BRIDGES OF BRISBANE

ARI BOTTOMER
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Foreword

This book is written by Ari Bottomer, a Year 6 student at Brisbane Boys’ College. Every boy in Year 6 at Brisbane Boys’ College was asked to do a passion project, which involves creating, writing, or achieving something. Ari loves books, and Ari loves bridges, so he decided to write a book on the bridges over the Brisbane River.
Story Bridge
The Story Bridge is a 3.2-million-dollar bridge that opened on the 6th of July 1940. It has a length of 777m, with 30.4m clearance. There is 11,990t of structural steel, and 1,645t of reinforcing steel. It connects the city to Kangaroo Point. The Bridge is part of the Bradfield Highway, which is the smallest highway in Australia, being only 1.41km long! It is a truss bridge made from only steel.

Fun Facts:
- Longest Cantilever bridge in Australia
- Opened in 1940 and was tolled until 1947
- Named after public servant, John Douglas Story who had strongly advocated for the bridge’s construction
- Four men died during the construction of the bridge
- The bridge carries 97,000 vehicles each day
- It was listed on the heritage register in 1992
- Since 2005, people can climb the bridge

Underneath the Story Bridge, seen facing towards the city.
Fact File:

<table>
<thead>
<tr>
<th>Design</th>
<th>Truss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Length</td>
<td>777m</td>
</tr>
<tr>
<td>Height</td>
<td>74m</td>
</tr>
<tr>
<td>Longest span</td>
<td>281.2m</td>
</tr>
<tr>
<td>Clearance underneath the bridge</td>
<td>30.4m at middle span</td>
</tr>
</tbody>
</table>

< The Story Bridge in its entirety.

A close-up of the Story Bridge

v
Victoria Bridge

The Victoria Bridge connects the City to Southbank. It is a four-lane bridge, with room on each side for pedestrians. 2 of the lanes are for cars, and the other two are for buses. The Victoria Bridge has a length of 313 meters and has three spans. It is a concrete beam design. The third bridge was completed in 1969.

Fun Facts:

- The bridge is the oldest bridge in Brisbane
- The first bridge was made in 1864, the second in 1887 and now we have this bridge built in 1969
- £70 000 worth of borrowings was acquired from the Bank of Queensland
- The council was forced to pay for the bridge by the Legislative Assembly of Queensland.

The Victoria Bridge
The Victoria Bridge, at night, with the Kurilpa Bridge in the background.

<table>
<thead>
<tr>
<th>Design</th>
<th>Concrete Beam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Length</td>
<td>313 meters</td>
</tr>
<tr>
<td>No. of Spans</td>
<td>3</td>
</tr>
</tbody>
</table>
Kurilpa Bridge
The Kurilpa Bridge is a bicycle and pedestrian bridge that connects the city to Southbank. It is made from steel and reinforced concrete. It is a tensegrity style bridge. Aboriginals used the word Kurilpa to mean ‘place for water rats’. The Kurilpa Bridge was completed on the 4th of October 2009. It has a total length of 425m, with the main span being 135m.

Interesting Facts:

- The Kurilpa Bridge cost 63.3 million dollars
- 75% of all power and lighting is provided by solar power
- Was initially called the ‘Tank Street Bridge’
- Called Kurilpa Bridge through a public naming competition
- It was the first bridge in the world to be based on tensegrity construction principles
- All manufacturing was done off site
- In 2011 it was awarded ‘World Transport Building of the Year’

The Kurilpa Bridge.
Design | Tensegrity Cable Stayed
--- | ---
Total Length | 470 meters
Width | 6.5 meters
Longest Span | 120 meters
Goodwill Bridge

The Goodwill Bridge is primarily a half-through arch bridge that allows pedestrians and cyclists to get from Gardens Point to the Queensland Maritime Museum. It was completed on the twenty-first of October 2001 and has been in operation ever since. The bridge is four-hundred and fifty meters long, with an arch span of 100 meters. It is made of steel. This bridge was designed by Ove Arup & Partners. If you ever go across the Goodwill bridge, make sure to stop at the great coffee shop on one side of it!

