

Tunnel & Stations Community Update

December 2021

The Cross River Rail Tunnel and Stations contractor CBGU JV is delivering underground twin tunnels and new stations for Cross River Rail.



Woolloongabba station site, November 2021.

As 2021 - Cross River Rail's year of tunnelling - draws to a close, our two tunnels and four new underground stations are starting to take shape. The past six months have seen our Tunnel Boring Machines (TBMs) clear Albert and Roma Street station worksites, with TBM 1 *Else* breaking through at the Northern Tunnel Portal in late November and TBM 2 *Merle* expected to follow in the coming weeks.

Two of our roadheaders have broken through at the Boggo Road station worksite. Ending an almost 12 month journey from the Woolloongabba station worksite and completing the southern section of the Cross River Rail tunnel.

We have also seen excavation for new station buildings progressing with major work packages completed at Boggo Road, Woolloongabba, Albert Street and Roma Street station worksites.

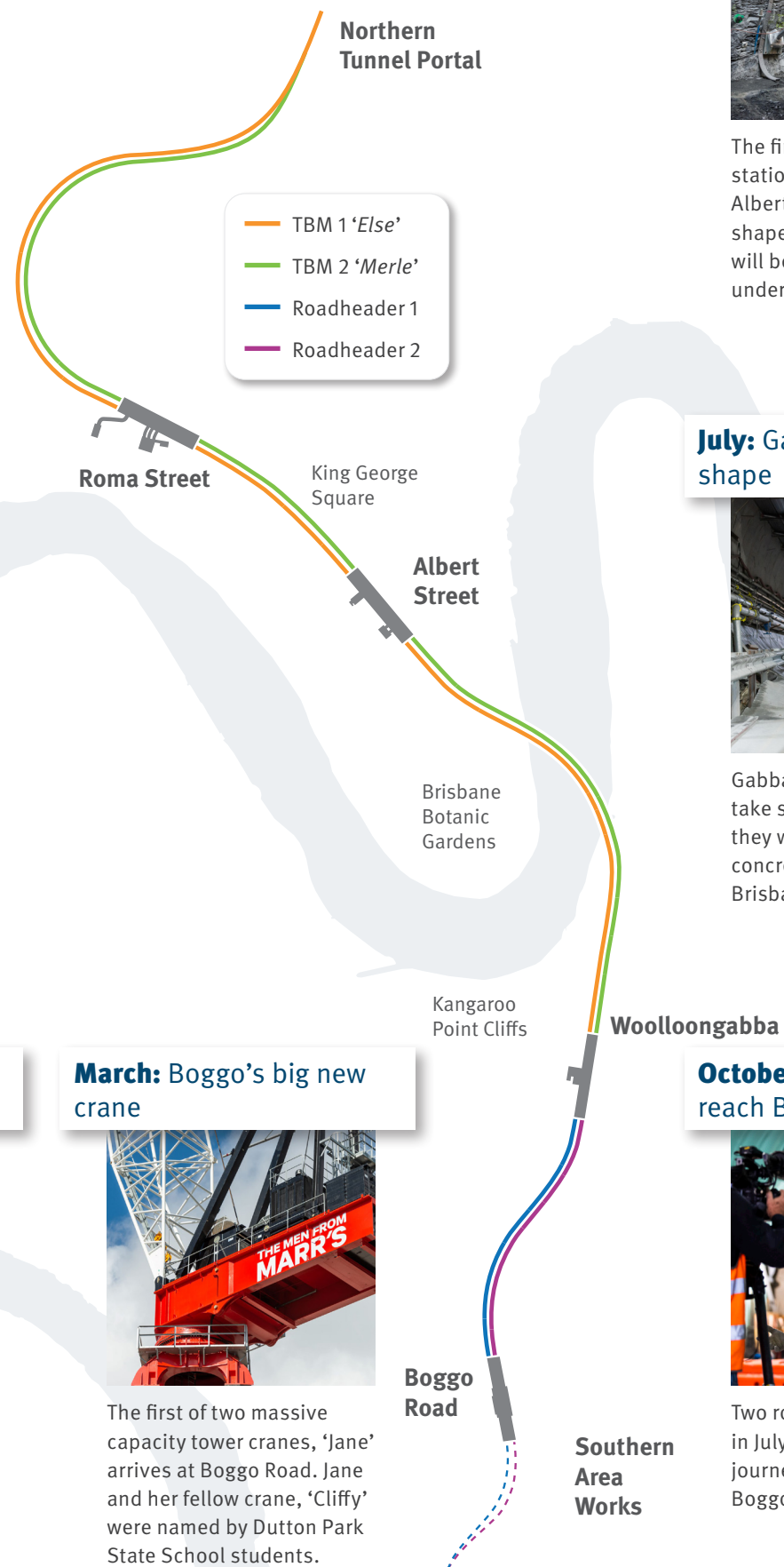
This community update showcases the team's 2021 achievements and details what's next for tunnel and stations in 2022.

