The city of Tulsa, Oklahoma, located over 450 miles from the Gulf of Mexico, is considered one of the leading ports in the Southwest. Ships loaded with produce and other manufactured goods regularly travel up the Mississippi River to the Arkansas River and then up the Arkansas past Little Rock and Fort Smith to the port of Tulsa. The federal government spent billions of dollars between 1957 and 1971 to turn the Arkansas River into a navigable channel of commerce.\(^1\) Dallas, Texas, is similar to Tulsa in that it is also located inland upon a major river, the Trinity. But unlike Tulsa, Dallas does not enjoy a water outlet to the Gulf of Mexico, even though the citizens of Dallas dreamed of such a water route and the federal government attempted to do with the Trinity what it later did with the Arkansas.

The Trinity River had been navigated to Dallas as early as 1836, and several attempts to launch commercial navigation were made by the 1850s.\(^2\) Interest in navigation on the Trinity eventually extended past the boundaries of Texas to Washington. For several years citizens of Dallas tried to obtain federal assistance to clear the Trinity of submerged snags and other hazards. Their efforts were rewarded when the River and Harbor Act of August 30, 1852 appropriated $3,000 "for the survey of the Trinity River, including the bar at the mouth."\(^3\)

Lieutenant William H.C. Whiting of the Army Corps of Engineers surveyed the Trinity River from its mouth northward in 1852. He reported that transportation up and down the river could be attained without great expense and would be of benefit to the country along the river. Whiting called the Trinity "the deepest and least obstructed river in the State of Texas" and estimated that the river and its bar could be improved for $31,800.\(^4\) Despite Whiting's favorable recommendation, the government did not act.

Navigation of the Trinity River continued to increase in the period following the first survey of the stream. About fifty boats, including steamboats and many smaller vessels of shallow draft, regularly operated between Porter's Bluff in Navarro County and Trinidad in Henderson County to Galveston between 1852 and 1874.\(^5\) Partly in response to this, Congress appropriated $3,500 for a survey of the Trinity River from its mouth to the town of Magnolia in Anderson County on June 10, 1872.\(^6\) Captain C.W. Howell of the Army Corps of Engineers directed this particular survey during the fall of 1872. Howell stated that he did not think the Trinity was worthy of improvement between Liberty and Magnolia because of the difficulty which ships experienced in making upstream trips. Low water navigation could be accomplished only with a system of locks.
and dams. The only improvement which Howell recommended was the dredging and removal of snags in the section between the river's mouth and Liberty. Howell estimated that this work would cost around $22,600. As with the previous survey of the river, the government took no action.

The federal government conducted several other surveys of the Trinity River between 1875 and 1900. In 1879, Lieutenant Colonel S.M. Mansfield of the Army Corps of Engineers surveyed that part of the Trinity from its mouth to the bridge of the International and Great Northern Railroad near Long Lake in Anderson County. He reported that it was not practical to try to improve the river above Liberty because of the numerous bends and submerged snags which were not carried away until the Trinity flooded. However, the river became wider and deeper below Liberty and Mansfield believed that the depth of the Trinity could be increased for around $1,750. Congress had appropriated $10,000 for such a purpose in 1878, and over the next four years it supplemented those funds with appropriations of $2,500 in 1879, $4,000 in 1880, $10,000 in 1881, and $8,000 in 1882.

Another survey of the Trinity was made in 1890 between the mouth of the river and the city of Dallas by Major Charles Allen of the Army Corps of Engineers. Allen also recommended that the Trinity was not worthy of the federal government's attention because the section of the river between Dallas and Magnolia contained numerous obstructions. He was unable to determine if any commercial attempts had been planned to use the Trinity that would justify any improvement or any further examination with respect to making the river navigable.

