

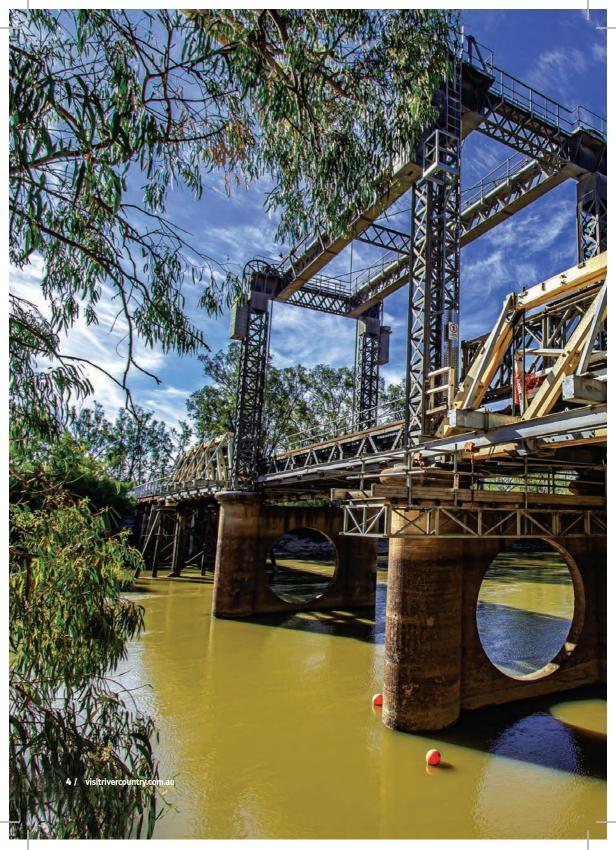
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Photos of bridges over the Murray River courtesy of Neil McCarthy Photography.

Front Cover image Tooleybuc Bridge.

^{*}Page 16 photo courtesy of Major Road Projects Victoria **New Gee Gee & Coonamit bridge photos courtesy of Visit River Country.





Tooleybuc Bridge over Murray River

Date Completed: 1924

Design Type: Percy Allan Timber Truss

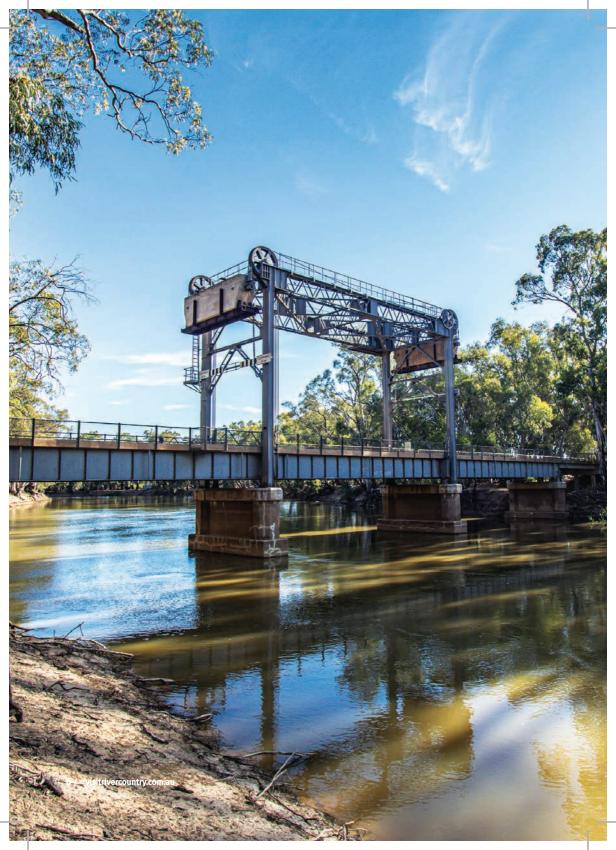
Span type: Vertical Lift Span **Opening Span Length: 17.8m**

The very first crossing of the Murray at Tooleybuc was in 1847, when a punt was constructed on the Victorian riverside. With the development of river transport and the growth of surrounding towns. Tooleybuc opened up for further settlement in the 1850-60s and became a focal point for traffic through the region.

