

= Greenville Bridge =

The Greenville Bridge is a cable @-@ stayed bridge over the Mississippi River carrying US 82 and US 278 between Refuge , Mississippi and Shives , Arkansas . When it opened in 2010 , it was the fourth longest cable @-@ stayed bridge in North America .

The Benjamin G. Humphreys Bridge , the first bridge to connect the two towns , had become functionally obsolete . Its narrow road had only two lanes with no shoulders . Because of its location near a sharp bend in the Mississippi River , the bridge had become a hazard to river traffic ; barges and towboats frequently collided with it . In 1994 , a study concluded that a new bridge was needed and the old one should be torn down . Construction was begun in 2001 and the new bridge opened in 2010 . In 2011 , the process of removing the old bridge began .

= = Description = =

Opened in 2010 , the Greenville Bridge carries US 82 / 278 over the Mississippi River between Refuge , Mississippi and Shives , Arkansas . It is located 0 @.@ 5 miles (0 @.@ 80 km) down river from the original bridge , built in 1940 . Designed by HNTB , it is a four @-@ lane cable @-@ stayed bridge with more than 2 @.@ 5 miles (4 @.@ 0 km) of bridge deck straddled by two concrete towers 425 feet (130 m) feet high and anchored by concrete piers planted 120 feet (37 m) below the riverbed . It has four fans of strand steel cable connected to the top of the towers which support the deck .

Each of the bridge 's four lanes is 12 feet (4 m) wide . The outside shoulders are 12 feet (4 m) feet wide and the inside shoulder width is 8 feet (2 m) . The bridge has a main span of 1 @, @ 378 feet (420 m) . At the time of its opening , it was the fourth longest cable @-@ stayed bridge in North America .

Both the old and new bridges are geographically mostly in Arkansas , as the state lines were determined prior to the shift west of the Mississippi River .

= = History = =

The first Greenville Bridge was built by the company now known as HNTB and opened to much fanfare in 1940 as the " pathway to progress " for the Mississippi Delta . It was a through @-@ truss design and had a span of 840 feet (260 m) . Until 1943 , this was the longest bridge for vehicles on the Mississippi River . Over time , the bridge supported increasing volumes of highway traffic and vehicles hitting the bridge . In the 1950s , an Air Force plane crashed into the bridge . Though the bridge remained structurally sound , it was becoming functionally obsolete . It had only two narrow highway lanes and no shoulders . An accident or the crossing of very large vehicles such as a large combine could force the bridge to close .

With river traffic increasing , damage from barge collisions increased . By 1972 , the Greenville Bridge was hit more times by barges than any other bridge on the Mississippi . The bridge was located close to a sharp bend in the Mississippi ; towboats and barges had difficulty making the sharp turn and regaining their course in time to avoid a collision with the bridge . Over the years , many have not been able to make the turn quickly and have hit it . The bridge had become a danger to river traffic .

A 1994 engineering study by the Mississippi Department of Transportation explored alternatives to upgrading the crossing of US 82 and issued a report that explored a four @-@ lane crossing at Greenville . It concluded the best of several alternatives it identified was to build a new bridge 0 @.@ 5 miles (0 @.@ 80 km) downriver from the old one , and to remove the old bridge . Additional studies evaluated the type of bridge to build , and by 1995 the cable @-@ stayed bridge was chosen as the best design to fit the river and soil conditions , as well as providing sufficient clearance for river navigation . Engineering plans were completed in 1999 .

= = Construction = =

HNTB , of Kansas City , Missouri , was the designer and consulting engineer for both the new bridge as well as the original Benjamin G. Humphreys Bridge . The federal government provided \$ 110 million to begin building the main part of the bridge consisting long spans supported by cables . The main superstructure construction began in December 2001 . Massman Construction Company in a joint venture with Traylor Brothers , Inc. received the contract to construct two large piers in the river ; these were built using both floating caissons and open caisson construction . The construction on the last main span section of the bridge was finished in April 2006 .

Building the approaches , including shorter spans of approach bridge work and structural support systems for the bridge , was the responsibility of each state . For both states , the approach bridges are constructed of a series of three span units , each unit 120 feet (37 m) long . Construction of Arkansas ' 2 @. @ 5 miles (4 km) mile approach of highway and bridge , costing \$ 66 million , began in March 2006 ; Mississippi began its 1 @. @ 8 miles (2 @. @ 9 km) approach in April , 2006 , costing almost \$ 86 million . Hill Brothers Construction and Jensen Construction , in a joint venture with the Rasmussen Group , were awarded the contract for the eastern approach of US 82 in Greenville to the Mississippi River crossing . Hills Brothers Construction was awarded a \$ 85 @. @ 9 million contract to work on the road deck of the Mississippi approach to the bridge , the concrete footings , and the substructure and superstructure of that portion . Austin Bridge and Road was awarded a \$ 65 million contract to build Arkansas 's 4 @, @ 657 feet (1 @, @ 419 m) of approach bridge and 3 @, @ 225 feet (983 m) of connecting roadway which was completed in August 2009 . The remaining contract , to apply a latex surface to the bridge , add stripes , tie US 82 into the approaches , and dismantle the Humphreys Bridge , was awarded in January 2010 .

It took sixteen years from the initial developing stage begun in 1994 , until the Greenville Bridge opened to traffic on August 4 , 2010 . The entire cost of the bridge totaled \$ 336 million . In 2011 , the massive process of removing the old bridge by cutting into small sections to be recycled was begun , and is expected to be completed by September 2012 . At times , the river has been closed to traffic to aid the demolition . The job is dangerous and at least two workers have died .