 1935.

Four contracting companies offered bids, but at least twelve others inquired about it — some after the bids were already due. John F. Buckner of Cleburne, Texas offered the lowest bid at $132,726.10, and received the contract. The Texas Highway Department gave Buckner's company 170 working days to complete the project, and it appointed D. V. Purington as the resident engineer.

The total cost of the bridge was set at $145,998.71, to be divided as equally as possible between the two states: $72,999.35 paid by Texas, and $72,999.36 by Louisiana. Both states were able to acquire funding approval under the National Industrial Recovery Act of June 18, 1934, and the monies were then drawn from those states' respective funding pools.

Bridge construction commenced on December 28, 1935. In the late spring and summer of 1936, however, the project was periodically suspended because of delays in equipment delivery and difficulties with pier No. 13 (supporting the western edge of the central span), whose cofferdam flooded three times before it could finally be secured.

The new Sabine River Bridge opened to the ceremonial traffic on December 17, 1936, was declared complete by the resident engineer on December 23, 1936, and received a final inspection on December 28, 1936. It officially opened to the public on December 31, 1936 — just over one year after work had begun.

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17 Bids, from lowest to highest, were offered by John F. Buckner of Cleburne, Texas, $132,726.10; C. S. Constant Company of Dallas, Texas, $152,818.37; Austin Bridge Company of Dallas, Texas, $153,941.40; and Pittsburgh-Des Moines Bridge Company of Des Moines, Iowa, $168,549.58. Inquiries were made by Bethlehem Fabricators of Tampa, Florida; Hardaway Contracting Company of Columbus, Georgia; Ingalls Iron Works Company of Birmingham, Alabama; Kansas City Bridge Company of Kansas City, Missouri; Missouri Valley Bridge and Iron Company of Leavenworth, Kansas; Nashville Bridge Company of Nashville, Tennessee; Petroleum Iron Works Company of Beaumont, Texas; Raymond Concrete Pile Company of New York City; Siems-Helmers, Inc., of St. Paul, Minnesota; U.S. Steel Corporation of Houston, Texas; Vincennes Steel Corporation of Vincennes, Indiana; and William Wilmot Moore of Houston, Texas.
As a state highway bridge, the project was put under the supervision of State Highway Engineer Gibb Gilchrist and State Bridge Engineer George G. Wickline. Gilchrist had the authority of final approval for the bridge specifications, plans, and construction.

Gibb Gilchrist

Born in 1887, Gilchrist earned a degree in civil engineering from the University of Texas in 1909 and then worked for the engineering department of the Santa Fe Railway from 1910 until 1917 on railroad relocation, track construction, and water supply systems. After a brief stint with the U.S. Army during the first world war, he was employed as a resident and division engineer with the state highway department in San Antonio and San Angelo from 1919 to 1923. In late 1923, he was appointed road construction engineer of the state highway department, and three months later, in early 1924, he became the state highway engineer. He held this post for only one year, however, and became a consulting engineer in Dallas from 1925 to 1927. That year, however, he returned to head the state highway department, and remained in that position until 1937. During Gilchrist's tenure as state highway engineer, among other projects, he supervised the construction of the state's farm-to-market road system and administered a program of highway development that expended more than $3 million.18

George G. Wickline

Wickline, as the state bridge engineer, was more directly involved in the state's bridge projects. Born in 1883 and educated at the University of Texas at Austin, Wickline was the first to hold the post of state bridge engineer since the creation of the highway department in 1917. During his twenty-six years at that post, Wickline supervised the construction of numerous highway bridges throughout Texas, and prepared standard specifications for steel, concrete, and timber construction that could be applied to bridges in any part of the state.19 Between 1936 and 1938, he temporarily stepped down to oversee the construction of the Rainbow Bridge (HAER


19 For information about Wickline, see, for example, “Famed Texas Builder of Bridges Dies,” Dallas News, 28 November 1943; or Joseph E. King, A Historical Overview of Texas Transportation, Emphasizing Roads and Bridges (Lubbock, Texas: Center for History of Engineering and Technology, Texas Tech University), pp. 56-65.
No. TX-37) connecting Orange and Port Arthur on State Route 87 over the Neches River — one of the world’s tallest bridges.

Description

For the Sabine River Bridge, Wickline designed an 873'-3" eighteen-span bridge made of concrete and steel, with fifteen approach spans and three main spans. The three principal spans, 273'-2" in length, feature a 125'-0" central span with a 63'-10" suspended section flanked by two 30'-7" cantilever arms. The other two anchor spans are riveted steel girders, each 74'-2" in length. The approach spans, each 40'-0" in length, are constructed of I-beams. Eleven of the approach spans are on the Texas side, and the other four are in Louisiana. The bridge begins at grade where Second Avenue (now Main Street) meets Second Street in Logansport, descending a one percent grade into Texas. The suspended span hovers directly over the official Texas-Louisiana border in the middle of the river.

The three-span central section is supported by reinforced concrete piers, with the two westernmost piers founded on untreated timber piling and the other two piers atop rock or shale. The I-beam approaches on the Texas side lie atop five-column precast concrete pile bents, and the Louisiana approach spans are supported by two-column precast concrete bents founded on spread footings.

Most noticeable to motorists and pedestrians are the decorative structural-grade steel railings, which feature a series of circles each separated by hanging pickets, just below a pipe rail. At various points, the circle-and-picket rhythm is interrupted by thin, tombstone-shaped railing posts separating the continuous line of circles and pickets as the railing marches along the bridge. The plans called for a “special” railing, and this design varied from the standard specifications for railing types established by the Texas Highway Department in 1918 and updated in 1932. Underneath two of the circles is a plaque marking the year of the bridge’s completion and those people instrumental to its construction.