Tooleybuc Bridge was constructed in 1924 in response to the speedy expansion of the fruit-growing industry in the area. This bridge is a timber truss bridge with a vertical lift span, and was the last of engineer Percy Allan's bridge designs.

A caretaker was appointed to Tooleybuc Bridge upon its opening to operate the lift span for river traffic and perform general maintenance and cleaning. The caretaker's cottage was built next to the bridge in the 1930s as a residence for the caretaker and his family. A caretaker was employed up until 1994, when bridge openings had become less frequent. Today the caretaker's cottage operates as a community op shop, and the original punt gate still stands alongside it.







Nyah Bridge over Murray River

Date Completed: 1941

Design Type: Structural Steel Span type: Vertical Lift Span **Opening Span Length: 18.6m**

The bridge over the Murray River at Nyah is a structural steel lift span bridge, and is part of the second generation of lift span bridges along the Murray. This bridge has historical significance as the design and detail of its main spans and lift spans are unique among the Murray River crossings.

The area surrounding the Nyah Bridge was first settled in 1894, and under the leadership of utopian socialist Jim Thwaites, Nyah became a successful grapegrowing district. A significant iron foundry for agricultural machinery and pumps was also developed around this time.

The need for a bridge arose when another fruit-growing district was established on the New South Wales side of the Murray River in Koraleigh. It was hoped the bridge would improve communication between the towns. Following its construction in 1941, the Nyah Bridge lift span was used infrequently, with river trade on the decline. Today the lift span is rarely used.







Date Completed: 1896

Design Type: Percy Allan Timber Truss

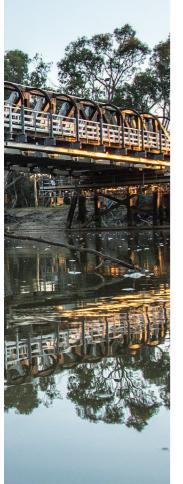
Span type: Vertical Lift Span **Opening Span Length: 18.4**m

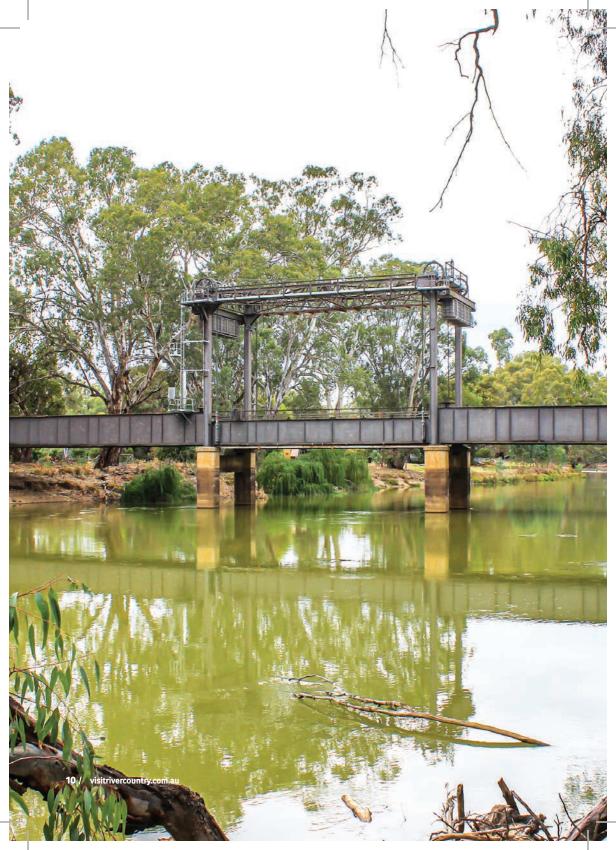
From the earliest periods of European settlement, Swan Hill was an important crossing place for stock. In 1847 a punt was established, making it the only way for stock to cross the Murray River for 160 km either side of Swan Hill.

