



TBM breakthrough in North Strathfield station box.

Tunnel Boring Machines at North Strathfield

August 2024

The NSW Government is delivering Sydney Metro West – a new underground metro railway which will double rail capacity between Parramatta and the Sydney CBD, link new communities to rail services and support employment growth and housing supply.

Sydney Metro West stations have been confirmed at Westmead, Parramatta, Sydney Olympic Park, North Strathfield, Burwood North, Five Dock, The Bays, Pyrmont and Hunter Street in the Sydney CBD.

Two potential station locations are being investigated west of Sydney Olympic Park, including one at Rosehill Gardens which could support a significant increase in housing.

Sydney Metro has been granted planning approval to construct twin underground rail tunnels between Westmead and Hunter Street in the Sydney CBD for Sydney Metro West.

Acciona Ferroviaria Joint Venture (AFJV) has been awarded the contract to deliver 11 kilometres of twin metro rail tunnels between The Bays and Sydney Olympic Park and excavate five new metro stations including North Strathfield Station.

Another breakthrough

Following the completion of major excavation at the North Strathfield Station site in early 2024, two 1300 tonne tunnel boring machines (TBMs) named Daphne and Beatrice reached the North Strathfield station box in July 2024. The TBMs have now traversed the 180 metre box and are headed for their final destination at Sydney Olympic Park.

An extendable tunnel conveyor system has been installed to transport excavated material from each TBM through the excavated tunnels to a storage shed located at The Bays Station site. From there it will be transported by trucks to other sites around Sydney for reuse. Each conveyor is currently 9 kilometres long, with two more kilometres to be added to each TBM before they reach Sydney Olympic Park.

The TBMs are expected to travel up to 250 metres a week, depending on ground conditions. To stay up to date on the progress of the TBMs visit the website at sydnymetro.info/sydney-metro/journey-sydney-metro-west-tunnel-boring-machines.



TBM Beatrice breakthrough in North Strathfield station box.



TBMs Daphne and Beatrice in North Strathfield station box.

North Strathfield construction update

Excavator platforms that were installed for the bulk excavation have now been removed and work has started to dismantle the temporary concrete plinths used by the TBMs to traverse the station box. These will be replaced with concrete to provide a level surface at the bottom of the box.

After completion of tunnelling, the headwalls inside the nozzle tunnels will be constructed. This will involve installation of waterproofing, steel reinforcement and finally a concrete pour to form the structural reinforced headwall. This will be completed after the TBM's reach Sydney Olympic Park.

The North Strathfield Station site will continue to play an important role in assisting with the remaining works inside the tunnels, such as a concrete delivery point.

Once tunnel excavation is complete in a specific area, the tunnel invert (floor) is constructed behind it. This is then followed by the excavation of cross passages between the two tunnels.

Cross passage construction

Cross passages are short safety tunnels that connect the two metro tunnels every 240 metres along the tunnel alignment. They are an important safety feature and allow people to move between the tunnels in the unlikely event of an emergency. Cross passages are approximately 5.5 metres wide, 6 metres high and 9 metres long.

Construction of cross passages will occur below ground after the TBMs have passed through the area. A remote controlled excavator with a rock breaking hammer will be used to excavate the passages.



Cross passage.

Construction look ahead

	Aug	Sep	Oct	Nov	Dec
Demolition of the traverse plinths & installation of concrete	●	●		●	
Tunnel invert concrete pours	●	●	●	●	
TBM support operations	●	●	●	●	
Cross passage construction and support	●	●	●	●	●
Nozzle headwall lining and associated works			●	●	●

Construction activity (subject to change) ●

Construction timeline

			We are here		
Nov 2021 to mid 2022	Mid 2022 to mid 2023	Mid 2023 to early 2024	Mid 2024 - Late 2024	2025	
Site investigations	Site establishment	Station box excavation	Tunnelling and cross passage support services	Site handover for station construction	

Have your say

If you have any questions or would like more information please contact our project team:

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