



OUR JOURNEY SO FAR

April 2021



ACKNOWLEDGMENT OF COUNTRY

We acknowledge the Traditional Owners of the land on which we live and work. We pay our respects to the Elders, past and present.

Throughout time, Brisbane, the land by the river, has been a path of transport for all people. A place of connection, a place of many tracks.

The Ancestors and Elders travelled this terrain long ago. Following tracks that we follow today. We recognise their connection to this country, the waterways and community.

As we build this path through Country; While we tunnel deep beneath our river; Laying tracks for greater connection, creating new places for the future.

We acknowledge the rich traditions and stories of the past. At the many places we are working to bring this Project to life. Across Brisbane, the Gold Coast, and greater South-East Queensland.

With an open heart and mind, we hope to learn from the traditions, stories, customs and practices of Australia's First Nations people.

Together, as we build this track for the future.





CONTENTS



Publication Details

This book is published by Cross River Rail Delivery Authority

PO Box 15476 Brisbane City East Q 4002

@ Cross River Rail Delivery Authority, 2021

This book is copyright. Apart from any reasons as permitted under the Copyright Act, no part may be reproduced by any process without written permission from the publisher.

All rights reserved.

Scope and contents of this book relate to the Cross River Rail project in the time period from April 2017 to April 2021, inclusive.

This book was project managed, written, and designed internally by Cross River Rail staff.

The contents were prepared in good faith, for non-commercial purposes.

Every effort has been taken to ensure the contents of this book were correct at the time of publication. The author and publisher do not assume, and hereby disclaim, any liability to any party caused by any inadvertent errors or omissions.



Graeme Newton
Chief Executive Officer

CEO INTRODUCTION

First and foremost, I'd like to say how proud I am that this record of our project's progress to date, has been written by our workforce, for our workforce. As such it is a fantastic example of the spirit that endures on our project, and the sense of pride in what we are delivering together.

At Cross River Rail, we talk about building something that is 'more than just a rail project' and sometimes we refer to the fact that 'this project means more'.

These are not boasts so much as a reflection that we are as energised by how truly transformational Cross River Rail will be once built, and we are driven by the fact that this is a once in a lifetime opportunity to work with the very best peers. A reflection that we are delivering something for the state of Queensland that will stand testimony to the hard work, the ingenuity and the passion of the people that worked on it

Four years in delivery is a significant amount of time and in the early years of delivery, the effort required to set our project up for success in terms of finalising the reference design, taking contracts to market and then seeing through procurement and contract close, can never be underestimated.

To be nearly two years into major construction is also significant and to have achieved as much progress as we have, all while navigating a global pandemic, is truly awe inspiring.

Whether you have worked on the project from the very beginning or joined us more recently, I hope you take the time to enjoy this record of progress so far and that you enjoy a moment of pride in what it is we are delivering between all of us.



THE PROJECT

Building for the future

The population in South East Queensland is growing and this is putting our transport network under pressure.

The current rail network is already constrained by a single river crossing causing a bottleneck that limits our ability to run more trains.

Cross River Rail will deliver a second river crossing and enable the capacity of the network to increase as population grows. Cross River Rail will integrate with the existing rail network, new roads and bus services to enable a world-class public transport system for the whole of South East Queensland.

And the reference design for Cross River Rail, which we consider to be the starting point for delivery after years of planning, was approved by the Coordinator-General on 9 June 2017.

The project

We are building a new 10.2 kilometre rail line running from Dutton Park to Bowen Hills with 5.9 kilometres of twin tunnels under the Brisbane River and CBD.

The project will include construction of Brisbane's first underground train stations at Boggo Road, Woolloongabba, Albert Street and Roma Street, as well as significant upgrades for seven above-ground stations from Salisbury to Dutton Park and construction of a new station at Exhibition. We will also be building three new stations on the Gold Coast.

To make good the increased capacity that Cross River Rail creates, we are introducing a new world-class signalling technology that will allow trains to run closer together and run more efficiently with greater safety.

And because Cross River Rail is more than just a rail project, we are exploring the opportunities to activate open spaces, and residential and commercial development to revitalise the inner-city areas around each of our major stations.

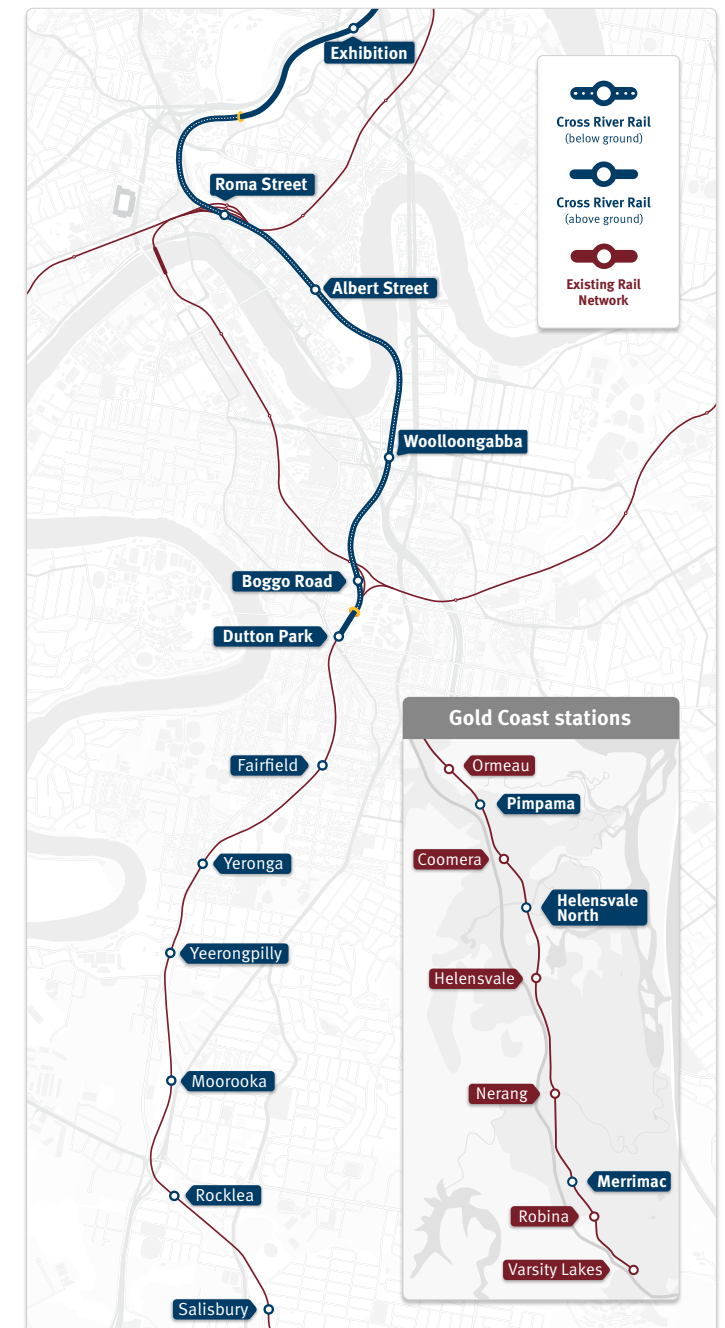
“

I remember when I was young, both of my grandfathers and my father would take me for a look at these huge projects they were involved with, and I was always in awe. I guess it's my turn to do the same with my kids.

”

Sean O'Connor

Senior Project Manager Rollingstock, ETCS



THE EARLY YEARS

Becoming an authority

While iterations of the Cross River Rail project have been evolving since 2010, the Cross River Rail Delivery Authority took its first breath as a Statutory Authority on 14 April 2017.

Since that time, the pace has been constant. In fact, relentless!

June 2017 was a particularly significant month – the new reference design was approved by the Coordinator-General, the State Government committed full funding for the project and Graeme Newton was appointed to lead the Delivery Authority.

We had a big task ahead and a multi-year plan was laid to deliver 10.2 kilometres of new rail line, four new underground stations and upgrades to two surface stations.

Year One of delivery can be separated into four significant areas of work.

The first was to work through a significant procurement process to lock in private sector companies to partner with us to deliver this massive project.

The second was to plan and complete an Early Works program so that when we locked in our contract partners we could hand over sites which were ready for them to start the major construction work immediately.

The third was to acquire all the necessary land and property required for the construction of the project.

And the fourth was to engage with communities to make sure that they could get questions answered about the project and were fully aware of what construction would entail as well as what the benefits would be.

We built our teams around delivery of these four areas of work and then hit the ground running to achieve what was needed to be done so that construction could commence in the final quarter of 2019.



Parliamentary Annexe, 16 June 2017.

Procurement

We began our search for private sector partners with focused market-sounding in mid-August, followed by an industry briefing held on 30 August 2017 which was attended by over 500 industry representatives.

In September we invited registered organisations to submit an Expression of Interest for either or both of two major packages of work – the Tunnel, Stations and Development (TSD) public private partnership package and the Rail, Integration and System (RIS) alliance package.

Bidders were then evaluated against a range of criteria which included capability, track record, and commercial robustness, leading to an announcement on 20 February 2018 of the five consortia shortlisted for the two major works packages.

Shortlisted consortia were then asked to prepare detailed bids demonstrating innovation and highest possible value for money. Interactive workshops were held as we worked with the shortlisted consortia as they developed their bids, to help each consortium put their best offer forward.

Due to the interdependence between CRR and the European Train Control System (ETCS) and to ensure fit-for-purpose integration with the CRR design and delivery, the procurement and delivery of ETCS moved across to the Delivery Authority between June and August 2018.

After undergoing a rigorous and comprehensive evaluation process, the preferred bidders for all three major works packages – TSD, RIS, and ETCS were announced in April 2019.

Tunnel, Stations & Development (TSD) was awarded to the Pulse consortium:

CIMIC Group companies, Pacific Partnerships, CPB Contractors, and UGL with international partners DIF, BAM and Ghella.

Rail, Integration & Systems Alliance (RIS) was awarded to Unity consortium:

CPB Contractors, UGL, Aecom, Jacobs, and partners Hassell, RCS Australia, Acmena, Martinus Rail and Wired Overhead solutions.

European Train Control System (ETCS) package was awarded to Hitachi Rail.

Land Acquisition

Since 2017, we have been working closely through the acquisition process with property owners, tenants and businesses relating to land identified as necessary for the project.

Land acquisitions are necessary to build Cross River Rail just as they are for any new inner-city large infrastructure project and compensation is paid to reflect fair market value, as outlined in the Acquisition of Land Act 1967.

In the space of two years, we acquired all surface land required for our inner-city stations and we have also secured all necessary volumetric (underground) land necessary for the 5.9 kilometres of twin tunnel sections.

This amazing achievement has been made possible through a significant and consultative process, with ongoing and personal engagement by our stakeholder and property teams with all affected landowners and tenants to work through this sensitive process.