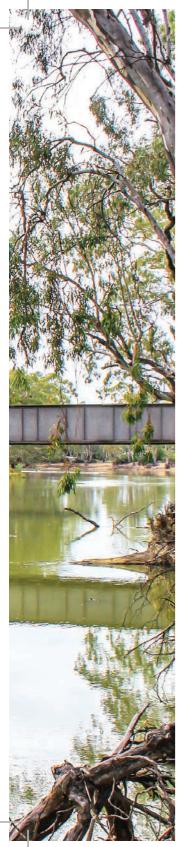
When it was completed in 1896, Swan Hill Bridge became the only permanent crossing location in the area until the construction of Barham Bridge in 1904.

Swan Hill Bridge is an Allan type timber truss road bridge, and is historically significant due to its association with engineer Percy Allan and its role in facilitating trade between New South Wales and Victoria. Allan influenced bridge design throughout Australia by designing the Allan truss, and Swan Hill Bridge is the original of this type of bridge, making it extremely rare. Allan's lift span design was not only more cost-effective than previous designs, but it was able to be operated by just one person—a huge improvement on previous lift spans that had required two operators and frequently jammed. Swan Hill Bridge was heritage listed on 20 June 2000.









Gonn Crossing Bridge over Murray River

Date Completed: 1926

Design Type: Steel Girder Bridge Span type: Vertical Lift Span **Opening Span Length: 18.8m**

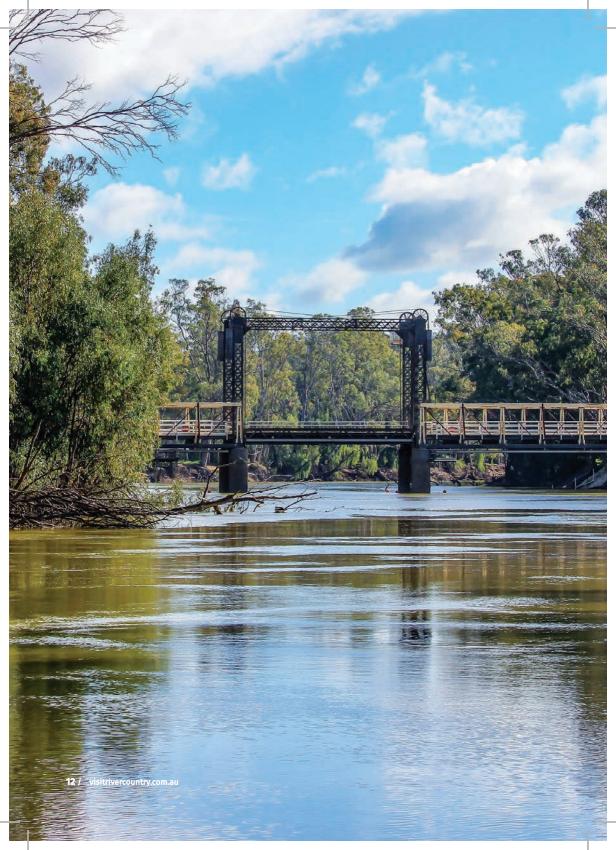
Completed in 1926, Gonn Crossing Bridge (also known as Murrabit Lift Span Bridge) is a steel girder bridge that crosses the Murray at Murrabit.

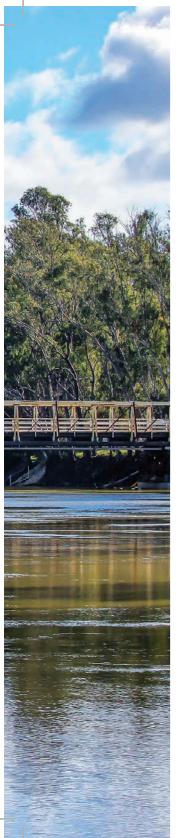
It was part of the second generation of lift span bridges, and was the first all steel bridge to be built across the Murray between New South Wales and Victoria.

When a punt was provided to the pastoral station of Gonn in the 1860s, it became a convenient crossing place on the Murray. Eventually a few businesses popped up at what was known as Gonn Crossing, on the Victorian side of the river. When Victorian Railways agreed to build a branch line to Gonn Crossing, they chose a site four kilometres upstream from the Gonn punt to build a bridge.

