

THE STORY BRIDGE

Australian made

In the 1920s, the Cross River Commission was tasked with enquiring into the city's bridge needs. At the time the Victoria Bridge was the only road bridge crossing the river. This was followed by the Grey Street Bridge in 1932. The Story Bridge in 1940 had a bridge capacity that was ahead of its time, but was built, in part, to provide unemployment relief at this serious stage of the Great Depression of the 1930s.

The Story Bridge is a heritage-listed steel cantilever bridge spanning the Brisbane River between Fortitude Valley and Kangaroo Point. At 282m-long, the iconic structure is the largest steel cantilever bridge in Australia and carries vehicular, pedestrian and bicycle traffic. The bridge was opened in 1940 and is named after prominent public servant John Douglas Story.

The completion of this landmark bridge led to a growth in engineering skills and spearheaded the rapid advancement of structural engineering in Queensland.

Produced by
Engineering Heritage
Australia, Queensland,
a Special Interest Group
of Engineers Australia.

Proudly supported by



Dedicated to a better Brisbane

*Engineers Australia is the trusted voice of the profession.
We are the global home for engineering professionals
renowned as leaders in shaping a sustainable world.*

engineersaustralia.org.au



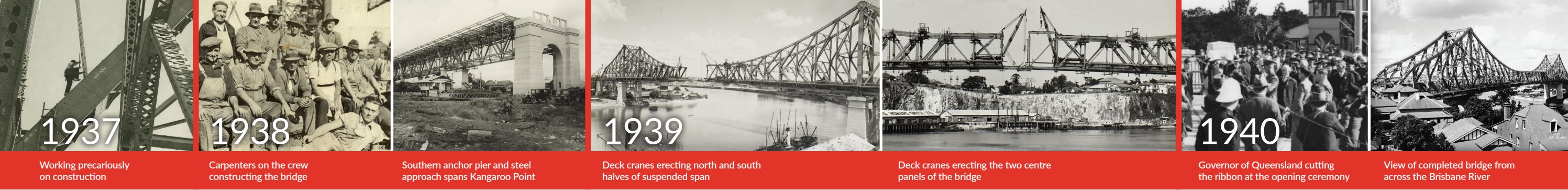
ENGINEERS
AUSTRALIA

Celebrating 80 Years of the
Story Bridge

Officially opened 6 July, 1940



Images courtesy of Queensland Government's Department of Transport and Main Roads, Brisbane City Council, State Library of Queensland, Queensland State Archives and Engineers Australia.



1937

Working precariously on construction

1938

Carpenters on the crew constructing the bridge

1939

Southern anchor pier and steel approach spans Kangaroo Point

1939

Deck cranes erecting north and south halves of suspended span

1940

Deck cranes erecting the two centre panels of the bridge

1940

Governor of Queensland cutting the ribbon at the opening ceremony

1940

View of completed bridge from across the Brisbane River

ENGINEERING A Queensland icon

Specifics of the Bridge Design

A cantilever steel bridge was chosen, which is similar in design to a slightly larger bridge completed in Montreal, Canada in 1930.

The main piers consist of two hollow mass concrete shafts (27.1m high) tied together at the top by a deep reinforced concrete brace.

The north main pier was founded on rock by open excavation, while the southern pier was constructed on a pair of reinforced caissons (watertight chambers allowing underwater construction) 11.9m x 9.8m, extending 40.2m below ground.

From the north, there are three main spans of 82.1m, 281.6, and 82.1m respectively. This is followed by four steel Warren Truss spans (with verticals) each of 57m, three steel spans each of 31.1m, nine reinforced concrete girder spans (eight of 13m and one of 14m), 72.3m of enclosed reinforced concrete beam and slab construction on columns spaced at 6.1m, and finally 110.4m of roadway on fill between reinforced concrete retaining walls.

The main bridge span comprises a 93.9m simply supported central truss carried on pin joints at the ends of the two cantilevers (also 93.9m long) extending from the north and south main piers. The tops of the main cantilever trusses rise to 90m above river level.

The Designers

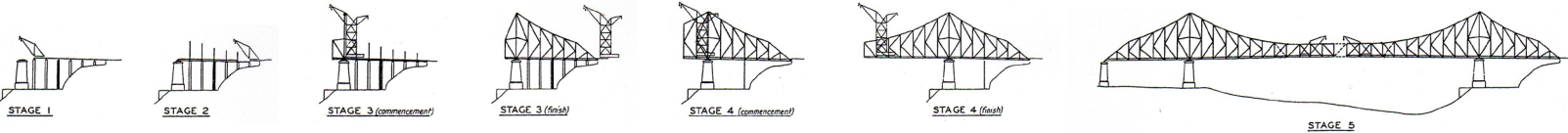
The eminent Queensland-born bridge engineer, Dr JJC Bradfield CMG was appointed consulting engineer and JA (later Sir James) Holt was the supervising engineer for design and construction. Bradfield and Holt were assisted by Australian engineers GEK Pitt, NJ Butler, JE Kindler and V Parker.

STORY BRIDGE STAGES OF CONSTRUCTION

TOTAL COST
£1.6 million (\$3.2m)

TOLL UNTIL 1947
6 pence
(5 cents) PER PASSENGER VEHICLE

1 shilling
(10 cents) PER TRUCK



Construction

The bridge was built by a Queensland consortium, Evans Deakin Hornibrook Constructions, which was a partnership between Evans Deakin and Co Ltd and M R Hornibrook Pty Ltd.

Work commenced on the southern approach in August 1935. By December, the southern retaining walls were well advanced, the south bank erection crane and its runway had been constructed and cutting edges for the caissons (watertight chambers allowing underwater construction) for some of the southern piers were in place. By February 1936, the southern foundations were well under way and work had commenced on both the north and south main anchor piers.

Fabrication of the steelwork started at Evans Deakin's Rocklea workshops in May 1936. On site, the main steel structure was erected in five stages using 40-tonne steam-powered cranes.

The main span was constructed by cantilevering out from each end and a system of jacks was applied to achieve the final fit; the central portion of the span was reached on 28 October 1939.

Australian manufacturing accounted for 95% of all the materials used and 89% of the cost of the works was expended in Queensland. Cement for 38,000 cubic metres of concrete was supplied by the Queensland Cement and Lime Company from Darra, using coral from Moreton Bay, coal from Ipswich, and South Australian gypsum.

Gravel came from the Brisbane River and sand was sourced from the Pine River. Structural steel (11,800 tonnes) and reinforcing steel (1600 tonnes) were manufactured at BHP's works at Newcastle, and Australian Iron and Steel's works at Port Kembla.

Throughout construction, employment rose from 175 workers at a peak of 397 and averaged roughly 320 workers throughout.

OFFICIALLY OPENED

6 July 1940

by Governor of Queensland, Sir Leslie Orme Wilson

Legacy

The Story Bridge is the largest steel cantilever bridge in Australia. The completion of this landmark bridge led to a growth in engineering skills and spearheaded the rapid advancement of structural engineering in Queensland.

On 21 April 1988, an Institution of Engineers Australia Historic Engineering Marker was unveiled on the main southern pier in Captain Burke Park to commemorate the bridge as a masterpiece of Australian engineering. Today, locals and tourists climb the bridge to learn about the bridge's heritage and take in the breathtaking Brisbane River views.



Approach to the bridge

Aerial views of 50th anniversary celebrations

Bridge climbers enjoying the view

The bridge during Brisbane Festival's Riverfire

1960

1990

Today