

How we'll build the rail bridge

We're removing the level crossings at McDonald Street in Mordialloc and Station Street in Aspendale by building new rail bridges. We're also removing and closing the Bear Street level crossing in Mordialloc and building a new elevated Mordialloc Station, creating a vibrant new station precinct with safe access for pedestrians and cyclists by 2026.

The boom gates will be gone and the new Mordialloc Station will open in 2026.

We will build the new rail bridges with concrete columns, called piers, to support the long concrete bridge sections, with retaining walls and abutments to provide support at each end.

The Mordialloc rail bridge will:

- be around 300 metres long
- be supported by 20 concrete piers, and
- have two elevated tracks: one either side of a central platform

The Station Street rail bridge will:

- be around 160 metres long, and
- be supported by 6 concrete piers

Frankston Line trains will continue to run from Mordialloc Station throughout the majority of the project. To do this, we'll keep a platform open and run services on a single train line for as long as possible, reducing disruption to Frankston Line passengers. We'll communicate timetable or travel changes in advance.

Why these level crossings need to go



Approximately **26,000 vehicles** travel over these level crossings each day



Boom gates are down for **up to 40 minutes** of the morning peak (7am to 9am)



33 trains during the morning peak (7am to 9am)



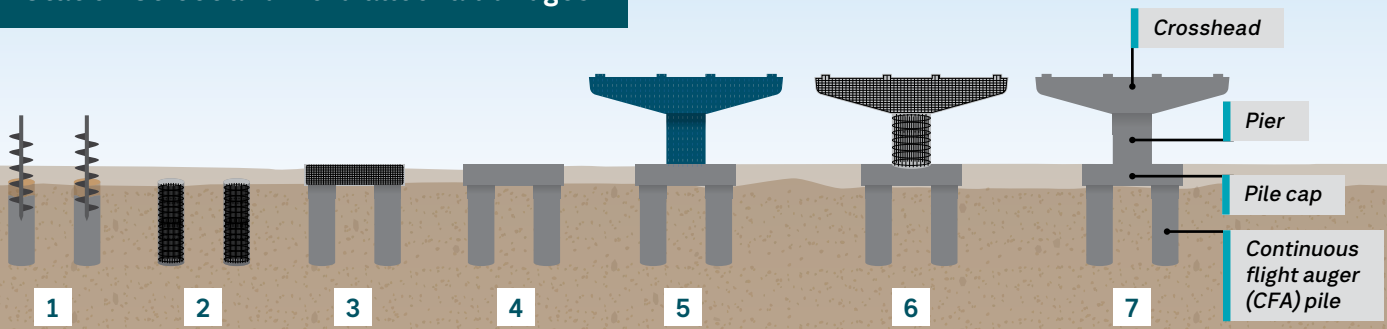
12 near misses at these crossings since 2016 and **one fatality**



Rail bridge over new Mordialloc Station precinct and forecourt. Artist impression, subject to change.

Building the rail bridge, one step at a time

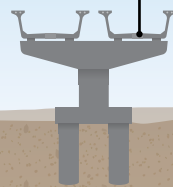
Station Street and Mordialloc rail bridges



Station Street rail bridge

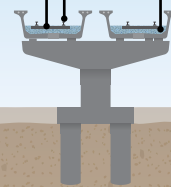
- From Mordialloc Creek to James Avenue, Aspendale
- One pier with two sets of tracks
- Each track supported by a U-trough

Two L-shaped beams connected with concrete to form U-troughs



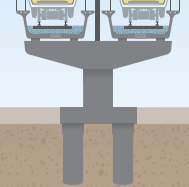
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Sleepers
Rail tracks
Ballast



9

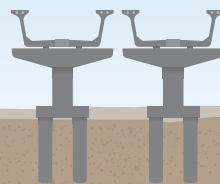
Handrail



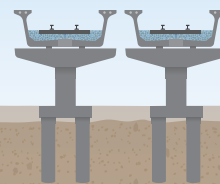
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Mordialloc rail bridge

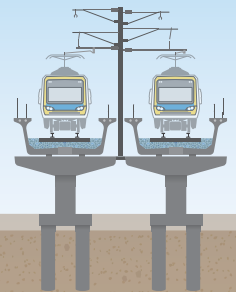
- From Nepean Highway rail bridge to Mordialloc Creek
- Two piers, each with a single track
- Each track supported by a U-trough