The bridge was designed with the purpose of carrying both rail and road traffic, so the opening span was not to be raised unless there was time for the bridge to be lowered and secured before the train arrived. It was also wider than all preceding vertical lift bridges, at a width of 18 ft compared to the usual 14 ft. The bridge accommodated both rail and road traffic until 1961 when the railway closed. It remains a road bridge.







Barham-Koondrook Bridge over Murray River

Date Completed: 1904

Design Type: De Burgh Composite Steel and Timber Truss

Span type: Vertical Lift Span **Opening Span Length:** 17.7m

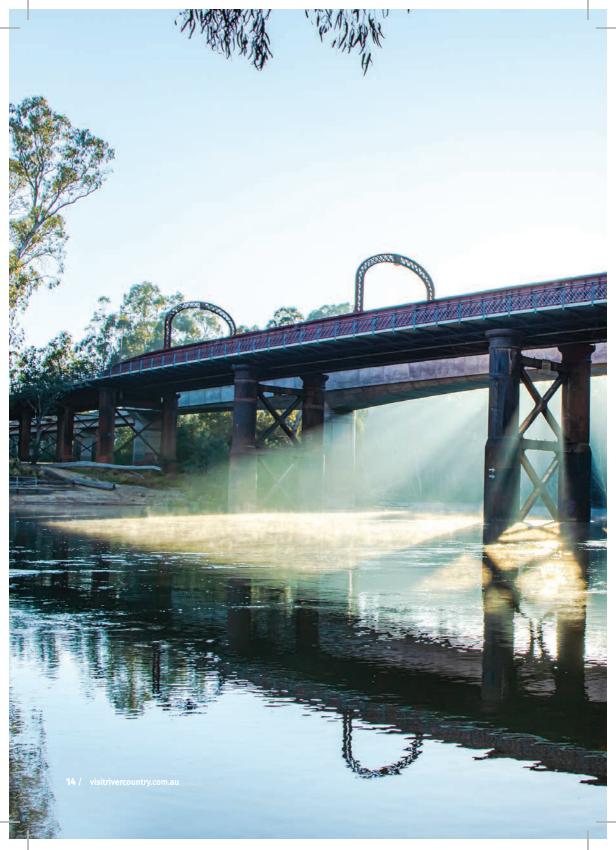
Constructed in 1904, the Barham Koondrook Bridge is a heritage listed, timber lift span bridge with two de Burgh composite timber trusses designed by E.M. de Burgh.

This bridge is historically significant as not only does it provide insight into the evolving pattern of bridge design in Australia, but it is also extremely rare. Only two bridges of this design were ever made, the other one having been built at Cobram Barooga in 1902.

The area around Barham was settled by graziers in the 1840s, and with further developments popping up, there became a need for a river crossing. However it wasn't until late 1884 that a ferry began operating at Barham. In those days most of the cross-river transportation was done by punts and ferries, but as traffic grew there was increasing pressure to replace them with bridges. By 1902, the volume of stock traffic alone was enough to justify a bridge. At this time there was no fixed crossing between Echuca and Swan Hill-a distance of 99 miles.

As river traffic would still be passing through, engineers needed to make provisions for a moveable span within their bridge design. Around 1900, NSW Public Works Engineer E.M. de Burgh produced a design that combined metal and wooden construction. It was also cheaper to build and easier to operate than any existing moveable span bridges on the river at that time. The bridge was built by Monash and Anderson. The bridge has historical significance through the association of Sir John Monash, one of Australia's most famous engineers, as well as one of the country's most famous soldiers.

On 10 October 2004, Barham Koondrook Bridge celebrated its centenary, and was awarded an historic Engineering Marker.





Echuca Moama Bridge over Murray River

Date Completed: 1878

Design Type: Wrought Iron Girder Structure

Bridge Length:: 444m

The existing Echuca Moama Bridge is a riveted iron girder bridge, designed and constructed by the Victorian Railway Department in 1875-1878. Operating as a combined road and rail bridge until a separate rail bridge opened in 1989, the bridge was equipped with high level river spans to provide the necessary clearance for river traffic. It was also the longest bridge across the Murray at the time, measuring 444m in length.

