

How we're building your new rail bridge



We're removing the dangerous and congested level crossing at Ruthven Street, Macleod by building a rail bridge over the road.

We're also building a new walking and cycling path along Ellesmere Parade from Ruthven Street to Davies Street.

With this brand new connection, locals will be able to enjoy over two kilometres of off-road walking and cycling paths from Macleod to Rosanna.

A new signalised and raised pedestrian crossing near the rail bridge will provide safer, more direct connections for everyone crossing Ruthven Street.

Removing the level crossing will make Macleod and Rosanna level crossing free, improving safety, reducing congestion and delivering more reliable travel times, building on the benefits to be unlocked by the North East Link Project.



Early works are underway, with construction for the new rail bridge and walking and cycling path starting later this year.

The boom gates will be gone for good and trains running on the new bridge next year. Landscaping works will begin in mid 2027.



New landscaping and walking and cycling path along Ellesmere Parade. Artist's impression - subject to change.

Building the new rail bridge

The Ruthven Street rail bridge will be approximately 600 metres long from where it begins to rise from ground level to where the bridge returns to ground.

Preparing to build the rail bridge

Before construction of the rail bridge can begin, we'll relocate overhead utilities and key utilities below the ground that the community use every day including power, water, drainage, communications and sewer services.

Piling

To support the rail bridge, we'll drill four main piles up to 20 metres deep and 2.7 metres wide into the ground.

A cylindrical steel reinforcement cage is inserted into the hole and concrete is poured in.

This creates a deep foundation called a pile that will support the bridge piers.

We'll also drill more than 100 smaller piles that will support the abutments and retaining walls.

Piers and crossheads

The piers and crossheads that hold the bridge up will be formed on top of four main piles.

They are made from a mould filled with concrete with a steel reinforced cage inside.

You'll see four piers with crossheads installed as part of the Ruthven Street rail bridge.

L-beams and U-troughs

The bridge will be built in sections known as U-troughs, made up of two L-shaped beams installed on top of the crossheads and connected in the middle.

The L-beams are made in Victoria and are supplied from casting yards in Kilmore. The L-beams will be up to 33 metres long – the longest used on a level crossing removal project.

Two L-beams will be lifted into place on top of the crossheads by cranes. The beams will then be connected with concrete to form a U shape.

This is where we then lay the ballast and tracks for trains to travel on the bridge.

We'll have 20 L-beams in total which will be joined together to create 10 U-troughs.

Five U-troughs will support the city bound trains and five U-troughs will support the Hurstbridge bound trains.

Abutments

The bridges will have a support structure at each end made of concrete which is called an abutment.

The abutments support the load of the bridge horizontally and vertically as it returns to ground level.

They play an integral role in ensuring the rail infrastructure is solid and secure.

Retaining and battered walls

At each end of the rail bridge, retaining walls will hold compacted soil in place to support the rail line as it rises from the ground.

A landscaped embankment, known as a battered wall, will run along the western side of the rail bridge on Ellesmere Parade. Planted with indigenous and native species, it will help soften the structure and support local biodiversity.



Lifting L-beams into place across Moreland Road, Coburg.

To minimise impacts to Rosanna Parklands, most of the rail bridge will be built from Ellesmere Parade.

To safely build the rail bridge, we may work in the parklands at times.