The CBGU JV Community team continues to keep our neighbouring residents and businesses informed and up to date about construction activities. If you would like to talk to a team member, you can call the project information line on 1800 010 875.

2021: Cross River Rail's year of tunnelling

Our TSD team launched two TBMs named *Else* and *Merle* from Woolloongabba in January and February 2021 and through the course of the year these mega-machines have made their way to Albert Street then on to Roma Street before finally surfacing at the Northern Portal near Victoria Park. Two roadheaders, launched in July 2020 made their way to Boggo Road, excavating a shorter, more shallow tunnel section.

The TBMs' 3.6km journey took them under some of Brisbane's busiest and most iconic locations, travelling under Kangaroo Point Cliffs, under the Brisbane River, up through the Botanic Gardens and under King George Square before surfacing at the Northern Tunnel Portal. In this newsletter we share some of our 2021 highlights.



January: It's back to school for our trainees!



TSD's school-based trainees kick off on Cross River Rail.

February: TBMs *Else* and *Merle* launch!



Our twin TBMs named after Else Shepherd and Merle Thornton launch at Woolloongabba.

March: Boggo's big new crane



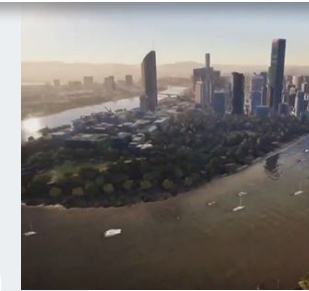
The first of two massive capacity tower cranes, 'Jane' arrives at Boggo Road. Jane and her fellow crane, 'Cliffy' were named by Dutton Park State School students.

April: Albert Street station excavation well underway



The first new city train station in 120 years, Albert Street starts to take shape. When finished it will be more than 40m underground.

May: *Else* and *Merle* go under the river



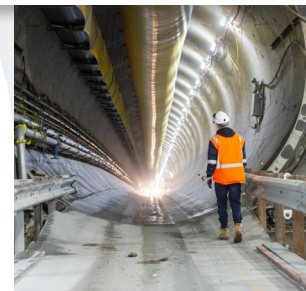
Our TBMs pass under the Brisbane River before reaching the Brisbane Botanic Gardens and making their way up Albert Street.

June: King George Square marks the halfway point



Our TBMs hit the halfway mark travelling directly under King George Square on their way from Albert Street to Roma Street station.

July: Gabba tunnels take shape



Gabba tunnels start to take shape. When finished, they will comprise 27,000 concrete segments made by Brisbane supplier, Wagners.

August: *Else* and *Merle* drop in at Roma Street



As Brisbane's COVID response peaks, it's breakthrough time as *Else* and *Merle* both reach Roma Street and arrive in the underground cavern.

September: Last tunnel segments cast



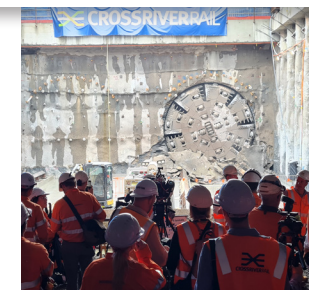
The final concrete segments made by local supplier Wagners are cast. These are destined to form part of Brisbane's new underground tunnels.