Fun Facts:

- The Goodwill Bridge has 40 000 users each week.
- There are many great seating areas along the bridge, so, you can relax and take in the view.
- The bridge is entirely asymmetrical
- Named by a public naming competition
- It took three months to construct
- All materials except the cables were made by local suppliers
- Cost approximately $20.3 million dollars
- Named after the Goodwill Games of 2001
- Bridge was built downstream and then moved into position

The Goodwill Bridge >
A section of the Goodwill Bridge

<table>
<thead>
<tr>
<th>Design</th>
<th>Main Span: Half-Through Arch Bridge Secondary Span: Cable- Stayed bridge with fan system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Length</td>
<td>450 meters</td>
</tr>
<tr>
<td>Width</td>
<td>6.5 meters</td>
</tr>
<tr>
<td>Arch Span</td>
<td>100 meters</td>
</tr>
</tbody>
</table>
Sir Leo Hielscher Bridges

The Sir Leo Hielscher Bridges, more commonly referred to as the Gateway Bridges, are two bridges, side by side, that link Eagle Farm to Murarrie. It is part of the Gateway Motorway, hence ‘Gateway Bridge’. The first bridge was completed on the 11 January 1986. It was the only bridge in operation until 2010, where another bridge was built to handle the traffic and backlog that was caused on the way to Brisbane Airport. The bridges are concrete box girder bridges, with a total individual length of 1,627 meters. The main spans are 260 meters long, with a total number of spans being 18. There is 64.5 meters between the river and the bridge at its highest point. The 2010 Bridge cost 350 million dollars! Imagine the amount of cool stuff you could buy with that! There is a toll on these bridges.

- The 1986 bridge cost 92 million dollars
- The bridges were renamed The Sir Leo Hielscher Bridges in 2010, but most people were against the change and still refer to them as the Gateway Bridges.
- People run across the bridge each year for the Bridge to Brisbane run
- The building of the first bridge commenced in 1980 and finished in 1986.
<table>
<thead>
<tr>
<th>Design</th>
<th>Concrete cantilever box girder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Length</td>
<td>1627 meters</td>
</tr>
<tr>
<td>Width</td>
<td>22 meters</td>
</tr>
<tr>
<td>Height</td>
<td>64.5 meters above sea level</td>
</tr>
<tr>
<td>Longest span</td>
<td>260 meters</td>
</tr>
</tbody>
</table>
William Jolly Bridge

The William Jolly Bridge, or Grey Street Bridge, connects Roma Street to GOMA. This bridge was completed on the 30 March 1982. This is an old bridge! It is a steel frame arch design, with a total length of 500m, and three main arches of 72m each. There are some arches on each side of the bridge. The William Jolly Bridge is a truly awesome bridge! This bridge was a filming location for inspector gadget 2!

Fun Facts:

- The bridge cost £688,387, which is 2 million dollars
- This bridge was made when greater Brisbane was formed
- On a typical weekday in 2006, 42,000 cars crossed the bridge
- The Bridge was designed by A E Harding Frew
- This bridge is home to aboriginal murals.
BRIDGES OF BRISBANE

The William Jolly Bridge

Design | Steel Frame Arch Bridge
Total Length | 500 meters
Longest Span | Three main spans of 72 meters
BRIDGES OF BRISBANE

Captain Cook Bridge
With a total length of 555 meters, the Captain Cook Bridge is a standard concrete box girder bridge. It has a simple beam design. The main span is 183 meters long, with a clearance of 12.7 meters. It was completed in 1972. This bridge connects Gardens Point to Kangaroo Point and East Brisbane.