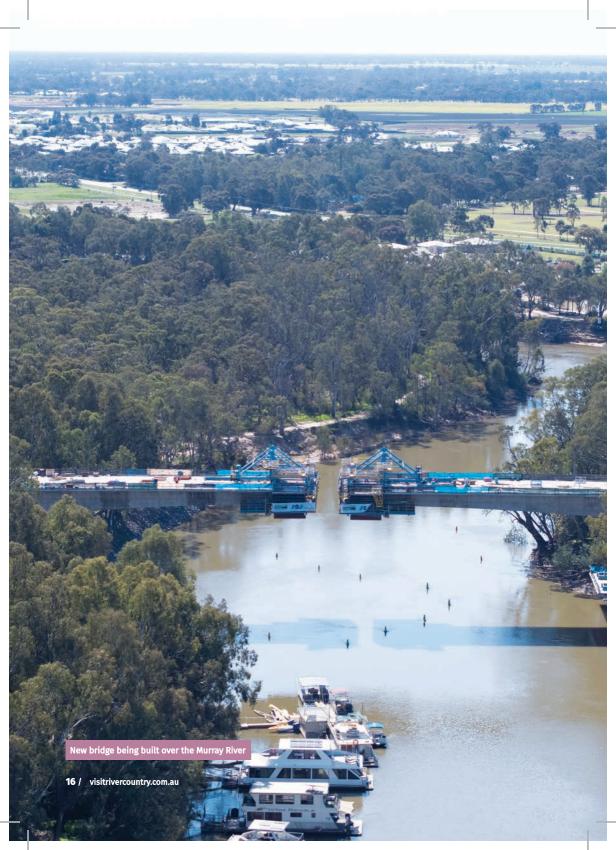
This bridge is historically significant as it provided a vital rail link between Echuca Moama and Deniliquin, facilitating important trade between NSW and Victoria. A temporary timber bridge was constructed in 1875 by the D & M Railway Company after the NSW Government passed a bill allowing the construction of the railway line to Deniliquin, however the Victorian and NSW governments were already beginning preparations for what would be Echuca Moama Bridge.

A pivotal event in the bridge's history was an accident that occurred on April 17, 1877, when six men working on the platform of a travelling crane at the bridge site were thrown from a height of about 50 feet into a pile of bluestone, iron and wood. Tragically only one survived, and legend has it that the body of another man is still trapped inside a pylon.

While the Echuca Moama Bridge is currently the only river crossing between the twin townships, a new bridge is under construction to connect the Murray Valley Highway in Echuca to the Cobb Highway in Moama. This project is due to be completed by mid-2022.

See following pages for information on the second river crossing.







Second Echuca Moama Bridge over Murray River

Date Completed: Mid-2022 (under construction)

Design Type: Post Stressed Balanced Cantilever Concrete Box

Girder (main spans) and Prestressed Concrete

Super-Tee (approach spans)

Bridge Length:: 622 metres

The Echuca-Moama Bridge Project is the largest transport infrastructure project in northern Victoria. Major Road Projects Victoria and Transport for NSW are building a second Murray River crossing to make it safer and easier for you to travel between Echuca and Moama. The bridge has been designed to integrate with the surrounding environment, with a simple and clean 'bridges through the treetops' design. The \$323.7 million project is being built in four stages and is jointly funded by the Australian, Victorian and NSW governments.

Residents and visitors to Echuca and Moama have been watching the new bridge over the Murray River come to life before their eyes. Major construction on the new bridge began in 2020, and in early 2021 two travelling form machines – huge mobile construction platforms commenced operating from the main piers to build the 115-metre long section that spans the iconic Murray River and the 61m long spans on either side. This is known as a balanced cantilever construction method, allowing the bridge to be built across the river from both banks at the same time without the need for a temporary support structure in the middle.

