



The existing Taramakau Bridge, the new bridge (center) and a temporary staging structure being used to construct the new bridge from

Project reaches half-way stage one year into construction

It's a challenging job building a bridge over the West Coast's fast-changing Taramakau River but the team working on the new Taramakau Bridge are making it look easy, with the project reaching the half-way stage a year into construction.

Contractors Fulton Hogan are working with the river levels, using a 250 tonne crane to lift piling rigs, diggers and other equipment into the river bed when the water is low and lifting it back out as the river starts to rise during floods.

They have made good progress since the official sod turning in December 2016 and are on track to complete the project by the end of 2018.

The team completed a 'staging structure', a temporary bridge, back in October. This structure is being used as a base to build the new bridge from. It's from this base that the diggers and other equipment are loaded in and out of the riverbed.

The new Taramakau Bridge itself is taking shape, with the northern and southern abutments built and all 12 of the piles and pier columns installed.

The 42 Super-Tee Beams that make up the bridge spans arrived on-site over winter and 18 have been installed so far, making up three of the seven bridge spans.

The team have also started work on the bridge deck itself, and a lot of time has been going into the 'stitch', the concrete and steel that connects each bridge beam together, and the head pier headstocks and columns.

Work on the rail overpass is also going well; the team have finished constructing the east and west mechanically stabilised earth walls and bridge abutments. The earth walls are made up of 750 3.5 tonne concrete blocks, which are reinforced with 65 kilometres of 'paraweb' strapping to keep them in place and overlaid with 20,000m³ of earth fill. The strapping will aid in the seismic resilience of the structure during an earthquake.

About this project

A new two-lane bridge is being built downstream of the existing one-lane Taramakau Bridge. A section of State Highway 6 (SH6) will be realigned to connect with the new bridge, and an overpass built to take traffic over the railway line. An off-road cycle and pedestrian link will also be constructed.

The new two-lane Taramakau Bridge is a long awaited project for the West Coast that will provide significant improvements for travellers in terms of safety, travel times and journey experience.

The existing one-lane bridge causes traffic congestion, with vehicles having to queue to cross the 220 metre long structure.

The new two-lane bridge means local business operators, freight vehicles and residents will no longer have to wait at each end on their daily commutes.

The cycle and pedestrian path will link into existing facilities, making it easier and safer to walk and bike around the area.

The cycle links will play a part in the growing tourism opportunities developing in the West Coast such as the Wilderness Trail. Meanwhile, rail traffic will remain on the existing bridge.

This separation of road, rail and cycling/pedestrian traffic will improve both safety and efficiency.

What is coming up?

The team will be off-site from December 22 through to January 8 to avoid impacting traffic over the busy holiday period. Once they return in the New Year they will be making the most of the warm weather to work on the new road alignment.

Work on the rail overpass deck will start in early 2018, setting the team up to construct the new road alignment on either side.

Over the coming months work will also continue on installing the last remaining headstock on the new bridge, putting the rest of the Super-T beams in place and constructing the bridge deck.

Work on the concrete safety barriers and steel cyclist railing on the new bridge will also start once the deck is underway.

Traffic impacts

In the New Year traffic will be shifted on to a temporary road alignment to enable construction of the new road approaches. Traffic management, including speed restrictions and lane changes will be in place. Drive with extra care and attention and allow an extra five minutes to get through the work site.



The new Taramakau Bridge is being built just 30 meters downstream of the existing road/rail bridge

Doing things differently: meet the cofferdam

The Taramakau River is a challenging environment, going from flat and low to wild and high in the space of a few hours.

To reduce the risk, and make work safer and quicker the team are doing things a bit differently. Using pre-cast beams lets the team plan when they will be in the riverbed, and plunge columns create better accuracy and improved safety. Along with these measures, a coffer dam is also being used.

The six metre high structure clamps onto the piles and a pump keeps the inside dry. The cofferdam fits up to four people at a time, allowing the team to stay dry as they work on the new bridge pile and pier columns below water level.



The Super-T beams

Transporting massive concrete bridge beams over the Arthur's Pass during the past winter was another challenge for the team.

Contractor Fulton Hogan manufactured the concrete beams that make up the new bridge decks at a factory in Christchurch. The beams measure around 34.5 metres long and weigh in at 62 tonnes each. There are 42 in total and each one had to be transported by truck to the work site. The team started bringing them over in May, taking them one at a time through the narrow and often steep, Arthur's Pass.

Each move has been subject to weather, and the move would be postponed if there was snow or a forecast of snow. The team worked closely with the local road maintenance crews to make sure each eight hour journey was a success, checking for slippery sections and grit so they could plan ahead.

The main truck was assisted by a six-wheel-drive Iveco Tracker tractor unit, ready to help pull the load up or support it down the steep sections. The last beam arrived on-site in late October.