Fun Facts:
- The bridge was built exclusively for vehicular traffic
- The bridge consists of two bridges, connected, for each direction of traffic
- Each bridge carries four lanes of traffic
- The bridge is the main route from the south of the city into the CBD
- It is Queensland’s busiest traffic bridge
## The Captain Cook Bridge

<table>
<thead>
<tr>
<th>Material</th>
<th>Concrete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>Beam</td>
</tr>
<tr>
<td>Total Length</td>
<td>555 meters</td>
</tr>
<tr>
<td>Longest span</td>
<td>183 meters</td>
</tr>
<tr>
<td>Clearance</td>
<td>12.7 meters</td>
</tr>
</tbody>
</table>
BRIDGES OF BRISBANE

Go Between Bridge
The Go between bridge is named after the Go Betweens, a rock band that included guitarists Robert Forster and Grant McLennan. The bridge is a road bridge, with a bike path on one side and a semi covered pedestrian walkway on the other. It has a total length of 301 meters. The longest span is 117 meters and has 5 300 m3 of concrete on it. It cost 338 million dollars. The bridge has a twin concrete cantilever box girder design.

Fun Facts:

- The Go Between Bridge is part of the TransApex plan
- The Bridge was originally called ‘Hale Street Link’
- This was changed to Go Between via a community vote in August 2009
- This bridge is completely parallel to the Merivale Bridge
- The pathways on each side of the bridge are 3.6m long.
- There is a $2.70 toll on the bridge per vehicle.
Design | Twin Cantilever
---|---
Longest span | 117 meters
Length | 301m
Walter Taylor Bridge
The bridge that people were once allowed to live in, located in Indooroopilly, is called the Walter Taylor Bridge. It is a suspension bridge that links Indooroopilly to Chelmer. The bridge has a total length of 300 meters. The Walter Taylor Bridge has 3 spans, the main one being 183 meters. It was opened on the 14 of February 1936. This bridge is heritage listed.

Fun facts:
- The Walter Taylor Bridge cost €85,000
- Walter Taylor set up his own construction company by making blocks of reinforced concrete
- The bridge was Mr Taylor’s idea
- He used the Sydney Harbour Bridge to help him design the bridge
- He placed toll on the bridge
- This was lifted in 1965 when the bridge was handed to the Brisbane City Council

The Walter Taylor Bridge
BRIDGES OF BRISBANE

Design  | Suspension Bridge
---      |-------------------
Total Length  | 299.7 meters
Longest span  | 182.9 meters
BRIDGES OF BRISBANE

Merivale Bridge

The Merivale Bridge is one of the three train bridges that cross the river. It sits right next to the Go Between Bridge and links the Queensland Rail routes to across the Brisbane River. The bridge has a total length of 877 meters, as the bridge continues for a long way through Southbank. The Merivale Bridge has a through arch design, with a longest span of 133 meters. The Bridge was opened on the 18 November 1978.

Fun Facts:

- This bridge is a double track railway bridge
- It was opened by the premier in 1978
- The bridge formed a direct route for trains to access the city
- The bridge has two awards, 1979 steel award, and in 1980 it was named the most outstanding engineering project from the Association of Consulting Engineers of Australia
- The bridge cost $21 million to build
The Merivale Bridge

<table>
<thead>
<tr>
<th>Design</th>
<th>Through Arch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Length</td>
<td>877 meters</td>
</tr>
<tr>
<td>Longest Span</td>
<td>133 meters</td>
</tr>
</tbody>
</table>
Eleanor Schonell Bridge
The Eleanor Schonell Bridge is a cable stayed bridge. It has a total length of 520 meters, with a main span of 184 meters. It was opened on the 17th of December 2006. The bridge has a nickname of ‘The Green Bridge’ as bicycles, pedestrians and buses use the bridge. Cars are not permitted to use the bridge as the bridge is eco-friendly, hence ‘Green Bridge’.