Industry Briefing, 30 August 2017

Community Information

Major infrastructure projects need to develop 'social licence' and that means building awareness, understanding and advocacy within the community about what the project is, and how it will benefit people. Given the fact that construction will create significant disruption for many, along the way.

From the outset, the Delivery Authority made community engagement as interactive and as informative as possible. Paid media was leveraged to ensure that all of South East Queensland knew that delivery had commenced, and is used tactically each year to make sure the public is aware of specific disruptions.

Meanwhile, the Delivery Authority hosted information stands at large scale events, developed a comprehensive website, used social media, installed signage at worksites, facilitated numerous media events and opened an interactive information centre, all to ensure that the public could be kept fully informed.

Woven together all these activities are how we continue to build community confidence in our project.

“

This really is a once in a generation project for South East Queensland, so it's very exciting to be involved in the project. Its benefits will be massive.

”

Vince Scarcella
Director Program Delivery Management Office



PROJECT OVERVIEW

Early works

While procurement was underway to select our private sector contractors after which heavy construction would begin, we delivered an extensive program of Early Works

From September 2017, the Early Works team undertook site investigations at over 50 locations along the corridor.

The team drilled 90 boreholes at sites including Dutton Park, Woolloongabba, Kangaroo Point, CBD, Roma Street station, Petrie Terrace, Normanby and Bowen Hills. The deepest borehole was drilled at Kangaroo Point and went 66 metres below street level.

At our Woolloongabba station, demolition works including three government buildings – Goprint, Landcentre, and the old South Brisbane Dental Hospital – began in August 2017 and was completed in February 2019. Over 45,000 tonnes of building waste was removed from the demolition site, and over 95 per cent of this was recycled.

Fencing was installed around the full perimeter of the enormous four-hectare site, proudly branded with messaging to let everyone who walked, bussed, or drove past know that this would be the site of a new underground Cross River Rail station.

A monitoring program along the project's alignment commenced in August 2018, to establish existing air quality, water quality, and noise levels for comparative use once major works commenced.

At Roma Street, the long-distance Coach Terminal needed



“
I came on board before the project had full funding and approvals, so it was great to see it through that phase. Then it was straight into Early Works, so demos over at Woolloongabba, and then moving into the new Temporary Coach Terminal at Roma Street.
”

Megan Wood
Southern Area Manager



to be relocated from Level 3 of the soon to be demolished Brisbane Transit Centre before handover to the major contractors.

The new location for the Terminal was selected to be adjacent to Roma Street's platform 10 and works began in November 2018. Over 400 people worked on the Coach Terminal project across two contractors, including 20 apprentices.

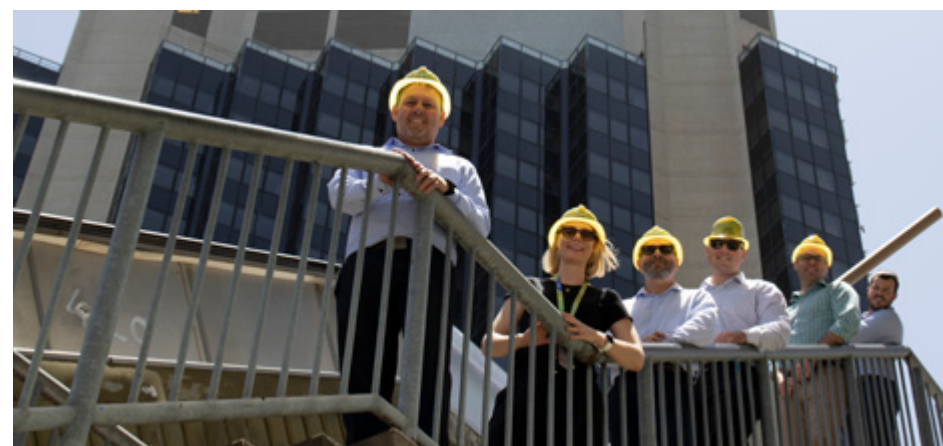
The new temporary Coach Terminal was then opened for services on Monday 16 September 2019.

The Early Works program was successfully delivered on time using approximately 62,000 labour hours over two years. This amazing achievement ensured our sites were ready for handover to the newly procured consortia to commence major construction works in September 2019.

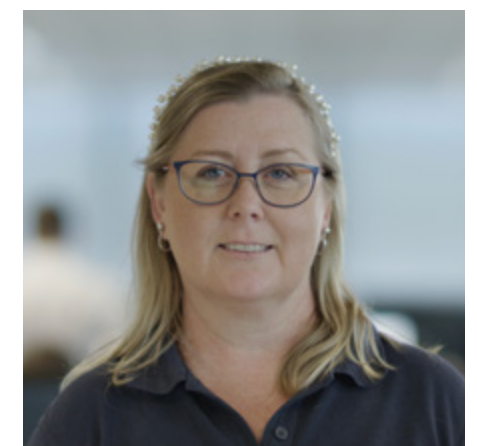




“
I arrived in Brisbane, Australia in 2005 as a refugee. The opportunity to attend school and knowing that I would be allowed to pursue a career in engineering was my dream come true.
”
Sharon Hossemi
TSD Area Engineer



“
Cross River Rail is the most complex project I have ever worked on both from a technical and interface point of view, which is a huge and exciting professional challenge for me.
”
Gabor Nemeth
Systems Engineering Manager, ETCS





“
My grandfather was a steam train driver for Queensland Rail. I know he would have been so impressed to see the future we are creating and the progress we are making.”

Cobi Murphy
Customer and Travel Behaviour Advisor



THE PEOPLE OF CROSS RIVER RAIL

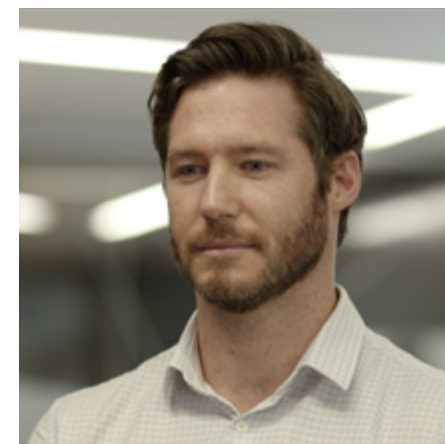
The number of people working on the delivery of Cross River Rail has grown significantly since April 2017.

What was at one time as few as 60 or so staff transitioning over from the planning phase, is now an 'orange army' of more than 2,000.

In fact, more than 2,400 have worked on the project since it moved into Delivery and at the height of construction that will increase to more like 3,000, as we move literally deeper into tunnelling and construction.

“
I'm really pleased we've got really strong relationships with all our contractors. They're proud of what they're doing, and we should be proud too.”

Stephen Troughton
Program Director, Program Delivery



Restoration of
'Drover and his Mate' begins

Woolloongabba Station-to-Stadium
concept announced

RfPC-2 approved by
Coordinator-General

Building wrap of Landcentre
building commenced

New Coach Terminal
civil works begin

RfPC-3 submitted to
Coordinator-General

DIVERSITY AND INCLUSION

The Delivery Authority values diversity, inclusion and equal opportunity in the workplace, and we have been steadily building a program to capture the benefits in leadership, problem solving, team development and innovation that go hand in hand with an inclusive culture.

In 2020 we launched the **FUEL – Female Uplifting Empowering Leadership** – program. This CEO sponsored

program is designed to create personalized development pathways for women leaders. The first cohort of FUEL leaders began the six-month program in September 2020 and our second cohort began in February 2021.

Our **Emerging Leaders** program has been underway for over two years and offers development opportunities for the next generation of leaders across the Delivery Authority. The group works together to share ideas, collaborate and workshop real world challenges. The group is self-managed with regular participation by members of the Executive Management Team.

We have also launched a **Diversity and Inclusion Advisory Group** who will take carriage of our further efforts to ensure our workplace is a vibrant, welcoming, inclusive professional community.



Cross River Rail is being constructed through the heart of the Brisbane CBD and the Delivery Authority is committed to ensuring we have trusting and steadfast relationships with the Traditional Owners upon whose land the project is being built.

In June 2020, we established our **Reconciliation Action Plan** Working Group with members from all across the Delivery Authority, to drive this important work and the group has set to work to develop an 'Innovate' Reconciliation Action Plan.

Cross River Rail will create new connections on the network and the Delivery Authority want to ensure that **every** customer has a positive experience through construction phase to day one of opening and beyond.

This means creating spaces that are **functional, inclusive**

DID YOU KNOW?

43.4% women across all disciplines at the Delivery Authority

and accessible, and this work covers the future station buildings and systems, the customer experience, and how our project integrates and connects with the existing network, from an accessibility perspective.

You can read more in the Planning Ahead section about the work we are doing with our **Accessibility Reference Group** to ensure our future stations are built to the highest accessibility standard.



AND CONSTRUCTION BEGINS

SAFETY MEANS MORE

Safety is our number one priority and 'Safety Means More' is a statement that we take seriously across all aspects of our project, whether it's out on site or in an office environment.

Evolving a safety-first culture has meant that safety awareness has grown with the project, from when we had only a very small number of office-based direct employees and contractors back in 2017, to the over 2,000+ workers we have on the project today.

In this time, the Delivery Authority has demonstrated commitment to ensuring every effort is made to ensure workers can perform their duties safely, free from work-related injuries and illnesses.

We've worked closely with our contractors to develop COVID-19 safe work practices which has made it possible for us to maintain construction momentum while keeping our workers safe.

We have established a Compliance Unit and appointed a Chief Compliance Officer to ensure we keep our project on track with our safety commitments.

With over 6 million hours worked since we began construction, the project has had only one Lost Time Injury occur. This is a strong safety record and well ahead of industry norms.

In addition to employing best practice workplace health and safety standards across all our places of work, we're also evolving our culture to focus on safety as an important start to all our conversations and meetings.

With a project as large and complex as Cross River Rail, safety must be everyone's responsibility, moving beyond regulations and policies, but evident in our daily practice no matter where we work.

Safety will continue to remain the single most important priority for the project to ensure our workers go home safe to their families every day.

“
There is a lot of big gear so we have to make sure there is good separation between people and plant to keep people safe on the site.
”

Iñaki Goni
RIS Area Engineering Manager



ADDITIONAL STATIONS AND UPGRADES

Fairfield to Salisbury upgrades

In May 2019, it was announced that we would be delivering significant accessibility upgrades, as well as necessary upgrades for Cross River Rail, to six suburban stations on Brisbane's southside at Fairfield, Yeronga, Yeerongpilly, Moorooka, Rocklea and Salisbury.

Since then we've been working with the team at Unity on new station designs and taking these to the community for input. The accessibility works and Cross River Rail improvements for these stations are being delivered simultaneously, to reduce disruption for local commuters.

The team have started works at Yeronga and Fairfield stations with the other stations to follow as part of a rolling schedule of works.