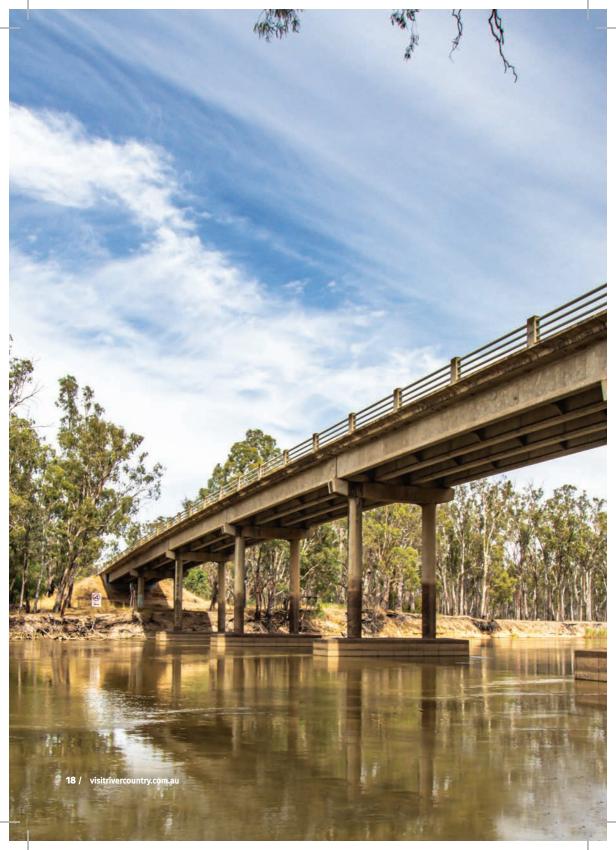
This method ensures the river remained open to paddle steamers and other river traffic during construction, minimising impacts on business, tourism, and recreational activity. It has also minimised impacts to the river and aquatic habitat.

Locals and visitors have been watching the bridge gradually growing across the river from each side until it eventually met in the middle in late 2021.

This new bridge is 1.6km downstream from the existing bridge, measures 622 metres across the Murray River floodplain and sits 15 metres above the riverbanks. The roadway will be 11 metres wide, with a separate three-metrewide shared use path offering recreational connectivity between the twin towns.

The new river crossing is expected to reduce traffic on Echuca and Moama's main streets by around 40%. It will support heavy and oversize vehicles currently restricted from using the existing Murray River bridge with a higher mass limit and no height restrictions, allowing for easier interstate freight movements.

The bridge has been designed with guidance from the Office of the Victorian Government Architect and Transport for New South Wales to ensure it complements the natural beauty of the riverine environment.





Barmah Bridge over Murray River

Date Completed: 1966

Design Type: Prestressed Concrete Girder

Bridge Length:: 168m

Built in 1966, Barmah Bridge is a non-lift span bridge that replaced the historic punt which had been in operation at this part of the river since 1929.

The Barmah Punt is of historical significance as not only is it the earliest remnant example of a cable punt ferry crossing over the Murray River, but it is an intact example of an early motorised timber cable punt.

When the railway line from Bendigo to Echuca was built in 1864, large volumes of sleepers were cut from the red gums in Barmah Forest. As the settlement at Barmah began to grow, a punt was constructed, joining the tracks where they crossed the Murray. The original punt was replaced in 1870 and was taken over by the NSW Department of Main Roads in 1929. While the punt is no longer in use, it still sits on the Victorian bank of the river next to the road approaching the bridge.







