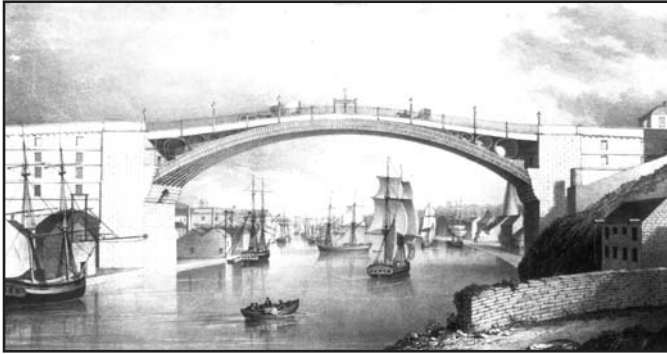


# The Wearmouth Bridge



Sunderland's first bridge c.1800

and promised to improve the local road and rail network. During 1791, Burdon collected a wide variety of designs. Then in 1792 he submitted a bill, requesting an Act of Parliament to allow a bridge to be built. The Act was passed and then approved by the King in June 1792.

However, there were three main problems that had to be solved before a bridge could be built. Firstly, the River Wear is about 250ft or 75m wide, which is a large width to span. Secondly, there were a lot of tall masted ships using the river at the time. Sunderland's main business, and reason for its success, was the export of coal by sea, so the bridge had to be a high, single span to allow ships to pass. Thirdly, stone was normally used to build bridges and was very expensive. Such a large bridge might not be affordable in stone.

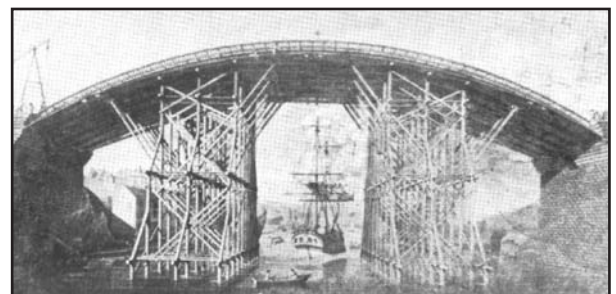
## The first bridge

Several of the designs were tested to see if they would be strong enough to span the river and tall enough to allow ships to sail underneath. It soon became clear that a stone bridge would cost around £70,000 (millions today) and would be too heavy to reach across such a wide river. Wood was cheaper and easier to use, but would not last very long and had not been used for such a long bridge before.

## The need for a bridge

At the end of the 18th century Sunderland was rapidly growing in importance, but further development was hampered by the lack of a bridge across the River Wear. People and goods had to either cross by ferry or travel to the nearest bridge, at Chester-le-Street. This was very inconvenient for traders and travellers alike, and demand for a bridge increased.

In 1790 Rowland Burdon and Ralph Milbanke became joint Members of Parliament for the County of Durham



The building of the first bridge in 1795

Burdon realised that iron was the solution to the problem. Iron bridges were quite new and at the cutting edge of modern ironworking techniques. The Iron Bridge at Coalbrookdale in Shropshire had been built in 1779, and was made of iron ribs, cast in half-lengths. However, the river there was only half the width of the Wear and it was doubtful that the same design would be suitable for Sunderland. Burdon therefore continued to search for other cast iron designs.

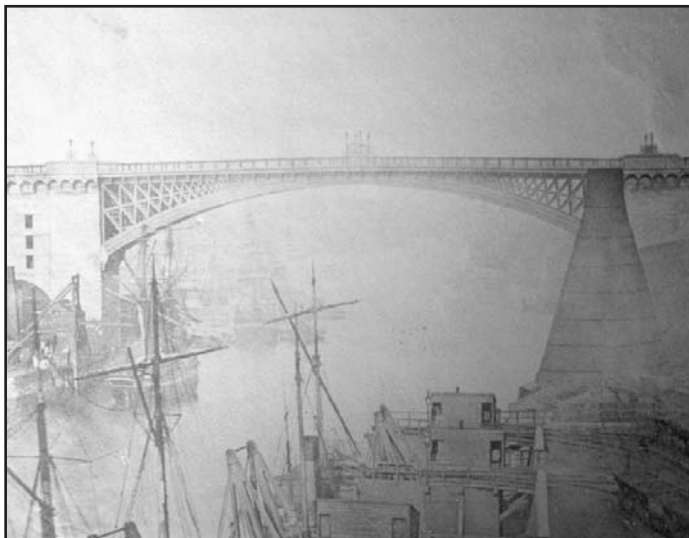
In November 1792, the Bridge Committee agreed that the bridge should be made of cast iron. During the next six months, Walker Ironworks at Rotherham cast and tested a trial iron rib. At the same time, work started on the bridge abutments either side of the river. When these were finished in 1795, two wooden scaffolds were erected in the river (see above picture) to support the building of the bridge itself. The bridge had six arched ribs, cast in blocks about 2ft 5in. (75cm) long, which were held together with wrought iron bands. The six ribs were then joined together by cast iron cross tubes, which helped to keep the structure rigid. It took just ten days to move the ribs into position, but almost another year to complete the rest of the bridge.

When it opened on 9th August 1796, it was the largest single span iron bridge in the world.

## The second bridge

In 1805 the bridge had to be repaired after heat from the sun caused some of the cross tubes to fall out. The repairs lasted until 1857, when major work was needed to rebuild the bridge.

The engineer, Robert Stephenson, stripped the bridge back to the six iron ribs and added new arches between them to help spread the load. The abutments were raised to straighten out the arch, and the hump in the road. Large panels were added, with the motto "Nil Desperandum Auspice Deo", which means "Do not despair, have faith in God". The bridge, with the six original ribs still in place, was re-opened in March 1859.



The second bridge across the Wear 1870



## The current bridge

By the 1920s, the volume of traffic using the bridge had increased so much that a new structure was needed. In 1927 work began on the present bridge, which was designed by Mott, Hay and Anderson. In order to allow the road to remain open, the new bridge was built around the old one. The six iron ribs of the original bridge survived until 1929, when they were finally taken down and the new bridge was formally opened.

Now a Grade II Listed structure, the current Wearmouth Bridge is just as important to road users and just as strong a symbol of Sunderland's heritage as the previous bridges.

## Find out more about the bridge

For more information, visit the Local Studies Centre at Sunderland City Library and Arts Centre, which has many books on the history of Sunderland and the bridge, such as:

- "Sunderland. River, Town and People" by Geoffrey Milburn and Stuart Miller (Eds) (1988)
- "Sunderland People and Places" by Alan Brett (1990)

The National Grid for Learning also has more about the Sunderland bridges on its website at [www.ngfl.gov.uk/localhistory/gallery.php](http://www.ngfl.gov.uk/localhistory/gallery.php).