Three new Gold Coast stations

Work on the three new stations for the Gold Coast line has progressed steadily since the announcement in late 2017 that these new stations would be delivered as part of our project.

In that time the team has worked on project proposals, feasibility assessments, business cases, options analysis, preliminary design works, community consultation, fixing the locations for the stations at Pimpama, Helensvale North and Merrimac, detailed design work and even more community consultation.

Thanks to all of this, the project is on track for station construction works to commence and for the stations to be complete in time for the first Cross River Rail services to run to the Gold Coast.



SOUTHERN PORTAL

Our southern area portal merges into one of the more complex areas in the South East Queensland rail network, where multiple commuter rail lines and a freight line all intersect.

This complexity also makes this area one of the most technically challenging aspects of our project's design.

Preliminary works have been done and an enormous effort has been invested in revising the design options for this area, to ensure the best possible outcome for the project and for commuters.

We have worked with our major contractors, Queensland Rail, the Department of Transport and Main Roads and other key stakeholders, to develop this new design solution which was submitted to the Coordinator-General as part of Request for Project Change - 9 in late 2020 and approved in April 2021.





“
After spending close to two decades
establishing and expanding my Civil
Engineering career across Australia and
the UK, it's wonderful to return to my
home city of Brisbane to be part of this
remarkable project which will change
the face of Brisbane's public transport
infrastructure for years to come.”

Laura West
Area Engineering Project Manager, Boggo Road



BOGGO ROAD

Boggo Road will be the first new underground station passengers will experience after entering the tunnel through the southern portal just after Dutton Park station.

With the addition of this new station, Boggo Road will become one of Brisbane's busiest transport interchanges, integrating with existing busway and rail facilities as well as the new Brisbane Metro services.

The station itself will be located 19 metres below the surface with 220-metre-long platforms.

Work began on the site in September 2019 with site establishment, fencing and geotechnical and utility investigations work.

Since then the site has been busy on many fronts, including the successful relocation of Outlook Park and playground from a site needed for construction, to a location closer to Dutton Park State School.

The Boggo Road team are working very closely with the existing businesses, community and stakeholders surrounding their work site. One especially important engagement was with Dutton Park State School where the contractors and the Delivery Authority team worked closely

with the school community to develop a safety campaign - 'Look out, construction about' - for the children, families, and staff.

Construction at the site has set an impressive pace, with excavation of the station box now 90 per cent complete, with over 113,000 cubic metres of rock and soil already removed from the site.

As excavation progresses an impressive 265 ground anchors, 344 soil nails, 579 rock bolts, and 40,000 cubic metres of concrete will be used for the station box.

A busway retaining wall has been completely demolished and fencing put in place. A water treatment plant has been commissioned and is operational and a crane pad has been completed for the crawler crane for the canopy installation.

Canopy tubes have been installed to provide necessary ground support while the 24-metre-wide cavern under the existing busway and Park Road station is excavated.

In early 2021, Australia's largest crane was installed to manage the heavy lifting on site, and in April 2021 the first of two tunnelling excavators arrived.



WOOLLOONGABBA

Our Woolloongabba site has been a continuously busy hive of activity since early works began in August 2017, with the start of progressive demolition of the three buildings which were previously housed on the site - the Goprint, Landcentre and the old South Brisbane Dental Hospital buildings.

Over 45,000 tonnes of building waste were removed before the site during these demolition works, after which the site was completely cleared ready to hand over to the major contractors in September 2019.

“
*You think it's a big hole
now, come back next
year and you'll really
see something.*”

Jeremy Kruger
Project Director, Tunnels & Stations



The four-hectare site at Woolloongabba is the largest of our worksites and has been the launch site for the tunnel boring machines (TBMs) that are now digging our twin tunnels.

Preparing the site for the arrival of the TBMs and the start of tunnelling in early 2021, has been the driving focus for the Woolloongabba team.

This work has included excavation of the 170-metre decline and excavation of the 30-metre-deep station cavern by two roadheaders.

There's been plenty of work above ground as well with the construction of maintenance sheds, workshop and storage sheds, a massive acoustic spoil shed, a tower crane, as well as a massive gantry crane which can lift up to 280 tonnes.

And if all that wasn't enough, there was extensive work going on off site, such as the refit and refurb of the two TBMs at Herrenknecht on Brisbane's northside (see pp 28 for more information on this).

The team at Wagners at Wacol have also been hard at work, literally night and day, to produce the 25,000 concrete segments needed to line our tunnels.

Each tunnel ring requires six segments and we need 4,157 rings to line both tunnels.

Once ready they'll be transported to the Woolloongabba site to be loaded onto the TBMs which will install the precast segments into the tunnel. These segments are so heavy that one massive truck can only carry six segments at a time.



MEGA MACHINES

Cross River Rail is a mega project and we need mega machines to build it.

We have 5.9 kilometres of underground tunnel to construct in total under Brisbane and the Brisbane River, drilling through some very hard rock - Brisbane Tuff and Neranleigh Fernvale.

Since May 2020, roadheaders have been hard at work excavating the station caverns at first Roma Street, then Woolloongabba and then Albert Street.

These 22-metre-long machines each weigh 115 tonnes each and with an odd looking ‘pineapple’ rotating drum they can cut through the tough rock and excavate approximately 50 tonnes per hour.

In August 2020, work began at Pinkenba on refitting and refurbishing our two Tunnel Boring Machines (TBMs) which are the same machines that dug the Sydney Metro. The machines were then fitted with new cutterheads which act

as a drill that can drill through rock harder than concrete.

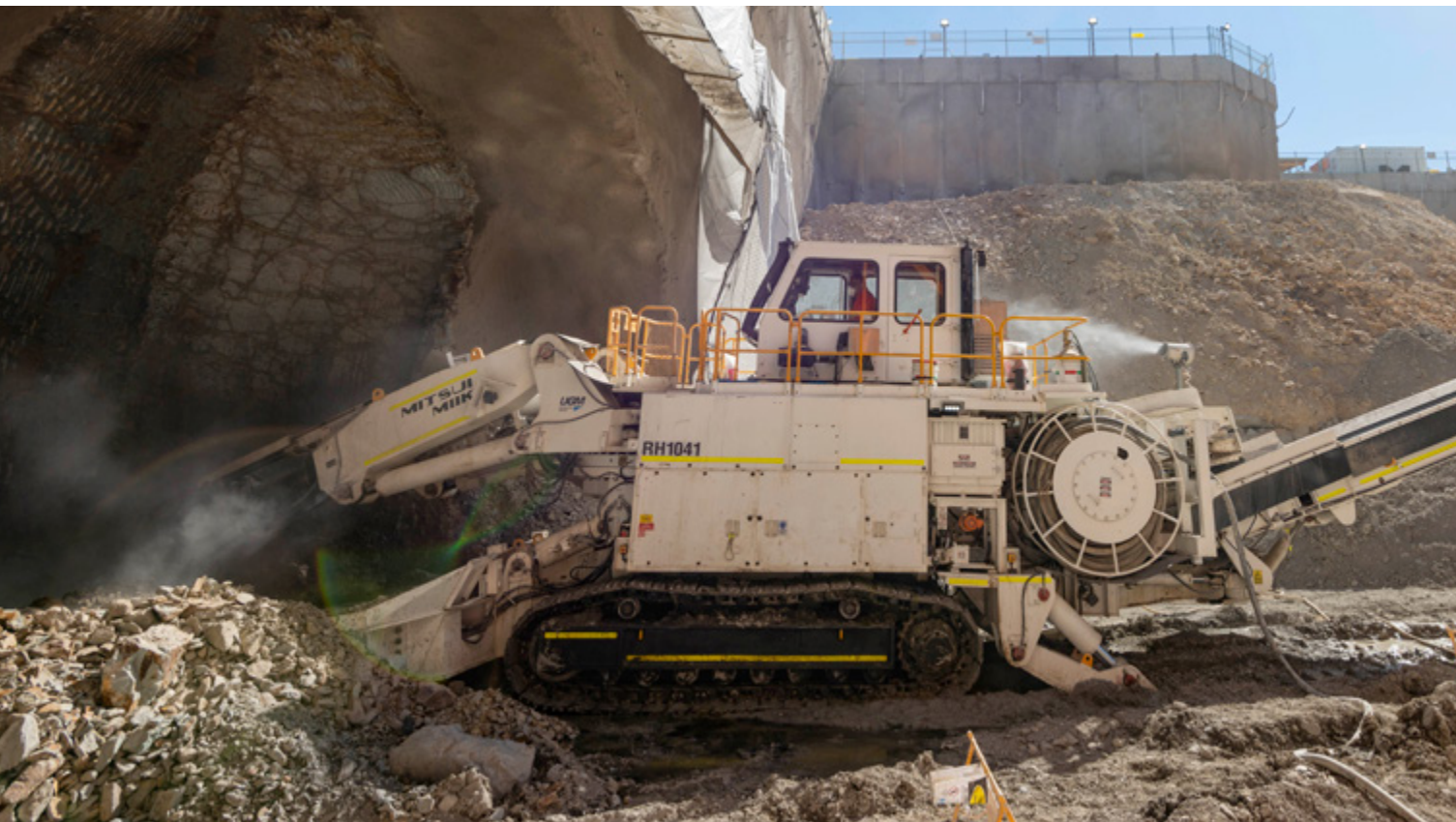
These massive machines each weigh 1,350 tonnes and are 165 metres long, and can tunnel between 20 to 30 metres per day.

Once the refit was complete, the machines were rigorously tested before being disassembled, loaded onto multiple trucks and then transported to the Woolloongabba site.

Once there the pieces were lowered into the 30-metre shaft by a giant gantry crane and then reassembled in the cavern, and the two TBMs got to work heading northwards underground towards the Brisbane River and Albert Street.

While the TBMs head north throughout 2021, the roadheaders are heading south to dig the twin tunnels between Woolloongabba and the new Boggo Road station, and then onto the southern portal.

That is why at Cross River Rail, 2021 is very much our Year of the Tunnel!



“

It never ceases to amaze me, as an engineer, to see these gigantic machines fulfil what’s been drawn on paper into a remarkable piece of subterranean infrastructure. I get goosebumps just thinking of it.

”

Tai Luong
TSD Area Engineering and Tunnelling Manager



ALBERT STREET

Our Albert Street station will be the first station in the Brisbane CBD in over 120 years. It will also be our deepest underground station set at a depth of 49 metres with platforms at 31 metres below street level.

The platform for Albert Street will be 220 metres long and we are building two access points for passengers of the station. One will be at the corner of Mary and Albert and the other will be near the corner of Albert and Elizabeth Street.

There are three worksites for the Albert Street station: Lot 1 the site of the main entrance above the station cavern; Lot 2 access shaft; and Lot 3 for the second entrance closer to Queen Street Mall.