Fun Facts:
- It cost $55.5 million dollars to build
- The Bridge reduces congestion on Saint Lucia streets
- Poetry by Brisbane-born writers Samuel Wagan Watson and Luke Beesley are permanently etched into the railings and concrete of the pedestrian pathway
- 5000 people crossed the bridge when it was opened, to raise money for charities.
### Design

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Length</td>
<td>390 meters</td>
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</table>
Albert Bridge
This bridge is the oldest bridge in Indooroopilly, being completed in 1893. The Albert Bridge is next to the Indooroopilly railway bridge, the Jack Pesch bridge and the Walter Taylor bridge. It is a through truss bridge, made from steel. It has a total length of 208 meters, with two spans, each being 103.7 meters. It was completed in 1893.

Fun Facts:
- The Albert Bridge was designed by Henry Charles Stanley
- It was built by John McCormick & Son
- The bridge cost 66 061 pounds
- The central pier weighed 230 tonnes
- The Albert Bridge is one of Australia’s largest truss bridges
### Design of Steel Truss Bridge

<table>
<thead>
<tr>
<th>Feature</th>
<th>Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Length</td>
<td>208 meters</td>
</tr>
<tr>
<td>Longest Span</td>
<td>103.7 meters</td>
</tr>
</tbody>
</table>
Centenary Bridge
The Centenary Bridge was completed on the 14 October 1964. It has a beam design, and is 266 meters long. This bridge links up the Western Freeway from Jindalee to Kenmore. This bridge is very busy during peak hour. It is a concrete bridge, with a two bike or pedestrian parks, separated by a road.

Fun Facts
- The bridge was financed by LJ Hooker to increase real estate value in the area.
- It was duplicated as part of an upgrade of the Western Freeway.
- The bridge was damaged when a barge was washed into it in the 1974 floods.
- The bridge used to be called Centenary Golf Links.
The side of the Bridge

<table>
<thead>
<tr>
<th>Material</th>
<th>Concrete</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design</td>
<td>Beam</td>
</tr>
<tr>
<td>Number of Spans</td>
<td>6</td>
</tr>
<tr>
<td>Length</td>
<td>266 meters</td>
</tr>
</tbody>
</table>
Jack Pesch Bridge
The Jack Pesch Bridge is a cable stayed bridge with fan system. It was completed on the 2\textsuperscript{nd} October 1998. The bridge has a length of 243 meters. This bridge links Indooroopilly with Chelmer. It allows pedestrians and bike riders to cross the river at this point. The main span is 167.5 meters and it has a width of 4 meters. Mr Pesch was a Brisbane bike shop proprietor.

Fun Facts:
- Jack Pesch was a cycling champion in the 1930s
- He designed the ‘Rocket’ bikes
- It was opened by the Queensland minister for transport and the Lord Mayor of Brisbane
- This bridge is for the exclusive use of pedestrians and cyclists

The Jack Pesch Bridge
<table>
<thead>
<tr>
<th>Design</th>
<th>Cable Stayed Bridge</th>
<th>Jack Pesch Bridge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length</td>
<td>208 meters</td>
<td></td>
</tr>
</tbody>
</table>
Indooroopilly Railway Bridge
The Indooroopilly Railway Bridge was completed in 1957 as part of the quadruplication of the Ipswich train line. It is a truss bridge with a total length of 208.5 meters. This bridge links the train lines from Chelmer train station to indooroopilly train station. The bridge has two equal spans. It was designed by the Coordinator-General’s department.

Fun Facts:

- This bridge is unnamed, so everyone calls it the Indooroopilly Railway Bridge
- It has two long spans and one central pier
- It is parallel to the Albert Bridge
- The bridge was fabricated in Italy

The Indooroopilly Railway Bridge
The side of the bridge

<table>
<thead>
<tr>
<th>Design</th>
<th>Truss Bridges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Length</td>
<td>208.5 meters</td>
</tr>
</tbody>
</table>
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Photos:
https://en.wikipedia.org/

page 15 and page 16
all other photos were taken by Ari Bottomer

Thank you to Mrs Williamson who helped me every step of the way.