Gee Gee Bridge over Wakool River

Date Completed: 1929

Design Type: Dare Timber Truss

Bridge Length:: 72.5m

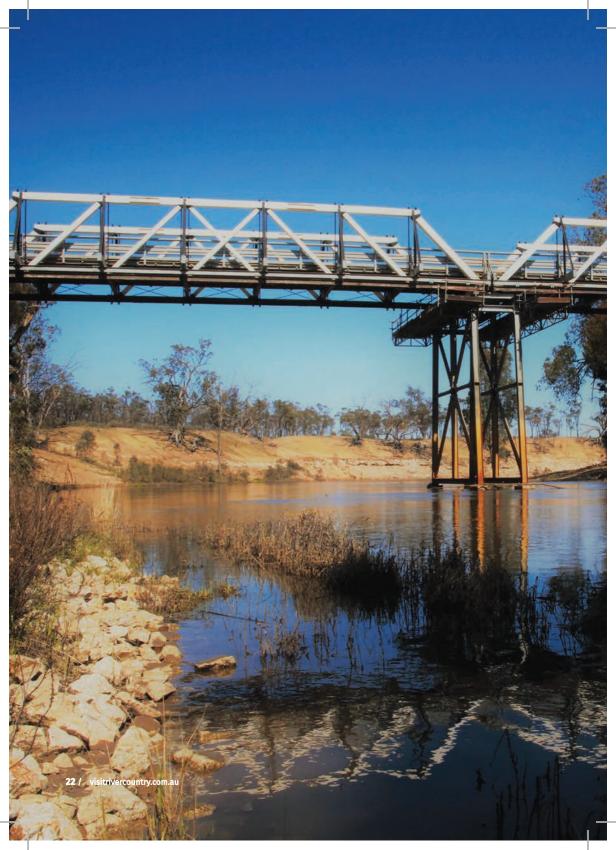
Located just east of Swan Hill, the original Gee Gee Bridge was a Dare type timber truss bridge. Completed in 1929, this bridge was a good example of a Dare timber truss, and was historically significant for two reasons—its link to the expansion of the road network throughout New South Wales, and to Harvey Dare, the designer of this type of truss.

Timber truss bridges were popular during the mid-19th to early 20th century as they were cheap to construct and used mostly local materials. The earliest crossing at Gee Gee may have been constructed some time between the mid to late 19th century.

This crossing likely would have been a natural ford or 'corduroy' type crossing, involving logs laid over lengthy stringers which spanned the creek. This initial crossing was located a little downstream of the current bridge.

Gee Gee Bridge was demolished and replaced in 2020 to create a new two-lane concrete bridge that would accommodate oversized vehicles, as its placement makes it a strategic freight route. Two metal truss anchor blocks and four diagonal timber struts from the original bridge were donated to the community and are on show at the Moulamein Heritage Village.







Coonamit Bridge over Wakool River

Date Completed: 1929

Design Type: Dare Timber Truss

Bridge Length: : 128m

Completed in 1929, Coonamit Bridge is another example of a Dare type timber truss bridge, and is located north-east of Swan Hill.

Prior to the construction of the bridge there was a punt operating upstream of the current bridge site. Coonamit Bridge is heritage-listed and is historically significant for its connection to engineer Harvey Dare.

Dare trusses were the last in the five-stage design evolution of NSW timber truss road bridges, and were similar to Allan trusses, but had improvements which made them much stronger and easier to maintain.

This bridge was added to the New South Wales State Heritage Register on 20 June 2020, and it was the very last timber truss bridge built in NSW.







Speewa Crossing over Murray River

Date Completed: 1904
Load Limit: 8 tonnes

Car Capacity: 3 Cars **Trip Duration:** 3 minutes

Speewa Ferry is a cable ferry located in Speewa, Victoria, about 20 km north of Swan Hill. The original ferry began running in 1904, and was operated by a hand winch.

Now controlled by NSW Roads and Maritime, the modern-day ferry has a diesel engine and can accommodate two cars per ride. Speewa Ferry is one of only two cable ferries to cross the Murray River between New South Wales and Victoria, the other being Wymah Ferry, located 500 km upstream in Wymah, NSW.

In the late 1800s to early 1900s the area that became known as Speewa was becoming more settled, with a parish and a school being established there. With both the village settlement downstream at Nyah and a growing dried fruits industry at Koraleigh to the north, there became a need for a ferry at Speewa to keep up with the demands of interstate commerce.

Speewa Ferry is now the last ferry in the Council area in operation on the Murray, and there is no other crossing point between Swan Hill and Nyah. It still runs every day between 8am and 8:30pm, and is entirely toll-free. Speewa Ferry was classified by the National Trust of Australia (NSW) in 1986, and has since been listed as a heritage item by the Wakool Shire Council under its Local Environment Plan.