Since work began at Albert Street in September 2019 progress has been relentless with a complete transformation of all three worksites.

We have closed sections of Albert Street to through traffic

between Mary and Charlotte Streets and then also the section between Charlotte and Elizabeth Streets, but we have maintained pedestrian thoroughfare throughout, in itself a massive planning challenge for the team.

Demolition works on Lots 1 and 2 began soon after handover of the site and by April 2020, both corner lots were down to street level and piling works were underway.

It's not all construction and heavy equipment at Albert Street; we are also very proud that pedestrians walking through the gantry between Mary and Charlotte Streets have enjoyed new art works since they were installed in April 2020, as part of our partnership with the Brisbane Street Art Festival.

On Lot 2 a massive Acoustic Shed was built and excavation of the 14-metre wide tunnel access shaft completed. Piling and excavation works commenced on Lot 1, with around 43,000 cubic metres of rock and soil to be removed from



the station box shaft which is now approximately 15 metres at its deepest point.

The one-year anniversary in September of Albert Street works saw the commencement of tunnelling and two roadheaders have been at work tunnelling the 31-metre deep tunnel, and also saw the start of works on Lot 3 for the second entrance of the station.

By December 2020, demolition works at Lot 3 were already completed and archaeological investigations underway. In 2021, piling works have been underway to install the 69 piles, up to 30 metres deep.

Work on this site has been fast-paced and momentum maintained to ensure the station is ready to receive the tunnel boring machines when they reach Albert Street in 2021.

“
Albert Street is very different, we're a lot more constrained in size. We have thousands of people walking through the site and we have residential towers beside us.
”

Dusan Ilac
TSD Area Engineering Manager



ROMA STREET

With the addition of our new underground station, Roma Street will truly become Brisbane's 'Grand Central', connecting passengers with the existing suburban bus and rail networks, as well as regional and interstate bus and train services.

Construction began on this site in September 2019 and the incredible pace of work since then has resulted in the completion of one of the largest demolition projects in Australia being completed one year to the day from when work was announced to commence.

The demolition of the Brisbane Transit Centre was a mammoth effort. It incorporated three buildings which were taken down in sequence, starting with Hotel Jen and then the East Tower and finally the West Tower. Work began after the completion of construction on the new long-distance Coach Terminal which was previously operating from the Brisbane Transit Centre.

Over the course of one weekend in March, the Roma Street footbridge was demolished over 47 continuous hours of work to reduce disruption to travel and transport services.



Despite the magnitude of the Transit Centre demolition, remarkably this was not the only work done at this site. A huge acoustic shed was constructed over the tunnel access shaft on the site adjacent to Hotel Jen.

Both the acoustic shed and the 18-metre-deep access shaft excavated inside the shed were ready in time for the arrival of the project's first roadheader which commenced tunnelling on 15 May 2020.

Also at this time, work had commenced on demolition of the busway platform 1 at Roma Street and then the construction of a new busway platform which was completed and then reopened in October 2020.

There have also been geotechnical investigations, utilities works, surveys, piling works, spoil removal and continued interface with many, many stakeholders.

And throughout all this activity, the team have ensured safe access for passengers of the local and interstate train and bus services, as well as visitors to Roma Street Parkland.

Below ground the tunnelling works which began in May 2020 have continued, now with two Roadheaders doubling the progress.

What an amazing program of work for the Roma Street team, and there's more still to come!



“
There are a lot of challenges around the travelling public and maintaining their safety while we're demolishing the Brisbane Transit Centre.
”

Tony Joslin
TSD Area Engineering Manager



December
2019

December
2020

NORTHERN PORTAL

The northern tunnel portal is located within the existing rail corridor at Normanby and is where trains will enter and exit our Cross River Rail twin tunnels.

Since September 2019, the RIS team worked to ready the site for handover to the TSD team.

This immovable deadline was the driving force behind the impressive progress of the RIS team in the Northern Portal whose program of work included: retaining wall works, drainage works, earthworks, decommissioning of redundant rail infrastructure, signalling works and Victoria Park sewer relocation works.

In November 2020, the team celebrated a tremendous milestone with the first permanent section of rail track to be laid in the Normanby rail corridor.

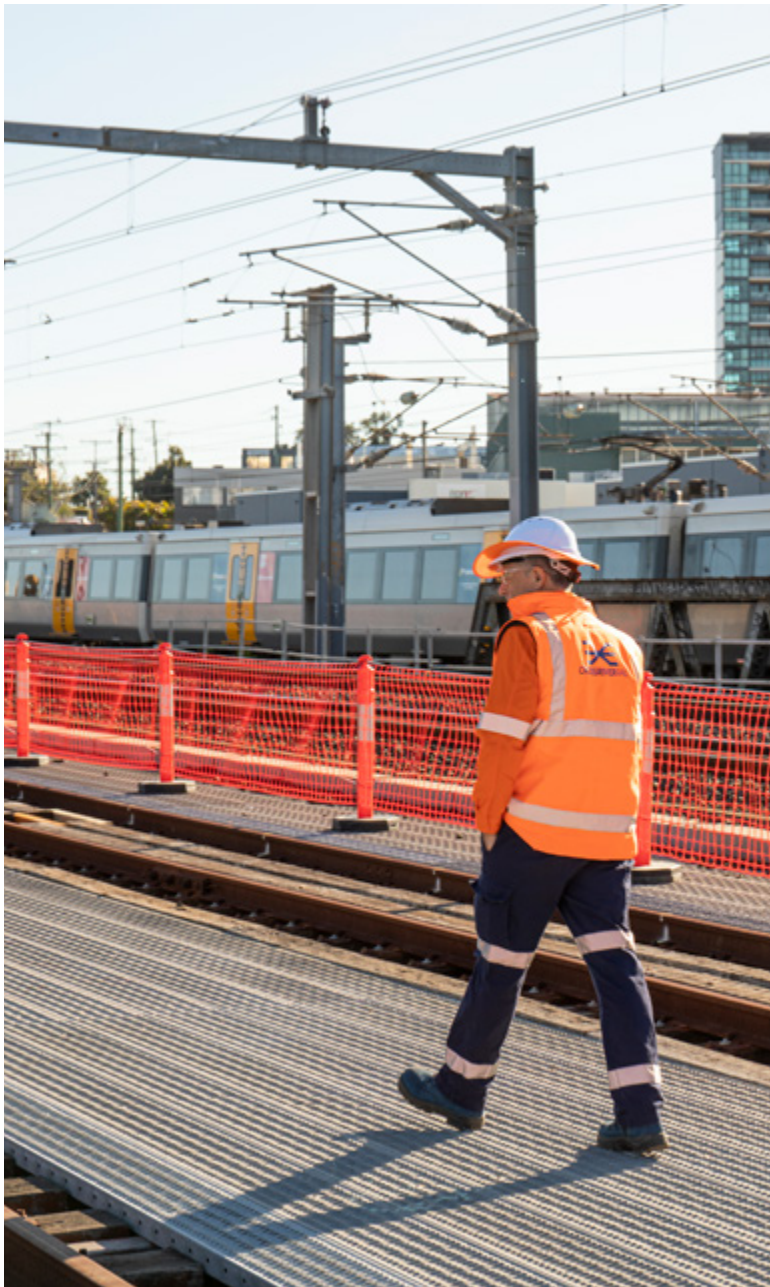
Congratulations to the RIS team for the early handover of the site to the tunnelling team.

With the baton passed smoothly from the RIS team to the TSD team, work has continued with further earthworks, piling and drainage works.



“
There is one particular milestone that is indelibly inked into the team’s minds, which is CIM B5. This is the handover to TSD at the end of the year.
”

Cameron Bird
RIS Area Manager



CUSTOMER AND OPERATIONAL INTEGRATION

Two key areas which need careful planning as we build our massive project are led and managed by our customer and operational integration team.

The first is helping us to mitigate community impact from construction related disruption and the second is preparing for when Cross River Rail becomes operational.

The track possessions and construction related disruptions have been managed extremely well by our Customer and Operational Integration (COI) team working with our partners at Queensland Rail, TransLink and Transport and Main Roads. The number and length of track possessions will increase as the project progresses and the team’s management of these passenger impacts is vital.

The highly successful diversion of bus services from the busway onto Roma Street during the demolition and rebuild of the busway 1 platform in 2020, is a great example of how the COI team’s work supports the outcomes of the project. During this time thousands of buses and passengers were disrupted from their normal behaviours and were diverted to new travel patterns.

This disruption affected not only bus users and drivers, but also people who transfer at Roma Street from other services to the busway, drivers, cyclists and people using the local facilities. It required great stakeholder engagement, coordination with the contractors and other



“
Cross River Rail will significantly change the operations of all transport modes. We work with all parties to ensure that the new transport network achieves the customer benefits outlined in the Project’s business case.
”

Bridget Goldsworthy
Operational Readiness Manager

key agencies, as well as strong communications with the affected community and transport users. All went smoothly and services were resumed on the busway once the new platform was completed and commissioned.

At the same time as helping us to manage the current impact of our project, the COI team are also planning for when we begin operations in 2025.

Between now and opening day, the team are working with our key partners to integrate our new 10.2 kilometre line seamlessly into the day-to-day operation of the rail network. If this wasn’t complicated enough, this also means the team is looking after the integration of the new Gold Coast stations into the services on the Gold Coast line and the integration impacts of introducing a new signalling system to the network with ETCS.

EXHIBITION & MAYNE YARD

Everyone loves the Ekka! Once a year the RNA Showgrounds, and the train station on site, come to life and thousands of people flock to the area for fun, rides, show bags, dogwood dogs and to experience a little touch of country life in our inner-city.

The Exhibition line opened in 1882 as part of the Roma Street to Sandgate railway line. In more recent years however, the station has only been opened once a year for a fortnight in August to make the annual pilgrimage to the Ekka.

With our project, the once a year train station will soon be open every day, all year-round, connecting the station to the broader network giving improved transport options for

hospital workers and visitors, local residents, convention goers, and people enjoying a night out.

Community consultation on the concept designs for the new station was done in January and February 2020, and this feedback has been rolled into the development of the updated station design.

Our Rail, Integration and Systems team have commenced construction works for this new surface station which presents a very different challenge to the construction of our four underground stations.

Viaducts will be constructed to support the rail tracks and train platforms over the RNA showgrounds. A twin track rail viaduct for northbound trains will be constructed first and then a single-track viaduct for citybound trains.

Demolition of the existing western station platform commenced in December 2020 and while this line is only used for freight and long-distance services, construction

planning needs to cater for this usage as well as the annual August services for Ekka.