8



9



10

1. Foundation works, known as piling, start by drilling 6 holes for each pier into the soil up to 30 metres deep. The holes are then filled with concrete as the drill is retracted to prevent the hole from collapsing.
2. A cylindrical, steel reinforcement cage is inserted into each hole.
3. A steel reinforcement cage is then placed on top of each pile.
4. The reinforcement cage is filled with concrete and left to set.
5. A mould is placed around the reinforcing cages with additional prefabricated reinforcement placed inside.
6. Steel reinforcing cages are placed on top of each pile and concrete is poured into the mould and around the reinforcing cages. This forms the skeleton for the pier column and crosshead segments at the same time.
7. Once the concrete has set, the mould is removed and the pier is complete. The piers support the large concrete beams, known as U-troughs, that form the rail bridge.
8. U-troughs comprise two L-shaped concrete beams, which are joined with concrete to form a U-shape. These concrete beams will be delivered to Mordialloc and Aspendale and installed during the night to minimise disruptions to passengers and road users.
9. The rail tracks, sleepers and ballast are laid within the U-trough to enable trains to travel over the bridge.
10. Signalling, communications and overhead power equipment are attached to the rail bridge to control and power the trains as they travel over the rail bridge.

What makes up the rail bridge?

Piles

Piles are deep underground foundations that support the rail bridge and new station. Piling rigs drill 6 holes for each pier that are reinforced with steel and filled with concrete. The piles will be up to 1.2 metres in diameter and up to 30 metres deep. Once piling is complete, the rest of the bridge and elevated station structure will take shape above ground for the community to see.

Piers and crossheads

Bridge piers are the upright concrete columns that hold up the bridge structure. Crossheads are the beam that sits on top of the pier, supporting the tracks. At Mordialloc, you will see 20 piers and 20 crossheads installed to support the rail bridge structure. At Station Street, we will install 6 piers and 6 crossheads to support the rail bridge.

L-beams and U-troughs

L-shaped beams, or L-beams, vary between 25 to 31 metres long. Two L-beams will be lifted by large cranes into place on top of the piers and connected with concrete to form a U-trough. This will form the base where we lay the train tracks and ballast to enable trains to travel over the bridge.

These structures will be supplied from local casting yards. At Mordialloc, 44 L-beams will be joined to form 22 U-troughs. At Station Street, 24 L-Beams will be joined to form 12 U-troughs.

Super Ts

Super Ts are large pre-fabricated concrete beams.

These beams will be installed in the station area and will act as the elevated platforms at the site of the new Mordialloc Station. A total of 12 super T-beams will be used at Mordialloc.

Retaining walls

Retaining walls hold compacted soil in place to support the rail line as it rises from the ground at each end of the bridge. At Mordialloc, we'll build the rail bridge retaining walls using reinforced concrete wall panels.

Abutments

The bridges will have a support structure at each end made up of concrete abutments. The abutments will support the load of the bridge horizontally and vertically as it returns to ground level and they will also act as retaining walls.

Across both Mordialloc and Station Street, we will install 8 piles to support the abutments. They will play an integral role in ensuring the walls surrounding the rail infrastructure are solid and secure.

What to expect during construction



Deliveries and installation of concrete beams during the night



Excavation and construction machinery on site



An increase in noise, dust and vibration in the area, which we will manage and mitigate



Lane and road closures



Detours in the area



Traffic management to keep pedestrians and road users safe around our works



Visit **levelcrossings.vic.gov.au** to view up-to-date disruptions.



Albert Street entrance to new Mordialloc Station. Artist impression, subject to change.



Stay up to date

The best way to stay up to date with the project is to:

- Sign up to email updates at **levelcrossings.vic.gov.au/subscribe**
- Register for SMS updates by texting **MRD** to **0429 839 892**
- Call us on **1800 105 105**
- Email **contact@levelcrossings.vic.gov.au**



Rail bridge over McDonald Street, Mordialloc with level crossings removed. Artist impression, subject to change.



Pedestrian and cyclist access under Bear Street rail bridge. Artist impression, subject to change.

Project timeline



2022

- McDonald and Bear streets, Mordialloc and Station Street, Aspendale level crossing removal projects announced



Early to mid 2023

- Early site investigations



Mid 2023

- Early site investigations continue
- Vision and values community consultation



Mid to late 2023

- Early site investigations continue
- Early concept designs released with community consultation
- Planning consultation



Early 2024

- Contract awarded for works



Mid 2024

- Updated designs released
- Site establishment and early works begin



Late 2024

- Early works continue



2025

- Major construction starts



2026

- Level crossings removed
- Project completed






* Timeline subject to change.

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