October: Roadheaders reach Boggo Road



Two roadheaders launched in July 2020 finished their journey, breaking through at Boggo Road station cavern.

November: *Else* emerges!



Our first TBM *Else* finishes her journey, arriving at Northern Portal!

December: Christmas works: Rail SCAS



As Santa packs his sleigh, our teams are hard at work in the rail corridor over Christmas.



Northern Tunnel Portal

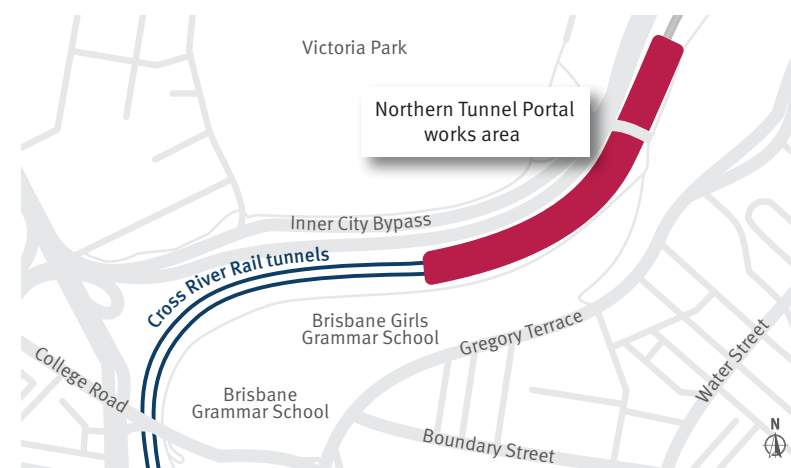
Roma Street

The Northern Portal's gantry crane will be used to remove the TBMs.

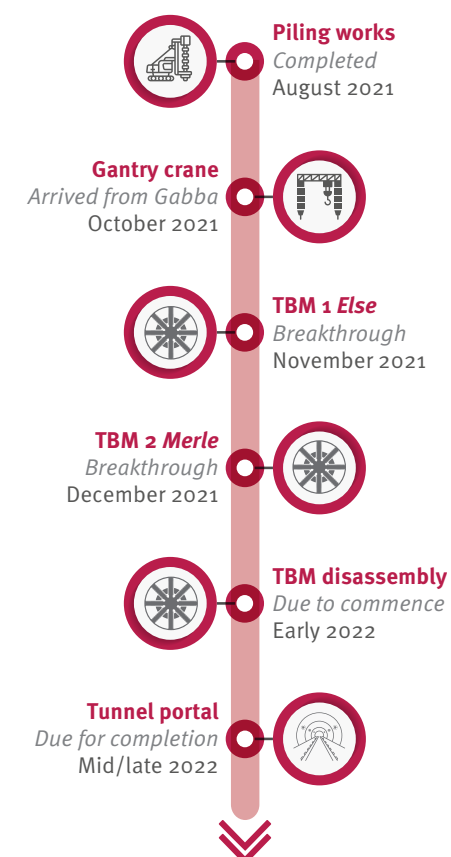
TBM Merle breaking through in the Roma Street station cavern in September 2021.

Once complete, trains will exit and enter Cross River Rail at the Northern Tunnel Portal. Located next to Brisbane's Inner City Bypass, near Victoria Park. The site is also where our two TBMs *Else* and *Merle* end their journey, surfacing in late-2021.

Former home to one of Brisbane's ugliest buildings, the Brisbane Transit Centre, Roma Street is transforming. August 2021 saw TBMs *Else* and *Merle* travel through the future Roma Street underground station. On the surface, the team finished excavating and is now preparing to build the aboveground section of the new station.