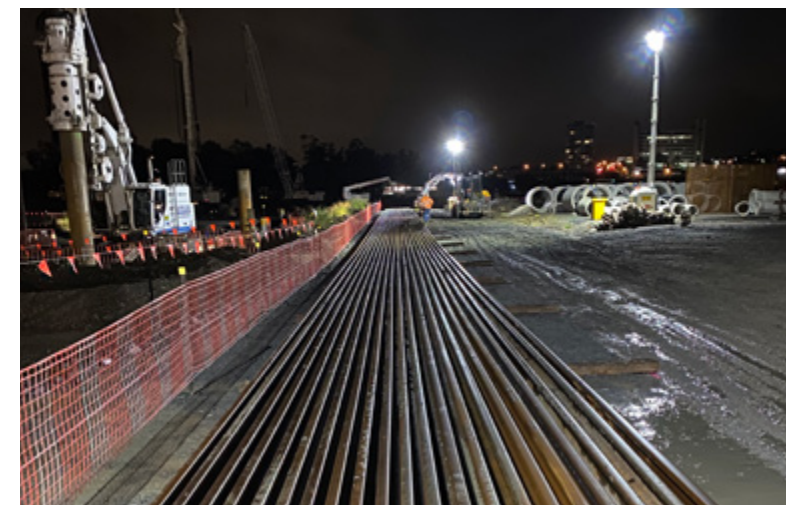
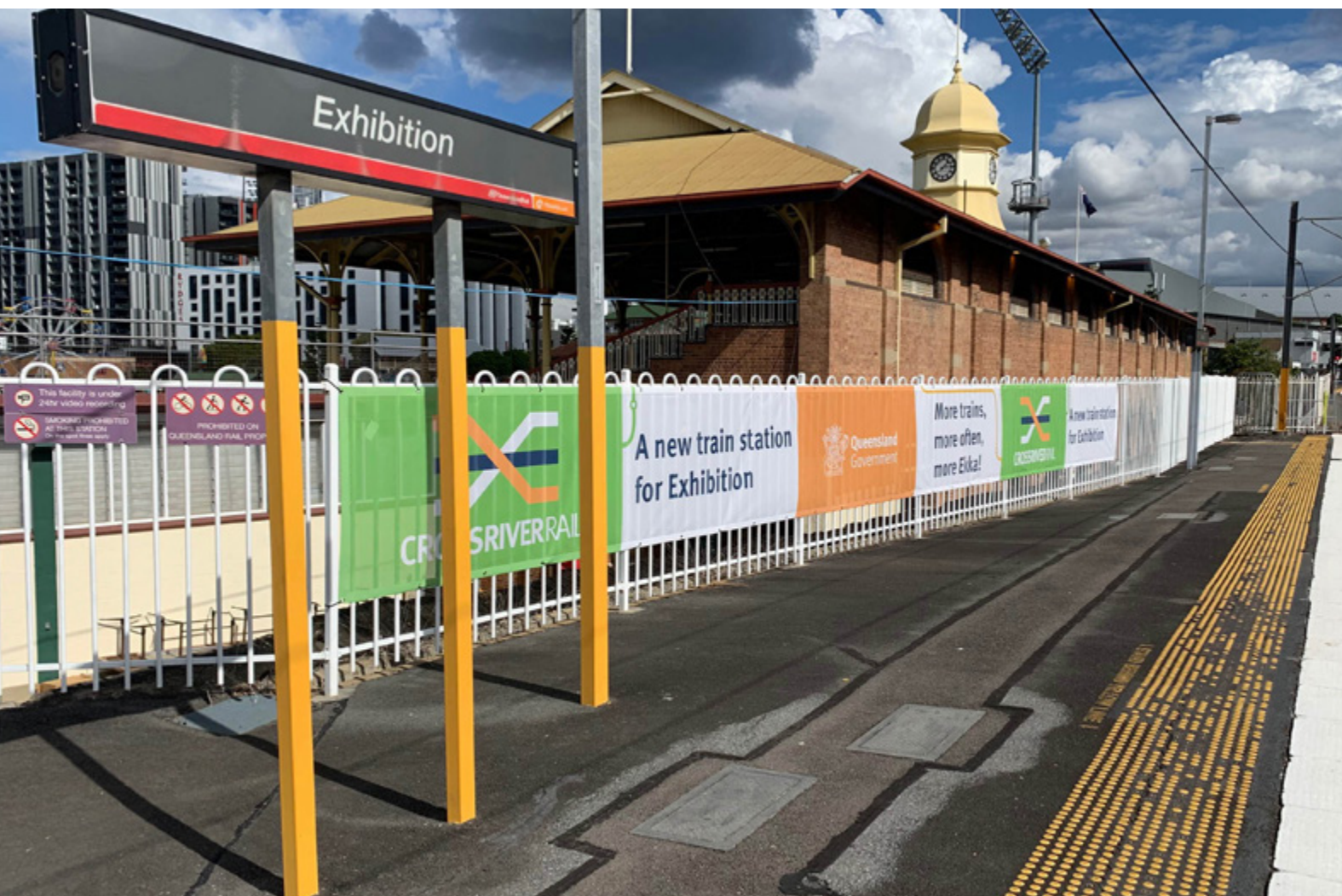
Works are well underway within Queensland Rail's train stabling facility at Mayne Yard, to create new stabling facilities, employee offices and maintenance facilities. The team have been working on demolishing redundant buildings, earthworks, drainage installation, cable route installation, bridge pier protection works and signalling works.

While we have separate works packages to deliver our project, we are one project and working across our separate packages sometimes provides innovative and cost-efficient solutions.

A great example of this has happened with our TSD team and our RIS team, where crushed rock excavated from the cavern under Roma Street for our new underground station has been used to create a stable base for new facilities at Mayne Yard.

“
The most rewarding element of my role as PM for RIS, is seeing a package of work successfully handed back to Queensland Rail Operations without incident.
”

Dominy Rodgers
RIS Project Manager, Program Delivery



EUROPEAN TRAIN CONTROL SYSTEM (ETCS)

Since ETCS joined the Cross River Rail team in 2018, we've all become much more familiar with the signalling system and why it is so important to both Cross River Rail and to the wider rail network.

ETCS is a significant change from the existing signalling system and it will deliver a range of benefits, not least of which are safety, capacity and reliability.

Since contract close with Hitachi Rail in October 2019, we've been working alongside Queensland Rail and the Department of Transport and Main Roads on the early works needed to replace the network's existing signalling assets.

The Shorncliffe line will be where we will test drive the new system.

To prepare for this we've been finalising the system design, as well as installing the necessary trackside equipment

inside the rail corridor. At Eagle Farm the team has established a purpose-built System Integration Lab which houses system hardware and software used to test and validate the end-to-end system in a safe and controlled environment.

The team has also established an equipment assembly facility at Hendra where all the signalling equipment and housing are being assembled and stored.

In October 2020, we took possession of a train fitment facility at Redbank where the Queensland Rail rollingstock will be modified with the required on-train systems.

The first train cab off the rank to be fitted with the system will be the in-cab prototype and after it's been endorsed, over 120 trains will be fitted with the new system requirements. Endorsement from the drivers, the end users, is essential.

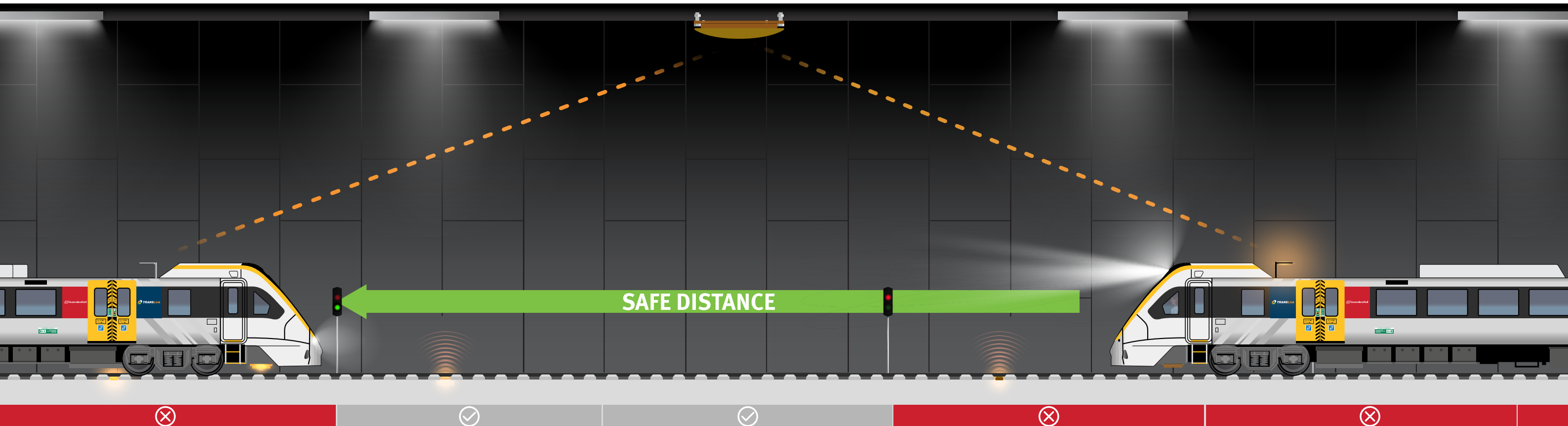
To that end we're working closely with Queensland Rail

on operational readiness with a focus on training, design, consultation with the train crew and signallers. This system will be a big change for drivers and given they will be driving these trains and will be controlling the signalling, it is vital the system is right for them.



“
Signalling is the absolute heart of the railway system and the deployment of ETCS is a really good opportunity to bring assets up to a new standard to really drive up increases in performance and reliability.
”

Simon Cook
Project Director, ETCS





SOCIAL INTEGRATION

PARTNERSHIPS

At Cross River Rail we work collaboratively with our major contractors, other agencies and government departments, as well as specialist suppliers and providers.

We also work with some organisations as partners.

During the AFL season we work with the Brisbane Lions and the Gold Coast Suns to share with their fans just how the improvements Cross River Rail will make possible will benefit transport options for game days. We also invite their fans to provide their input to us through online surveys.

We have a similar partnership with the Brisbane Heat during the cricket season.

Some of our partnerships are to support good causes, like Orange Sky.