The government evidently was not convinced by the arguments of Mansfield or Allen because it authorized another survey of the Trinity between the cities of Magnolia and Dallas in late 1894 under the direction of Major A.M. Miller of the Army Corps of Engineers. In recommending that the Trinity should not be improved by the federal government, Miller echoed many of the arguments made by Allen. He made his examination of the river during a period of low water, which hindered his progress downstream. He commented on the rafts and shoals in the river which further impeded his headway. Miller also noted the manmade obstructions to navigation. The Trinity River Navigation Company, an organization created in 1891 to promote the cause of navigation on the Trinity, had constructed a temporary dam thirteen miles south of Dallas at McCommas Bluff. Miller declared that this structure was "a complete obstruction to navigation at low water." He stated that fourteen bridges crossed the Trinity between Dallas and Magnolia and, unless altered, were so near the river that only small boats could safely navigate. Miller estimated that it would cost $125,000 to clear the Trinity of snags and debris. He maintained that sixteen locks and dams would be needed between Dallas and Magnolia at a cost of $1.6 million to make the Trinity navigable. Miller concurred with Allen that the amount of commercial
traffic on the Trinity did not merit such expenditures by the federal government. 11

Despite the fact that the federal government had not taken any action to improve the upper portion of the Trinity, the situation at the other end of the river was another matter. The River and Harbor Act of June 18, 1878 appropriated $10,000 to deepen the channel of the river five feet from its mouth to the town of Liberty and remove all obstructions in the river. This section of the Trinity covered forty-one miles and was considered the most navigable portion of the river. 12

On April 28, 1892, Representative Joseph Abbott of Dallas introduced a bill which would have allowed the Trinity River Navigation Company to undertake the necessary work to open the river to commerce from Dallas to Liberty. The company would be given the authority to collect tolls to offset its expenses, but the federal government could assume control of the project at any time. The House of Representatives passed the bill on July 20, 1892, but the Senate did not act on the measure.13

Representative Robert E. Burke of Dallas, a staunch supporter of the Trinity River project introduced a bill on December 21, 1898 which called for an appropriation for a survey of the river from the Gulf of Mexico to Dallas.14 The River and Harbor Act of March 3, 1899 provided $7,000 for a survey of the Trinity, which was made near the end of that year under the direction of Captain C.S. Riche of the Army Corps of Engineers. Unlike Mansfield, Allen, and Miller, Riche strongly recommended that the Trinity be converted into a navigable river. Riche claimed that this improvement was "urgently necessary" because of what he considered excessive railroad freight rates. He believed that rates could be controlled or reduced significantly by water transportation which would bring a substantial savings to the people of north Texas.15

Riche believed that a system of locks and dams would be necessary to canalize the Trinity, along with an artificial water supply in the upper part of the river basin which would make possible year-round navigation on the Trinity. He called the Trinity "a natural canal" with high, steep, and stable banks and a narrow channel. Riche maintained that the cost of locks and dams would be less than on other rivers which lacked such favorable conditions.16

Riche divided the Trinity into five sections in preparing his estimates for improvement. He stated that a total of thirty-seven locks and dams would be required to secure navigation at a depth of four feet from Dallas to the mouth of the river. Riche estimated the total cost of the locks and dams, cleaning and dredging, and an artificial water supply at $4 million.17

Shortly after he completed his examination of the Trinity, Riche traveled west to begin a survey of the Brazos River in 1900. He recommended that the Brazos be made into a navigable river, using the same arguments which he had made for the Trinity. Riche declared that it was
"urgently necessary" that the federal government should attempt to improve at least one of these rivers.\textsuperscript{14}

Later that year Riche completed a survey of the Trinity between the cities of Dallas and Fort Worth. He speculated that at least ten locks and dams at a cost of $1 million would be needed to render this section of the river fit for navigation. However, because the federal government had taken no action to improve the Trinity from Dallas to the mouth of the river, Riche maintained that this particular section should not be improved. He declared that if the government would consider improvement of the Trinity from Dallas downstream, then he would change his opinion.\textsuperscript{19}