The Super-T beams were transported to site one at a time via Arthur's Pass

New Taramakau Bridge

What does this project involve?

A new two-lane bridge will be built downstream of the existing one-lane Taramakau Bridge. A section of State Highway 6 (SH6) will be realigned to connect with the new bridge, and an overpass built to take traffic over the railway line. An off-road cycle and pedestrian link will also be constructed.

1 THE NEW TARAMAKAU BRIDGE

The new two-lane bridge will be built 30 metres downstream of the existing single-lane road and rail bridge. The new bridge will be 250 metres long, 10 metres high and 15 metres wide.

2 HIGHWAY REALIGNMENT AND RAIL OVERPASS

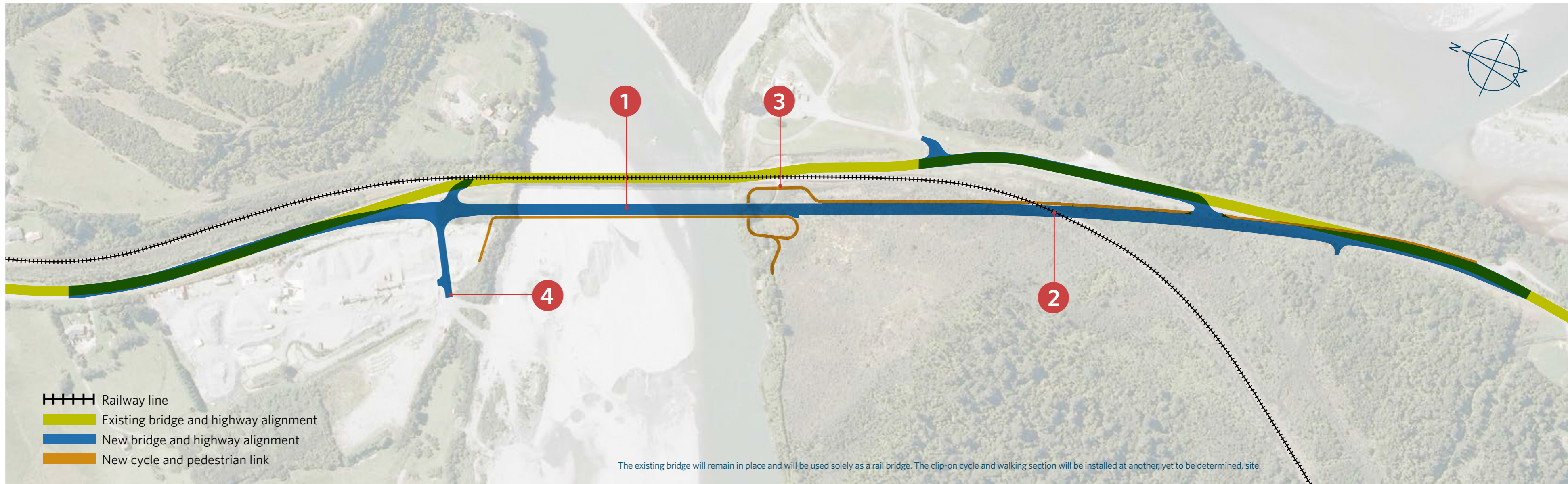
The project will see a section of State Highway 6 realigned to connect to the new bridge and an overpass built to take road traffic over the railway line.

3 CYCLING AND WALKING

The new bridge includes a dedicated cycling and walking section, separated from traffic by concrete safety barriers. New shared cycling and pedestrian paths will also be built, linking this facility to the existing West Coast Wilderness Trail.

4 RIVER ACCESS

A new intersection will be built, giving vehicles another access to the north side of the Taramakau River.



Facts and figures

- » Total cost: \$25.8 million
- » 1.5km of new road constructed
- » One 250m long, 15m wide, seven span Super-tee bridge
- » A 250m long, 10m high temporary structure built to construct new bridge from
- » One 12m long, 50m wide rail overpass
- » Over 5,000m³ of concrete
- » Over 700 tonnes of reinforcing steel
- » 70,000 hours worked to date (December 2016 - December 2017)
- » 4000mm of rain to date
- » 600m of concrete barriers
- » 120,000m³ of gravel
- » 22,000 native plants to be planted



An artist's impression of the new Taramakau Bridge



Working in the river bed



Work on the new road alignment is going well



Large cranes based on the temporary bridge are being used to get piling equipment in and out of the riverbed



The new Taramakau Bridge is taking shape

Keeping you informed

Keeping the community informed on progress is important to the team. Keep an eye out for regular newsletters or follow the NZ Transport Agency on social media. If you have further questions please contact:


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 www.nzta.govt.nz/projects/sh6-taramakau-bridge-project

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