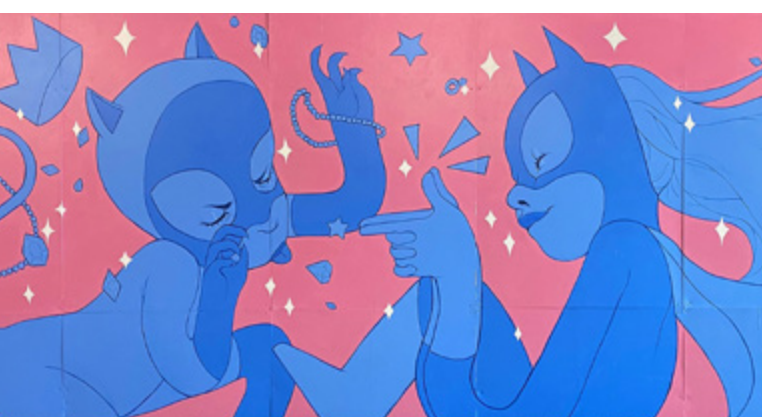
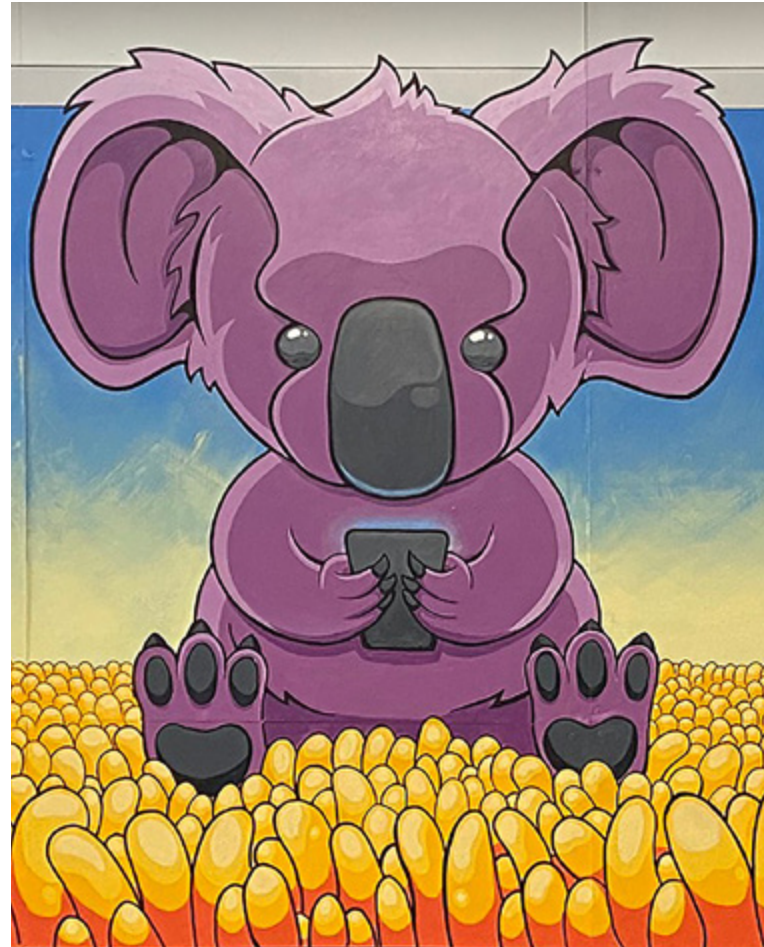
In 2020, 10 staff members including our CEO, took part in the Sudsy Challenge, signing up to wear the same clothes for three days to raise awareness of the difficulties people experiencing homelessness face every day, and raising \$3015 to support the fantastic work of the Orange Sky team.



STREET ART

In April 2020, Cross River Rail took part in the Brisbane Street Art Festival which promotes and celebrates vibrant, diverse art.

The festival is sponsored by the Brisbane City Council and our project commissioned 11 striking artworks to brighten the pedestrian walkways around our Albert Street site and transform them into a street art gallery showcasing some of Brisbane's best street artists.



BRISBANE FESTIVAL

Art goes underground

In 2020 Cross River Rail was challenged to get creative when reaching out to the general public to share information about our project. In September, we partnered with Brisbane Festival 2020, who had pivoted the Festival's format to a series of small, pop-up performances around the city due to COVID-19 restrictions, and this was a perfect fit with our project's multiple inner-city worksites.

Through this partnership Cross River Rail presented three fabulous events: All you need is love – a brass band and dance troupe flash-mob; the Roma Street Serenade with Tyrone Noonan; and the very special performance with the Camerata Queensland Chamber Orchestra 'Art Goes Underground' filmed in the tunnel cavern at our Woolloongabba worksite.



“
It was a great experience working with Vast Yonder (BrisFest) on the mural installation for our Mary Street pedestrian gantry, and to help bring local artists' visions to life!
”

Talia Rose
Stakeholder Engagement Officer



Archaeological finds at
Albert Street site revealed

Roma Street Acoustic Shed
CRR branding installed

Albert Street station shaft
excavation begins

Launch public
information campaign

600 piles completed across Woolloongabba,
Albert Street and Boggo Road

Fairfield station upgrade
works begin

COMMUNITY ENGAGEMENT

Cross River Rail has undergone many iterations since its original design. With such a large infrastructure footprint right across South East Queensland, it is vital that we raise public awareness of the benefits of the project as well as impacts of construction.

Our stakeholder engagement team and project delivery teams work closely with key stakeholder groups and the local community to bring them along the construction journey and keep them up to date with the construction activities happening in their area.

It is an important job for all of us to support activities which keep the community informed of our project's progress, milestones, benefits and activities, including construction impacts.

We have all taken our turn attending pop-up information events at Suncorp Stadium, the Gabba, the Ekka and other festivals, sharing information with the public about our project.

In 2020, we were limited in the number of events we could attend due to COVID-19 but thankfully in 2021 we are ramping up our engagement activities again. Already we've attended nine events this year attended by over 50,000 people – that's getting our message out there!

“
Stakeholder Engagement is more than speaking to the public. We play a role in design reviews and construction programming. Our aim is to foresee issues and proactively manage them.
”

Sally Brough
Stakeholder Engagement Manager



EXPERIENCE CENTRE

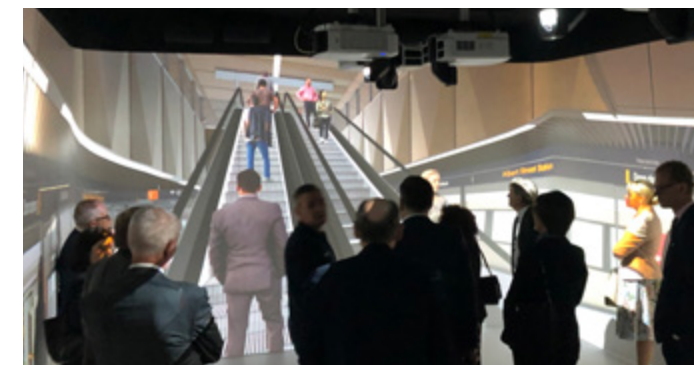
In 2018, the team started work on developing a visitors' information centre for our project, looking to create a unique and exciting experience befitting Queensland's largest infrastructure project.

Queensland Museum supported the team with advice and expertise, and suppliers were sourced who could provide the sophisticated technologies needed to bring our vision for the Centre to life.

In September 2019, our Experience Centre was officially opened. It seamlessly integrates the project's Digital Network Approach (DNA), the Songlines indigenous experience, history of the areas along our project's corridor, and technical construction information about the project.

It is a digital first, immersive hub for education and community engagement, as well as a tool for planners and engineers able to put themselves at scale into the project's built environment.

The centre continues to evolve with new exhibits, information and engaging activities and will be a lasting legacy beyond the construction life of the project.



“
At the Experience Centre we can take the community on a journey with us, showcasing how we as Queenslanders are accomplishing world firsts, driving innovation and shaping our legacy.”

Jordan Haimes
Community Engagement Officer
Strategy & People





PRECINCT DELIVERY

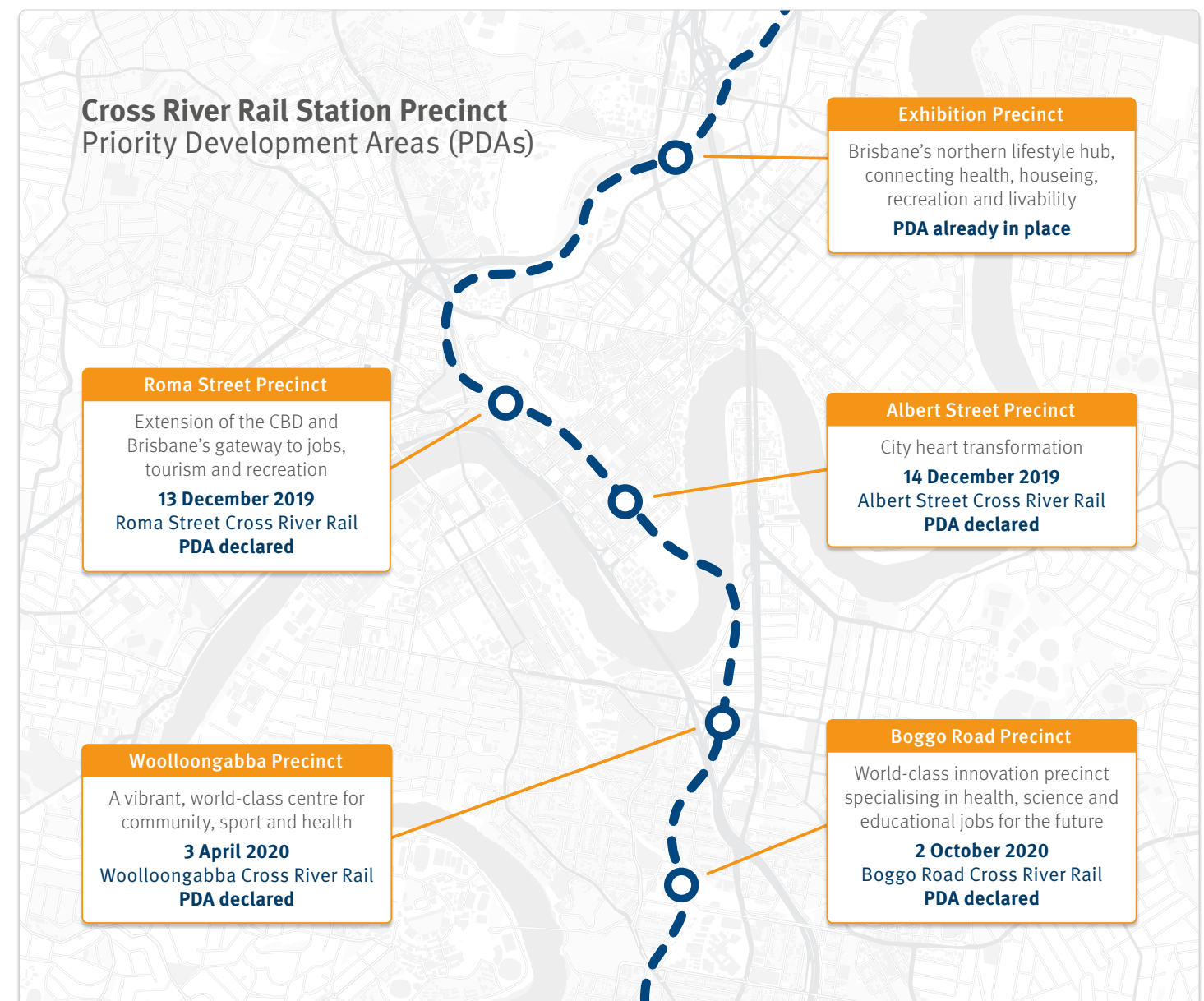
VISION

Cross River Rail is more than just a rail project and since 2017, the Delivery Authority has been asked to plan and deliver not only Brisbane's new underground but also economic development at the project's five main station sites.