In January 1901, the Trinity River Navigation Company sent a delegation to Washington to persuade Congress that improvement of the Trinity into a navigable stream was a worthwhile project.\textsuperscript{20} Their efforts were rewarded when the River and Harbor Act of June 13, 1902 appropriated $125,000 for the construction of locks and dams and for the removal of obstructions between the mouth of the Trinity and section one.\textsuperscript{21} The original project called for the construction of a six-foot channel from Dallas to the mouth of the river, a distance of 511 miles, to be accomplished by open-channel work and a system of locks and dams. The estimated cost of the project was $4,555,000.\textsuperscript{22}

Work on improving the Trinity River by the federal government began in earnest in October 1902. The annual report of the Chief of Engineers for the United States Army for 1903 stated that trees had been cleared from banks along forty-seven miles of the river and snags had been removed from sixteen miles of the river, but operations had been hindered by heavy rains and flooding. In addition, a preliminary design for the first lock and dam to be constructed south of Dallas had been submitted by the Army Corps of Engineers and was awaiting approval.\textsuperscript{23}

Congress passed a second appropriation of $125,000 for continued work on improvement of the Trinity on March 3, 1903.\textsuperscript{24} This was supplemented in May 1904 by a donation of $66,000 by the citizens of Dallas. This money was to be used for the construction of a dam at Parsons Slough, located twenty-six miles south of the city.\textsuperscript{25} By this time, the Chief of Engineers reported that the depth of the Trinity had not yet been increased but the removal of snags had made the river much safer to navigate during its medium and high stages.\textsuperscript{26}

On March 16, 1904, Senator Charles Culberson and Representative Jack Beall introduced bills to amend the original appropriation of $125,000 and authorize the secretary of war to expend as many funds as necessary for the construction of the first lock and dam.\textsuperscript{27} The measure also permitted the secretary to modify the plans of any lock and dam to be constructed on the Trinity. This would give the locks and dams a greater capacity and allow the passage of more vessels through them at one time. President Theodore Roosevelt signed this legislation on April 28, 1904.\textsuperscript{28}
Congress continued to appropriate funds for the improvement of the Trinity; $111,000 was set aside in 1906, $75,000 in 1907, $90,000 in 1908, and $75,000 in 1909. On March 1, 1909, the first lock and dam was completed at McCommas Bluff where the Trinity River Navigation Company had built a temporary dam in 1893. The dam at Parsons Slough was completed in September 1909. The River and Harbor Act of March 3, 1905 had provided for the construction of three locks and dams in section one of the river. Work already had begun or was in the process of beginning on six other locks and dams at various places along the Trinity River.

By the time that the United States entered World War I in 1917, a total of eight locks and dams had been completed on the Trinity River. In addition to the first lock and dam at McCommas Bluff and the one at Parsons Slough, Lock and Dam Number Two, located four miles from Wilmer, was finished in August 1914. Lock and Dam Number Four, located eight miles from Ferris, was finished on June 1, 1913. Lock and Dam Number Seven, located two miles from Rosser, was finished on November 30, 1916. The lock and dam at Hurricane Shoals (Number 20) was finished on June 30, 1917 and was located fourteen miles from Crockett. The lock and dam at White Rock Shoals (Number 25) was finished on January 31, 1917 and was located seven miles from Trinity. Work was to begin on locks and dams at two other sites along the Trinity when a $50,000 contribution was made by the citizens of Dallas. The Chief of Engineers estimated in 1917 that in order to canalize the Trinity completely, a total of twenty-seven locks and dams in addition to those already finished would have to be built.