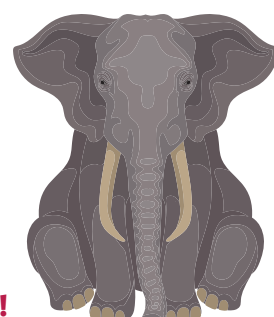


Northern Tunnel Portal progress



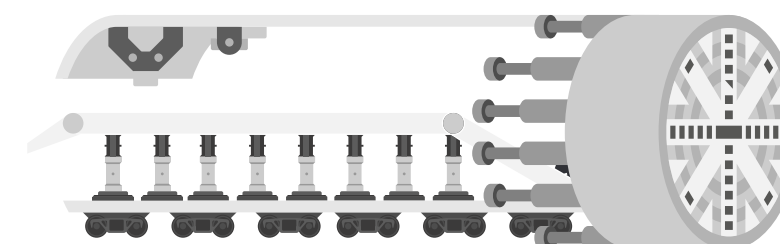
Northern Portal's gantry crane is used to remove the TBMs at the end of tunnelling.

It was transported from the Woolloongabba site where it was used to lower the TBMs into place early this year and can lift up to **280 tonnes...** that's about **62 male African elephants!**



A TBM's cylindrical shape means it must be cradled by horizontal trays while it's not busy excavating.

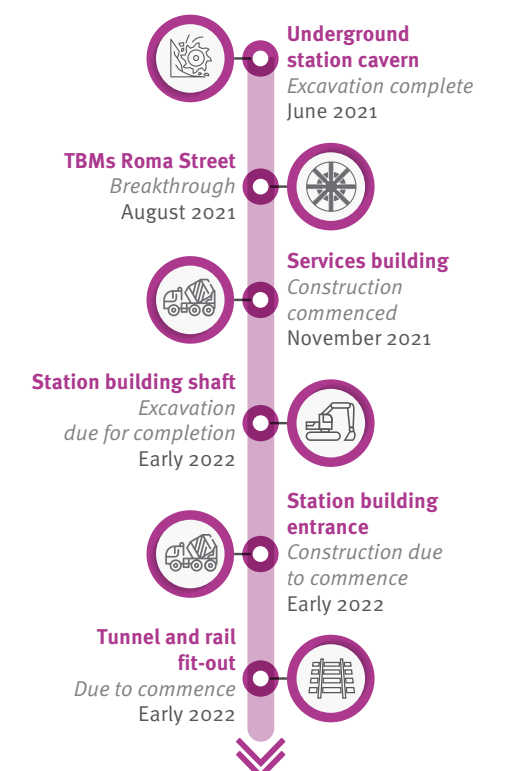
To move the TBMs through the Roma Street cavern, the team needed to propel the **1,350 tonne** machines **280 metres!**



How did they do it?

The team used special jacking system involving a skid cradle and hydraulic jacks to propel the TBMs.

Roma Street progress





Albert Street

Looking up at the Brisbane CBD from the site of Albert Street station's new main entrance.

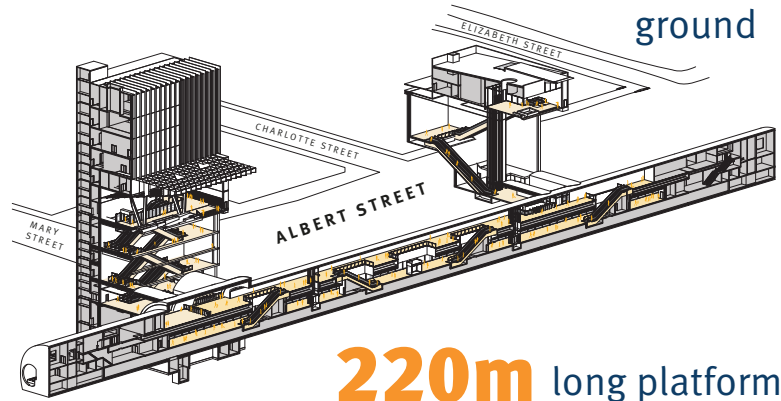
Deep in the centre of the city, the team is building not only a new station but an underground tunnel at Albert Street. This is the deepest site on the project and will be the location of the future main station entrance. Further up Albert Street towards Queen Street, the team is also excavating the future northern station entrance.