This has included the task of having Cross River Rail Priority Development Areas (PDAs) declared for all four of our underground station areas. These PDAs will support the delivery and construction of our project as well as create development opportunities of key inner-city areas.

Over the course of 2019, we also worked collaboratively with a wide range of government agencies and stakeholders to develop the Precincts Delivery Strategy.

This strategy sets out a vision for how transit-oriented development surrounding each of our five new inner-city stations could stimulate investment and development opportunities to create world-class places and help transform the whole of the South East Queensland region.



BOGGO ROAD

The new Boggo Road Station is at the centre of one of Queensland's most significant health, science, knowledge and technology precincts. The precinct strategy looks to build on the area's potential and continue to develop the area as a connected, integrated, accessible, liveable and vibrant location.



WOOLLOONGABBA

Our new Woolloongabba station will be just a few minutes journey from the CBD, and will enable high-capacity, frequent rail services into the heart of Woolloongabba for the first time, improving transport options for the local community as well as for large events at The Gabba.

The Woolloongabba Cross River Rail PDA, declared on 3 April 2020, will enable us to plan, coordinate and deliver future precinct connectivity upgrades, including a possible station-to-stadium connection.

Work done on our Precincts Development Strategy shows the new station will also be a catalyst for a vibrant new urban community including access to significantly expanded public and green space.

“
I love the idea that I am involved in a project that is changing Brisbane for the better. I cannot wait to show my kids the project.

Katie Hill
Facilities Coordinator, Corporate



ALBERT STREET

Sitting in the heart of the Brisbane CBD, the new Albert Street station will dramatically improve connectivity for work, study and recreation. The stations' proximity to the City Botanic Gardens, parliamentary district, the Waterfront Precinct and Queen's Wharf Brisbane will make new development in this precinct even more attractive.

EXHIBITION

The Exhibition station precinct is a key gateway between the inner city and Brisbane's northern suburbs. The new high-capacity station, open all year round, will provide services for workers and visitors to the Royal Brisbane and Women's Hospital and Herston Quarter, and it will also support continued redevelopment of the RNA Showgrounds and growing King Street lifestyle precinct.





ROMA STREET

Roma Street will become Brisbane's 'Grand Central' with the addition of the Cross River Rail underground station connecting passengers to the existing suburban bus and rail networks, the Brisbane Metro, as well as regional and interstate bus and train services.

The Roma Street Cross River Rail PDA was declared on 13 December 2019 and makes it possible for the project to provide unique development opportunities in the area. It will unlock under-utilised land to stimulate jobs and investment, and turbo charge tourism and recreation for the whole of the State to enjoy.



“
*No matter what your role is
on the project, the satisfaction
that comes with being involved
with such an iconic project is
very gratifying.*
”

Leo Reynolds
RIS Deputy Project Manager

The Brisbane Live entertainment arena proposal is a great example of the new assets Brisbane could gain through our Precincts Delivery Strategy. Globally, venues of this nature, located next to high-capacity train stations and with connections to other public transport modes, can re-invigorate an entire area.

Above all else our vision for the precinct is to inspire opportunities that would help Brisbane continue to evolve as a world class city.



OUR SOCIAL RESPONSIBILITY

PLANNING AHEAD

Future accessible design

To ensure our future stations are built to the highest accessibility standard, we've been working with members of our Accessibility Reference Group, which includes representatives from other government agencies, our major contractors and accessibility experts who represent many and varied special interest groups.

These ongoing conversations are helping us to ensure that our new stations and upgraded stations are disability compliant with contemporary universal accessibility design standards and offer a quality customer experience.

A fantastic example of our shared commitment to accessibility would be the Unity team working with us to create a 3D printed model of the Fairfield station upgrades.

Tactile braille information about the station upgrades was added to the model, to assist people living with blindness or low vision to participate more easily in the community consultation.



“

As a blind person, it's important to be included in the consultation and to be given the opportunity to explore by touch the changes to be made to the upgraded Fairfield station.

”

Wendy Sara
Production Manager, Braille House



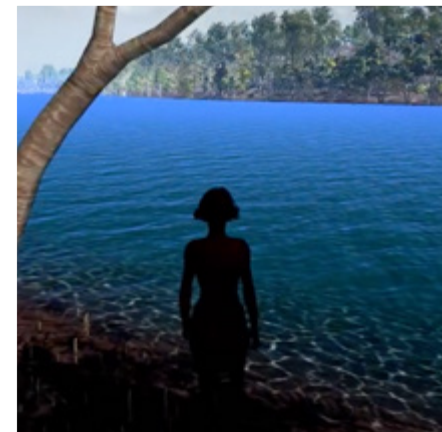
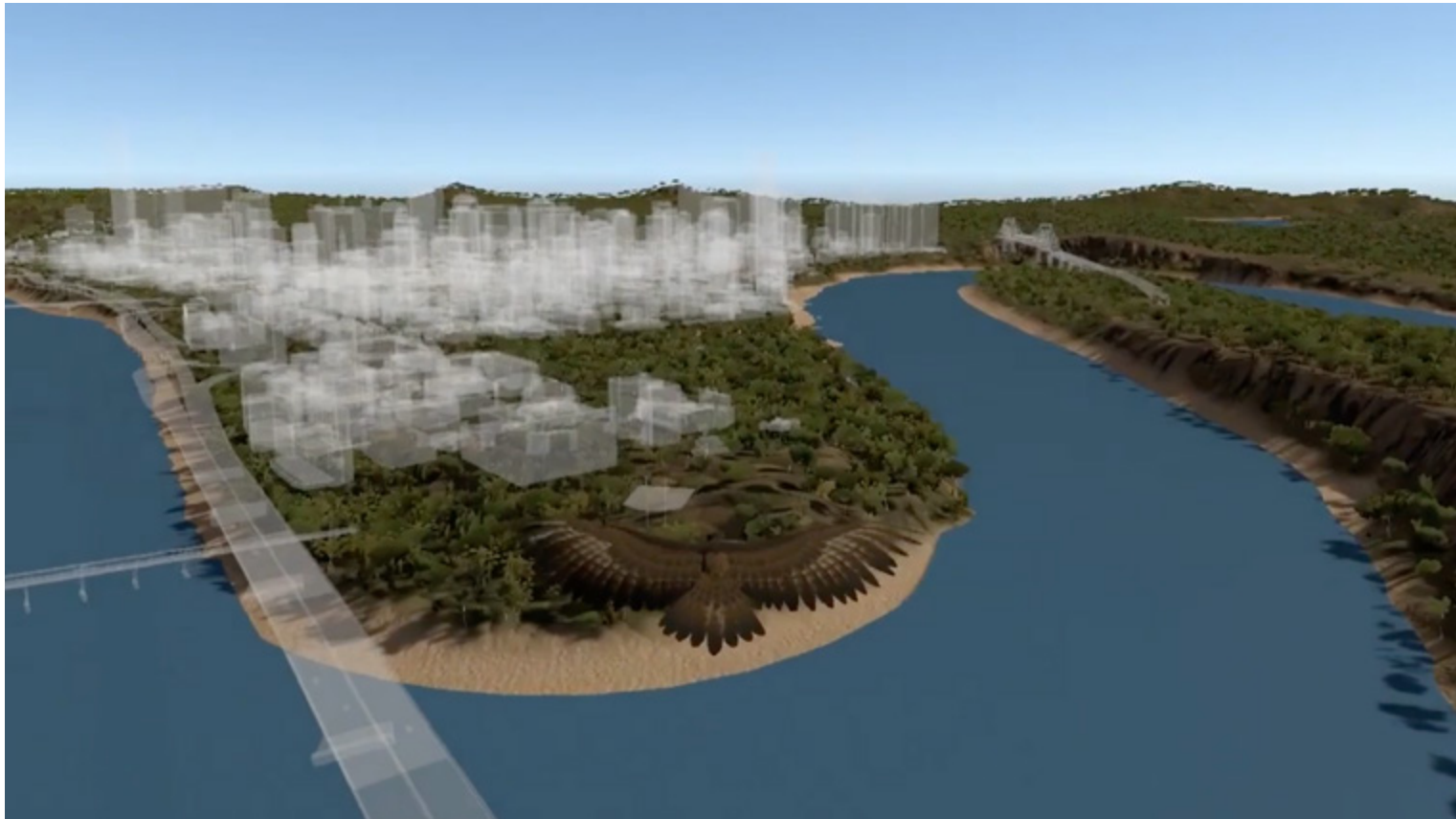
HONOURING OUR CULTURAL HERITAGE

Songlines

While our focus at Cross River Rail is usually on what the future will look like when our project is complete, we are also committed to acknowledging and honouring the cultural heritage of our station sites.

In collaboration with indigenous digital specialists Bilbie Labs, we have created a series of stunning, immersive experiences using their Virtual Songlines digital heritage platform.

In this virtual reality world, you can see first-hand what the environment and life was like in 1819 for the First Nation peoples at the locations of each of our future stations. You can walk through the native bushlands that covered the area that is now Brisbane CBD, wander the banks of the Brisbane River and learn about the native animals and plants found in the area, all while interacting with the First Nations people who inhabited each location.



“
This stunning and extraordinary work will provide a cultural legacy that will live on well beyond the construction of our project.
”

Cameron Moor
Senior Communications Manager,
Campaigns

Boggo Road – Hunt

A place in the open woodland for hunting all types of grazing animals as well as turtles and fish.

Gabba – Dispute Settlement

A place for cultural activities, celebrations, tournaments, fight talk and lore making.

Albert Street – Gather

A place to gather reeds, frogs, ducks and fish. A treasure trove of medicinal plants and bushtucker.

Roma Street – Camp

A place of tournaments, initiation. A camp ground and meeting place for neighbouring tribes.

Exhibition – Dance

A place of corroboree, tournament, information sharing, culture and pride, with dance circle for initiation.

UNCOVERING THE PAST

Archaeology

As we dig deep at our four new underground stations, we have also been uncovering some fascinating artefacts which offer us some insight into life in Brisbane at the turn of the 19th Century.

At Woolloongabba we have uncovered old perfume bottles from 1885 and a ceramic toothpaste container from the same period; we also found ink bottles, gin bottles and evidence of a cobblers, complete with old boots.