Construction on locks and dams along the Trinity almost came to a standstill during World War I. Between 1918 and 1921, less than $13,000 was spent on the project. Many believed that the federal government was losing interest in the canalization of the Trinity River. A report issued by the chief of engineers in early 1921 confirmed this fear. It recommended that the project to canalize the Trinity from Dallas to Liberty be discontinued and that the locks and dams that had been completed be abandoned. This decision was made because of the increasing cost of the project and the unlikelihood that a continuance of work would result in an increase of commerce in and along the river. The report also concluded that the Trinity lacked enough water to render the river fit for navigation. By the end of June 1921, the federal government had spent a total of $2,218,090.35 to make the river navigable. The project was ended officially by the River and Harbor Act of September 22, 1922. Work continued on improving the Trinity from Liberty to its mouth until that particular project was completed in 1925. It is interesting to note that the river and harbor act that killed the Trinity River project also finished a similar program to channelize the Brazos River.

Despite the fact that the federal government had decreed that the
Trinity could not be converted into a navigable channel, the argument over the Trinity River project was far from finished. The debate over a proposed channelization of the river continued until 1973, when a bond proposal that would turn the Trinity into a barge canal connecting Dallas with the Gulf of Mexico was defeated by voters in the counties along the river. Yet after 1921, not one dollar of federal funds was spent on any project solely designed to canalize the Trinity. Millions were spent on the river, but these projects were designed primarily for flood control, with navigation of secondary importance. Even today, navigation of the Trinity is still discussed, but over 150 years after the first steamboat made the trip upstream to Dallas, the Trinity is very much the same river today as it was then.

NOTES
1Floyd Durham, The Trinity River Paradox: Flood and Famine (Wichita Falls, Texas), pp. 60-70.
2Edgar H. Brown, Trinity River Canalization (Dallas, 1930), p. 34.
3Trinity Improvement Association, "Historical Background on the Trinity River Project" (Irving, Texas, 1972), p. 2.
4House of Executive Documents, 33rd Congress, 1st Session, December 1, 1853, pp. 573-576.
5"Historical Background on the Trinity River Project," p. 2.
6House Executive Documents, 43rd Congress, 1st Session, October 20, 1873, p. 691.
7House Executive Documents, 93rd Congress, 1st Session, October 20, 1873, p. 686.
8Senate Executive Documents, 46th Congress, 1st Session, April 2, 1880, p. 2.
9House Executive Documents, 45th Congress, 3rd Session, October 19, 1852, p. 1458.
11House Documents, 54th Congress, 1st Session, December 27, 1895, pp. 2-3.
12House Executive Documents, 45th Congress, 3rd Session, October 19, 1878, p. 84.
13Congressional Record, 52nd Congress, 1st Session, July 20, 1892, pp. 6470-6471.
14Congressional Record, 55th Congress, 3rd Session, December 21, 1898, p. 380.
15House Documents, 56th Congress, 1st Session, February 9, 1900, pp. 1, 7.
16House Documents, 56th Congress, 1st Session, February 9, 1900, pp. 4-5.
17House Documents, 56th Congress, 1st Session, February 9, 1900, pp. 6-7.
18House Documents, 56th Congress, 2nd Session, January 7, 1901, p. 5.
19House Documents, 56th Congress, 2nd Session, December 5, 1900, pp. 2-3.
20Brown, Trinity River Canalization, p. 45.
22Report of the Chief of Engineers (Washington, 1907), pp. 454-455.
25Brown, Trinity River Canalization, p. 46.
Congressional Record, 58th Congress, 2nd Session, March 16, 1904, pp. 3338, 3371.


Report of the Chief of Engineers (Washington, 1908), p. 482.


Report of the Chief of Engineers (Washington, 1908), p. 482.


House Documents, 66th Congress, 3rd Session, January 20, 1921, pp. 3-4.


The Statutes at Large of the United States of America from April, 1921 to March, 1923, Concurrent Resolutions of the Two Houses of Congress, and Recent Treaties, Conventions and Executive Proclamations (Washington, 1923), Volume XLII, p. 1042.


The Statutes at Large of the United States of America from April, 1921 to March, 1923, Concurrent Resolutions of the Two Houses of Congress, and Recent Treaties, Conventions and Executive Proclamations (Washington, 1923), Volume XLII, p. 1042.