Thirty metres underground, permanent lining is being added to the tunnels as the team excavates remaining sections of the underground cavern using controlled blasting.

The future of Albert Street station

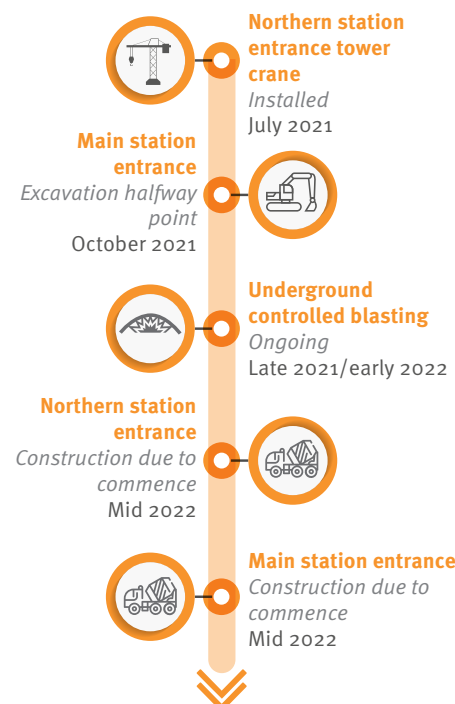
67,000+ passengers a day by 2036

31m below ground



220m long platform

Albert Street progress



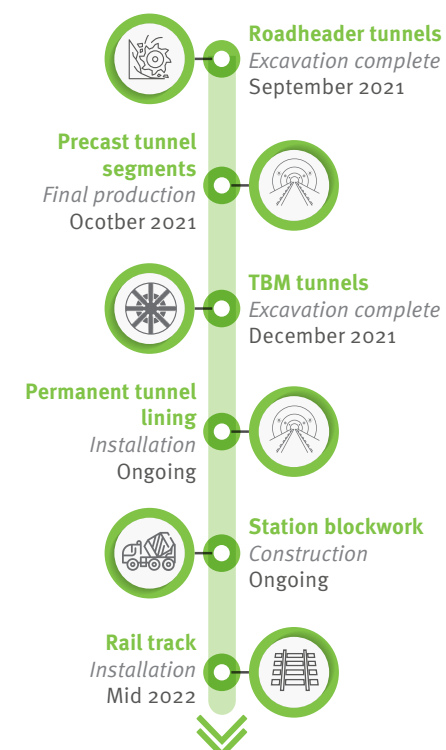
Woolloongabba

Inside the tunnel cavern at the Woolloongabba site.

The site of the future Woolloongabba station was the launch point of the two TBMs in early-2021. At the same time, two roadheaders excavated tunnels to Boggo Road where they daylighted in October.

The new Woolloongabba station is starting to take shape, with work continuing deep down on the station platform.

Woolloongabba progress



Together, we have excavated **7.2km** generating **800,000 tonnes** of spoil.

The equivalent of **1,250 Airbus A380s** fully loaded.





Boggo Road

The Boggo Road team celebrate the breakthrough of the roadheaders in September 2021.

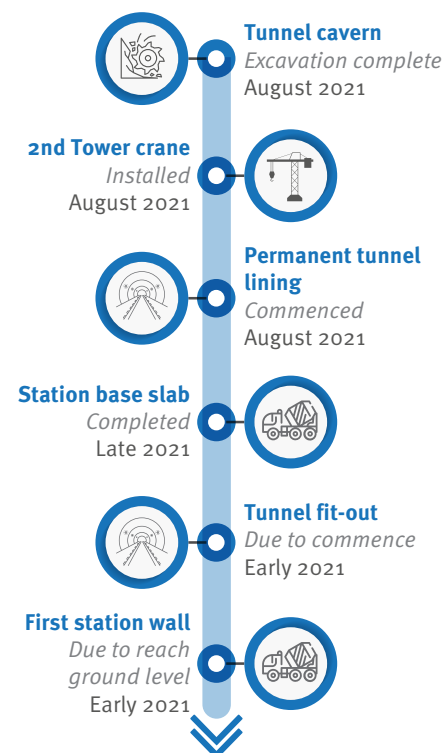
Boggo Road cavern excavation is now complete and work to finalise the permanent cavern lining is underway. In September, the site welcomed the two roadheaders that broke through the cavern, marking completion of mined tunnelling between the new Woolloongabba and Boggo Road stations. Alongside the tunnellers, work to build the new Boggo Road station continues, with construction of the permanent structure underway.