Between the railings are 4'-0"-wide sidewalks and a 24'-0" concrete roadway, for a total deck width of 32'-0". Because there was development on both sides of the river in the immediate vicinity, the roadway was widened to accommodate a second lane of traffic.

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20 Although it is not clear why a central cantilevered and suspended section was used here, it was suggested by E. L. Erickson, assistant bridge engineer for the Louisiana Highway Commission. See T. E. Huffman, to Gibb Gilchrist, 10 November 1934, in project correspondence. The steel was supplied by the Virginia Bridge and Iron Company.

vicinity of the bridge site, it was determined that there would be sufficient foot traffic to necessitate sidewalks. 

Even with the railings and some of the detail work, the bridge’s overall appearance, as built, is one of efficiency. Very little decoration adorns the bridge aside from the railings, and the distinctive cantilever and suspended span, while interesting, was less an aesthetic move than a technological and necessary one. The bridge was completed eight years after the completion of State Route 35 and around the time the stretch of this highway from Logansport to Timpson, and the stretch of Louisiana State Route 9 from Mansfield to Logansport, was renamed U.S. Route 84. The bridge’s streamlined appearance not only meshed physically with the still-new road but also the “airline” moniker that had been associated with the road since its construction. Pictures and descriptions of the new bridge in Texas Parade, the magazine of the Texas Highway Department at the time, underscore this image.

Development of Structure and Site, 1936 to Present

The town of Logansport was already well established before the completion of the bridge, but the new structure did spur some development in the area. On the southwest side of Second Street, prior to the bridge’s construction, stood the N. J. Caraway furniture store, a post office, and a wholesale grocery, and on the southeast side was a Chevrolet garage, warehouse, bar, and a riverbank cafe. In anticipation of the bridge’s completion, a Mr. Kolb, owner of the cafe and a larger piece of land upon which it sat in the immediate vicinity of the bridge approach, graded and graveled a steep road from his cafe to the bridge. He also considered erecting a hotel on his property along Second Avenue as early as 1936, and this was actually realized by 1946.

Logansport and the communities across the Sabine River on the Texas side experienced a variety of population booms and busts over the years. Haslam thrived until the Pickering Mill closed, when most of its population dispersed. By 1966, the population — at one time near three hundred — had dropped to forty. Joaquin, whose population was comprised of many Pickering mill workers, also suffered. Logansport, whose population had reached 1,040 by 1930, had increased only to 1,371 by 1960. The areas around the bridge rejuvenated, however, with the completion of the Toledo Bend Reservoir to the south in 1969, as two hydroelectric plants helped

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22 See Gibb Gilchrist, to N. E. Lant, 20 December 1934; or N. E. Lant, to George G. Wickline, 27 December 1934; both in project correspondence.

23 See, for example, Charles E. Simons, “On Texas Highways: Activities of the State Highway Department,” Texas Parade, March 1937, pp. 19-20, or Purington, “No Man’s Land,” pp. 7 ff. The latter article includes a picture of the bridge with a caption noting that the new bridge “speeds” traffic over the river.

24 Price, Founders and Scoundrels. Today, the Kolb Hotel building still stands, although it has been converted into apartments with shops fronting the street.
provide water for municipal, industrial, agricultural, and recreational purposes. Haslam’s population increased to 101, and Joaquin’s, which had dropped to 461 in 1968, reached 805 in 1990. Logansport, although many of its downtown buildings today are vacant and in noticeable decline, jumped to 1,565 by 1980 after hovering around 1,300 for thirty years.

The creation of the Toledo Bend Reservoir also resulted in more traffic across U.S. Route 84, and by 1991, a bridge inventory inspection and appraisal program record gave the bridge a low sufficiency rating based upon its condition. The inspection revealed cracking and spalling in the concrete, exposed steel, openings in the pin-and-hanger assemblies, and dislocation of various bridge parts from their original positions. An environmental assessment prepared by the Lufkin Area office of the Texas Department of Transportation in 1996 listed an average daily traffic of 7,262 vehicles per day over the bridge, noting that the bridge no longer meets “current desirable design standards” due to its narrow width. The report also indicated that the bridge’s current condition created a potentially dangerous situation.

By 1996, it was recommended that two new bridges, each for a different direction of traffic, be jointly built at the site by the Texas and Louisiana Departments of Transportation. Contracts for the new bridges will be let on March 1, 1998.25

Yet the 1936 Sabine River Bridge continues to serve passing traffic reliably across state lines. On a rainy weekday in early August of 1996, traffic moved regularly across the bridge, including the occasional truck with timber logs dangling dangerously over the edge. That the bridge still has some measure of civic importance is indicated by a large tiger head painted on one of the piers supporting the cantilevered span with “Home of the Tigers” written underneath, referencing the Logansport High School mascot.

When the bridge is replaced, there will be only two bridges from the initial set of six state highway bridges over the Sabine River serving vehicular traffic. Despite its deteriorating condition, the only variable-depth cantilevered steel girder bridge in Texas still conveys a sense of grandeur at the state border, while its streamlined design recalls a time when the bridge was a model of efficiency heralding a new era of Texas infrastructure.

SOURCES CONSULTED


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APPENDIX: Suggestions for Further Research

Some questions concerning the Sabine River Bridge arose during the research and writing of this report. Some of these questions, due to limitations in the scope of the Texas Historic Bridges Recording Project, remain unanswered. It is suggested that scholars interested in this bridge consider pursuing the following:

1. Why was the cantilevered and suspended design chosen for the central span?

2. Why was the "special" railing chosen for this bridge, rather than one from the list of standard railings?