

## **Menai Suspension Bridge – Maintaining an Essential Connection**

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### **Abstract**

Thomas Telford's Menai Suspension Bridge was a bold statement of engineering completed in 1826. This web of iron spanning the strait transformed the society and commerce of North Wales and Anglesey and communications between Britain and Ireland. When it was first completed it was the longest span in the world, was the first bridge designed through analysis and broke the vernacular mould. The bridge was to have a major impact on society and commerce across the strait.

It was to be less than a month after opening before the bridge was damaged by winds. Later the bridge was to be severely damaged destroying much of the deck and hangers. The bridge was open within 5 days, but repairs were necessary and the deck was replaced. The deck was later replaced again by a steel deck. By the beginning of the twentieth century the progressive increase in weight of the bridge and traffic were severely restricting access. It was also recognised that major works were required.

The decision was made to reconstruct the bridge in 1938 and work began on the replacement of the chains and the construction of a new stiffened deck. The work substantially increased the capacity of the bridge. Despite the outbreak of war the reconstruction continued. Since the reconstruction the need for work has been less, but even so the deck has been partially replaced with light weight concrete and other minor strengthening works have maintained the capacity of the bridge.

In 1970 fire destroyed the nearby Britannia railway bridge. That bridge was reconstructed with the addition of a new road deck opened in 1982, but for over a century and a half Menai Suspension Bridge was the only road link between Anglesey and North Wales.