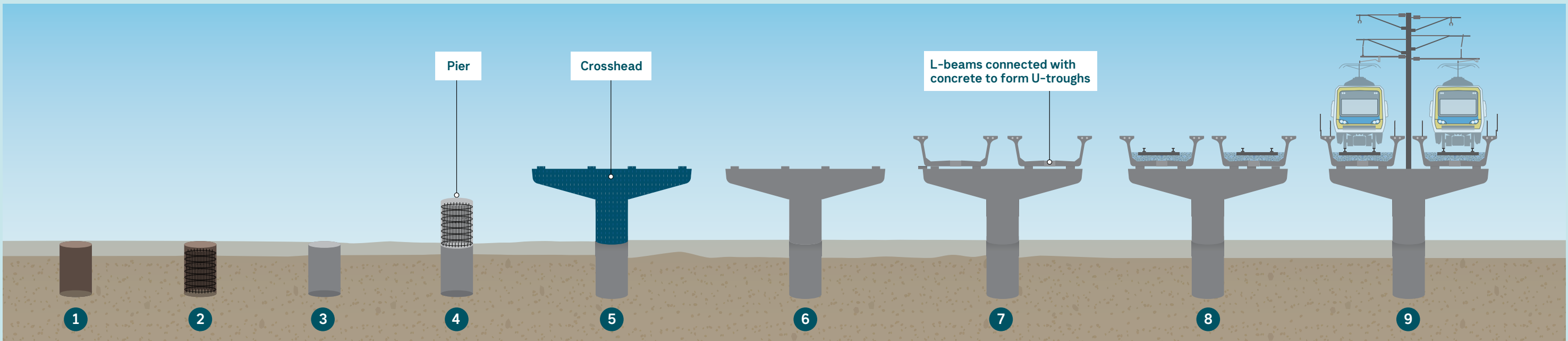
When construction is complete, any impacted areas within Rosanna Parklands will be reinstated with new landscaping. New landscaping will also be planted along the new walking and cycling path along Ellesmere Parade including trees, shrubs, groundcovers and grasses.

Step by step at Macleod and Rosanna

Building the elevated rail bridge starts with building strong concrete foundations.

1. Piling rigs drill holes up to 20 metres deep and up to 2.7 metres in diameter.
2. A cylindrical, steel reinforcement cage is inserted into the hole.
3. The hole is filled with concrete to form a pile.
4. A steel reinforcement cage is inserted on top of the pile.
5. A steel mould is placed around the cage.
6. Concrete is poured into the mould to form the pier and crosshead at the same time.

7. Long L-shaped beams are lifted on top of the crossheads. Each pair of L-beams are joined with concrete to form a U-trough.
8. U-troughs connect to abutments at each end of the bridge which support the structure and ensure it is secure. Retaining walls enable the tracks to return to ground level at each end of the bridge.
9. Ballast and train tracks are laid. Signalling, communications and overhead power equipment is installed. Trains can begin running on the new rail bridge.





New road bridge being built at Exford Road, Melton

Construction timeline

Mid year to late 2026

- Site set up
- Relocating overhead and underground utilities
- Foundation works for retaining walls and overhead structures
- Upgrades underway at Macleod College oval.

Early to mid 2027

- Macleod College upgrade complete
- Relocating utilities
- Buses will replace trains for about a month while we:
 - pile bridge foundations
 - install piers, crossheads and L-beams
 - complete retaining walls
 - install new ballast, sleepers and tracks into the U-troughs and in the rail corridor
 - connect the new tracks with the existing tracks
- Close Ruthven Street to remove the tracks, slightly lower the road to provide a 4.8 metre clearance under the rail bridge, prepare a new road surface and install a new signalised and raised pedestrian crossing
- Trains running on the rail bridge
- Level crossing removed
- Construction of the new walking and cycling path along Ellesmere Parade
- Formalise the current road rail access pad on Powley Parade.

In early 2027, we'll close the Hurstbridge Line for about a month while we build the new rail bridge. We'll be able to share more information later this year.

Mid to late 2027

- Landscaping and tree planting
- New walking and cycling path along Ellesmere Parade open
- Remove site facilities and upgrade Macleod Park oval with new drainage and irrigation systems and new natural turf and cricket pitch
- Macleod Park oval upgrade complete.

Keep in touch

Subscribe to email updates at levelcrossings.vic.gov.au/subscribe and under Hurstbridge Line select Ruthven Street.

For more information visit levelcrossings.vic.gov.au/ruthven-street



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Project timeline



2022

- Project announced



2024

- Site investigations



2025

- Site investigations
- Community consultation



2026

- Concept designs released and further community consultation
- Final designs released
- Site establishment and early works
- Construction starts



2027

- Construction
- Trains running on the rail bridge
- Level crossing removed
- New walking and cycling path open
- Landscaping and tree planting
- Project complete

** Timeline subject to change.*

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