Boggo Road's Stakeholder and Community Relations Advisor Georgia Williams with students from Dutton Park State School and their crane name entries.

Recently, Dutton Park State School students had the opportunity to name Boggo Road station worksite's two tower cranes - the largest of their type in the world. Tyler (grade 4) and Rio (grade 1) submitted the winning names – *Cliff Hanger* and *Jane*.

Boggo Road progress



Southern Tunnel Portal

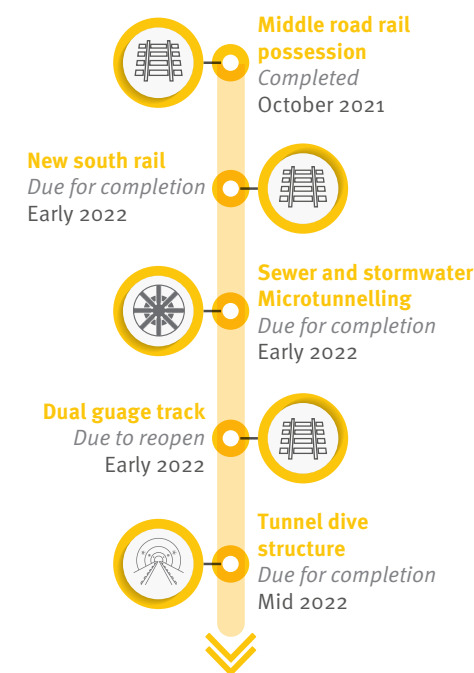
Construction of the southern tunnel portal dive structure in November 2021.

Construction of the Southern Tunnel Portal is underway, and locals may have seen the area transforming in recent months.

Excavation of the tunnel portal 'dive' structure – that will transport trains from above ground at Dutton Park station to underground at the new Boggo Road station – is well underway.

A key project milestone known as the 'middle road possession', involved recent removal of an existing train line in the rail corridor, then ground strengthening and rebuilding, allowing the line to be reopened to trains.

Southern Tunnel Portal progress



Two mini Tunnel Boring Machines (TBMs) have helped the team relocate sewer and stormwater drainage underneath the train lines.

The mini TBMs have been working around the clock to excavate underneath Railway Terrace, Kent Street and the rail corridor and are critical to the construction of the tunnel portal.



Harrison (5), a resident at Leukaemia Foundation ESA village, submitted the winning name for one of the mini TBMs, "*Gravel Rash*".



T&S in the community

Dutton Park State School students learn about construction safety equipment.

Our Community team held a ‘Stop Look Listen Think’ safety morning for Boggo Road site neighbours, Dutton Park State School in October.

STOP! LOOK! LISTEN! THINK!

The event raised safety awareness and educated students about truck movements and construction in their local area. Youngsters were encouraged to look out for themselves and each other as they move to and from school every day, and undertook a ‘moving safely around school’ activity. They even had the opportunity to take turns sitting in a truck!



We were overwhelmed with positive feedback from our tiny tunnellers...

“This was the best Friday we’ve ever had!”

“We love the STOP LOOK LISTEN THINK safety morning.”

“Thank you for coming to visit us.”

Looks like we might have some budding construction workers on our hands many of whose parents also joined to get the low down on the project.



Merry Christmas from all of us and thank you for your patience as we build Cross River Rail tunnel and stations.





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