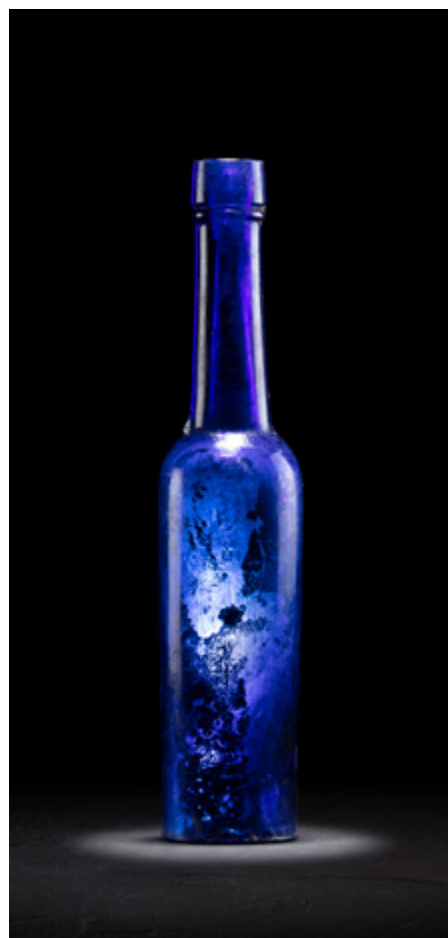
At Albert Street, we found over 200 artefacts from the time when a thriving Chinese community was living in the area. This included ceramics, and tobacco and opium pipes, as well boots, horse shoes large and small.

With plenty more digging ahead for the project, we're sure to find even more fascinating items. A more recent example is the cannon ball found at our Victoria Park worksite.



“
*This all tells us a bit more
about the domestic life, and
that it wasn't all vices and
drugs and alcohol. There were
many ordinary people getting
on with their ordinary lives.*
”

Dr Kevin Rains
Heritage consultant



TBM 1 delivered
to Woolloongabba

First permanent track
laid at Normanby

Demolition of Brisbane
Transit Centre completed

TBMs officially named
Else and Merle

Strongest crane in southern hemisphere
arrived at Boggo Road

TBM Else starts
tunnelling

TUNNELLING UNDERWAY

On 4 February the first of Cross River Rail's two Tunnel Boring Machines – Else – began her 3.6-kilometre journey tunnelling under the Brisbane River and CBD, through to the northern portal at Normanby by the end of this year.

TBM Merle commenced tunnelling one month later.

Else and Merle will do some heavy lifting – tunnelling through rock that's harder than concrete, removing 290,000 cubic metres of spoil, hitting a depth of 58 metres below Kangaroo Point, and 42 metres below the Brisbane River.

Both TBMs have also begun installing the first of 25,000 precast concrete segments that make up the rings to line the twin tunnels.

Roadheaders are continuing to excavate the station caverns at Albert Street and Roma Street ahead of the TBMs arrival, with the cavern excavation at Woolloongabba now complete.

Two roadheaders are also well underway drilling the twin 870-metre-long twin tunnels south from Woolloongabba to Boggo Road and the Southern Portal.



MEET OUR GROUNDBREAKERS – Else & Merle



Professor Else Shepherd AM

At school, Professor Shepherd loved maths and physics, and although her father encouraged her to study medicine, she chose her own path and studied engineering at The University of Queensland (UQ).

In 1965, Professor Shepherd was one of two women who became the first in Queensland to graduate with a degree in electrical engineering.

After graduating, she married and moved to Mackay to work as a sugar industry process engineer. It was at a time when it was unusual for married women to work when they did not need to, especially in a factory.

When she joined the Institution of Engineers Australia in the 1960s, she was unable to attend their meetings, which were in a men's only club, but she insisted on a venue change so she could attend. In 2000, the same professional body named her the Queensland Professional Engineer of the Year.

Professor Shepherd served as chair of Powerlink Queensland for 17 years, has founded her own companies, was appointed a Member of the Order of Australia in 2003 and received an honorary doctorate from The University of Queensland in 2011 for her status as a role model for women in non-traditional fields.

She is currently Adjunct Professor and CEO in Residence at Queensland University of Technology's Science and Engineering Faculty.



Merle Thornton AM

On March 31, 1965, Merle Thornton and friend Rosalie Bogner chained their ankles to the front bar at the Regatta Hotel and demanded a drink, in protest of liquor laws at the time that banned women from public bars in Queensland.

The protest made international headlines and in 2009, then-Premier Anna Bligh announced it as one of Queensland's most defining moments as part of Q150 celebrations.

Although the protest is what Mrs Thornton is best known for, it was just one of many pursuits in her fight for women's rights and social justice. She established the Equal Opportunities for Women Association in 1965, and as its president led a successful campaign to end the 'marriage bar', which required women to give up their jobs in the Australian public service after they were married. While working as an academic at UQ, she introduced the first Women's Studies course in Queensland in 1973.

Mrs Thornton has written several academic papers on feminism and women's rights, and just this year at the age of 90, published Merle Thornton: Bringing The Fight, a memoir about her life and her activism.

The bar she famously chained herself to in protest is now named 'Merle's Bar' in her honour. In 2015, she was appointed a Member of the Order of Australia for her service as an advocate for women, indigenous rights and to the arts, and last month was awarded an honorary doctorate from UQ.



THE YEAR AHEAD

April 2021 to April 2022 will be Cross River Rail’s biggest year yet and one of our most intensive in terms of major construction.

Before 2021 is even complete, the Tunnel Boring Machines (TBMs) will journey from Woolloongabba under the Brisbane River and the CBD, to emerge at our Northern Portal at Normanby. At the same time, roadheaders will continue to journey southwards tunnelling from Woolloongabba to our Boggo Road station site and then on to the Southern Portal.

The construction teams at Boggo Road, Albert Street and Roma Street will all be on critical paths, to ensure they are ready for when the roadheaders and TBMs arrive at each site.

Above ground the momentum will also continue, as work at more than 12 worksites ramps up to ensure we achieve construction completion within 2024.

In Quarter 2 of 2021 alone, structural work will start at Boggo Road, piling will be completed at Albert Street, excavation will begin on the Roma Street station box, train fitment for ETCS will commence at Redbank, and work will begin at Yeronga.

And in Quarters 3 and 4 of 2021, the milestones will keep coming. The TBMs will arrive at Albert Street, earthworks

will begin at Fairfield, and the Boggo Road station cavern excavation will be completed.

The TBMs will move on to Roma Street, the crew change building at Mayne Yard will be completed, the Albert Street station cavern will be completed, construction will start on the Roma Street station building and of course, TBMs Else and Merle will both emerge at the Northern portal.

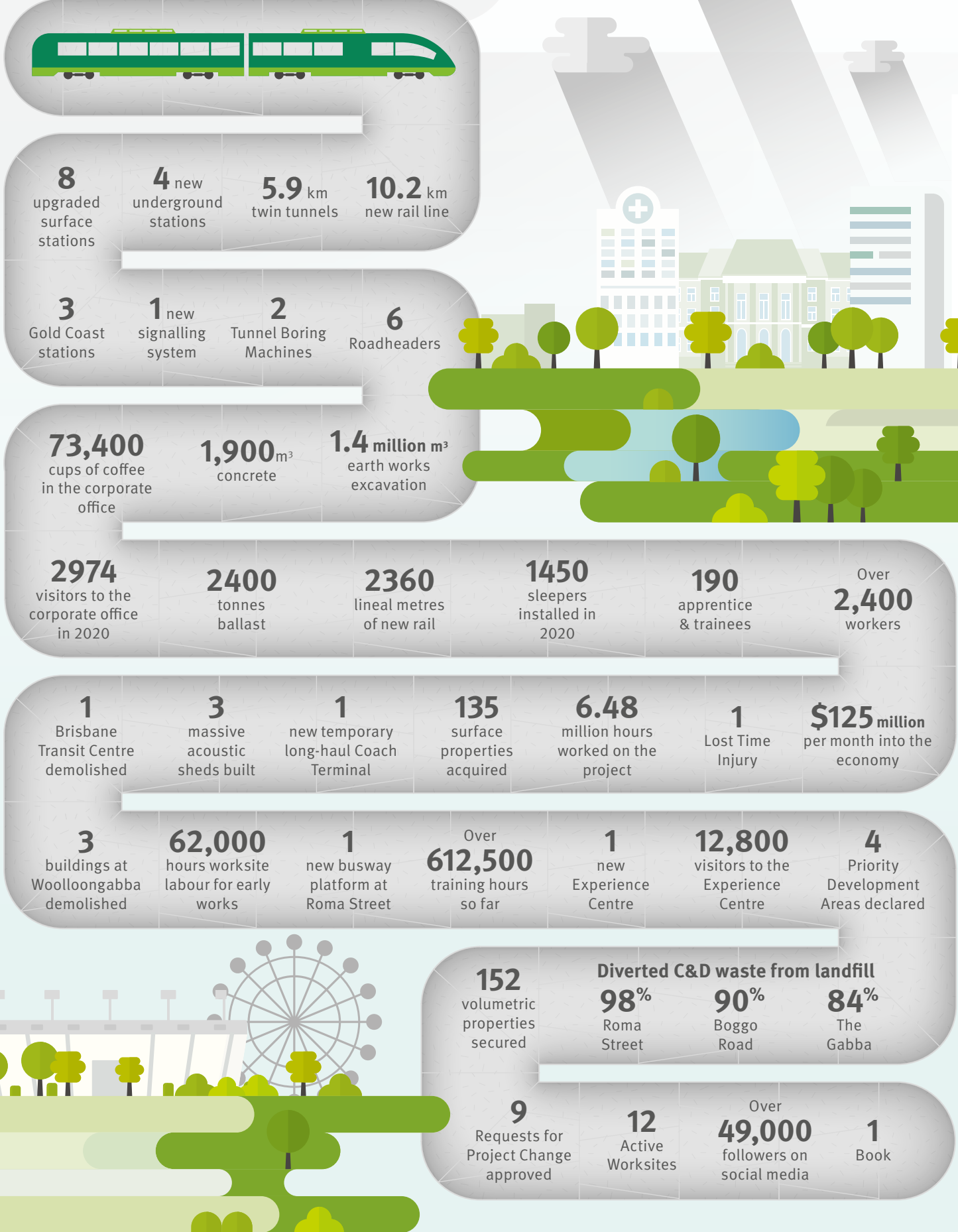
Meanwhile the Gold Coast team will continue geotechnical investigations, land acquisition, consultation, core design activities and critical survey works.

Station and train accessibility will be a key focus for all of us, as we fine tune our station designs.

Throughout the year there will also be the tasks that without our diligence, delivery could not occur, things like: operational readiness planning, community engagement, environmental planning and approvals, precinct planning, media announcements, information campaigns, systems integration, governance, finances, contractor compliance monitoring, website updates, safety checks, recruitment, learning and development, executive correspondence and a whole host of other tasks that fall to the Delivery Authority.



PROJECT BY NUMBERS





1800 010 875



info@crossriversrail.qld.gov.au



crossriversrail.qld.gov.au



Queensland
Government