



Transport for NSW

New Gunnedah bridge

Open to traffic



Aerial image of project site

The NSW Government has delivered a new road over rail bridge for Gunnedah to improve safety, efficiency and freight connectivity. The \$61 million project opened to traffic in November 2020.

November 2020

Message from the project manager

This project has been technically challenging and a significant build. I don't think we can overstate the benefits a project like this will provide the community. The anticipation in the community and how the bridge will impact their lives on a daily basis has motivated the team to complete the project. The fact that I am here delivering it and having a positive impact to the community is a fantastic feeling. I've built some big projects in my career but I think I will always remember the new Gunnedah bridge project.

Project Manager
Andrew Mula



Challenges of the build

The design of the bridge was complex as it has both horizontal and vertical curves, which means there are changes in the angles or slope of the road as you go over the bridge as well as across the deck. The gradient steepens to about 10 per cent at both ends of the bridge. This gradient is necessary to ensure the bridge is high enough for the trains to travel underneath.

An additional challenge for the project team was building the bridge over Blackjack Creek. Blackjack Creek is susceptible to flash flooding and armour rock was installed to protect the banks of the creek from storm events. The levee bank was also extended to protect the community from inundation.

Working within the rail corridor created another challenge for the project team. Critical activities such as replacing the concrete drainage culvert and installing the bridge girders were completed during rail possessions when trains were not operating.

The project team built the roundabout in two halves to minimise the impact on traffic and nearby businesses.



Community

The project team engaged with a number of community groups throughout the development and construction of the project.

A Business Focus Group (BFG) was established during the construction phase to meet with the project team and provide input into the project. The BFG was established to represent the interests of local businesses when providing advice to the project team and highlight issues and opportunities that may arise during construction. As part of the regular meetings the group had the opportunity to visit the work site and see first-hand the progress of the new bridge.

School students with an interest in engineering also toured the project to learn more about what goes on with building large structures.

Emergency services groups have also been active throughout by attending site visits and keeping up to date with the project.

Members of Engineers Australia visited the new Gunnedah bridge project to have a closer look at the bridge substructure and the concrete roundabout on the Oxley Highway. The site visit formed part of Engineers Australia's professional development where engineers expand their knowledge, maintain up-to-date technical skills and progress their engineering career.



The Business Focus Group visiting site for a project update



Peter Brown is a Gunnedah local that worked on the bridge project



Rail possession

Rail possession was critical in being able to complete construction of the railway culvert alterations, the girder installation and the structural steel throw screens and traffic barrier railings. A major milestone was reached for the project with girders placed over the rail corridor during track possession. The project team worked around the clock as part of the 72-hour rail possession to place the girders. This continuous work schedule was required because activity within the rail corridor must be timed to occur when the line is closed for maintenance.

A 500-tonne crane was brought in for the process and girder lifts continued on the remaining six spans, with up to eight girders placed a day. The team also assembled a temporary construction walkway on the bridge to allow work to continue. This was a complex task requiring planning and precision to complete within the tight deadline, which the team managed to deliver ahead of schedule.



Earthworks to build the local road connection

Project achievements

- ✓ Open to traffic earlier than anticipated
- ✓ Worked with ARTC to carry out the necessary alterations to the railway culvert over Blackjack Creek
- ✓ Doubled the target for Aboriginal participation through direct jobs
- ✓ Built the railway culvert within the strict time constraints required by the railway network.

Key facts

- The bridge is 195 metres long, varies in width between 17.8 metres and 20.2 metres and is more than 10 metres from the deck to the ground below
- The bridge has seven spans that are supported by piers and 60 girders
- The final surface of the bridge is asphalt and there is a 2.5-metre wide concrete shared cycle/pedestrian access on the town side of the bridge
- Around 4500 cubic metres of concrete was used in building the bridge
- More than 500 people worked on the project at different times with more than 60 people working at one time.

Environment

During the project development phase, nearby trees were identified as a potential site for koala habitat and food source. The project team was able to restrict the area needed for construction to minimise impacts on the koala habitat.

Vegetation in the area had been maintained through construction using clearing limit/exclusion flagging.

The project environmental reports described the vegetation as being periodically utilised by koalas as an opportunistic food and sheltering resource when moving between more preferential habitats. One koala has been observed on site during the construction of the project.



Environment protection in place around Blackjack Creek



Landscaping starting to take shape around the creek and project area



View of bridge and culverts

Landscaping

The old roundabout contained a palm tree originally donated by the Turner family. The project was planning to include the palm tree into the centre of the new roundabout, however this was prevented by lighting and electrical detailing and an alternate location for the palm tree was required. The palm tree can now be viewed at Pensioners Hill alongside the palm relocated from the golf club as a tribute to the late Councillor Hans Allgayer.

Other landscape highlights include feature planting in the roundabout chosen by Gunnedah Shire Council to carry through the landscape themes from other roundabouts through the town. Planting of additional koala feed trees and native reeds were also included and rushes planted into the reconstructed waterway areas.

For more information:

For more information on the Gunnedah Bridge project contact the team at:

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 www.rms.nsw.gov.au/projects/northern-bridges/gunnedah



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