



Roadheaders, excavators, rock hammers and front-end loaders are being used to excavate the caverns.

Excavation continues at Westmead

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.

The Gamuda and Laing O'Rourke Consortium (GLC) is delivering the Western Tunnelling Package. The project involves nine kilometres of twin metro rail tunnels between Westmead and Sydney Olympic Park, excavation for two new metro stations, a stabling and maintenance facility at Clyde and a precast facility at Eastern Creek.

Sydney Metro has engaged Quickway to relocate gas and telecommunications services around the future Westmead metro station site.

Westmead construction update

Roadheader excavation is continuing at Westmead. A 650-tonne mobile crane was used to lift the second roadheader, Heather, into the station box in October 2023. Heather joins Rosie to excavate the stub tunnels west of the station box. The roadheaders are each excavating up to 300 tonnes of material every day. Roadheader excavation will continue 24 hours a day, seven days a week until mid-2024. Following this water-proofing and formwork will continue on-site.

Excavators, rock hammers and front-end loaders are being used to excavate the station box. Excavation of the station box is 90 per cent complete and approximately 260,000 tonnes of spoil (excavated material) has been removed from the station box to date. 100 per cent of the re-usable spoil has been re-purposed across projects in the Sydney metropolitan area.

The acoustic shed was completed in late 2023, reducing noise and dust impacts to the community by enclosing the station box excavation and spoil removal areas. The water treatment plant is now operational, facilitating the responsible use and recycling of water.

Excavation and tunnelling approach

Excavation of the Westmead Metro Station underground caverns and stub tunnels are generally being undertaken in three stages.

First stage - Headings

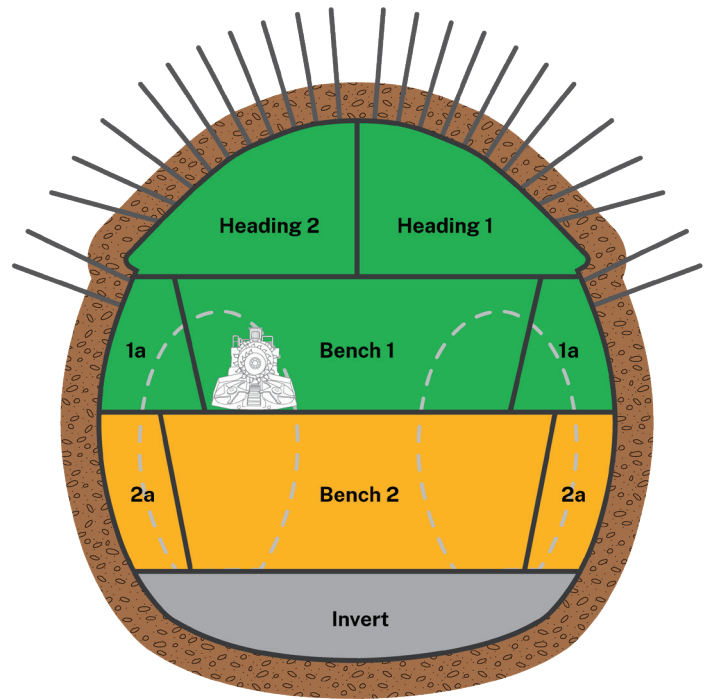
The first stage is called the heading, which involves cutting the cavern roof using a roadheader. The machine cuts out up to three metres of rock at a height of around eight metres before installing ground support, which includes rock bolts (metal rods) and shotcrete (sprayed concrete). Due to the size of the rail crossover cavern and station cavern, the heading is split into two smaller sections which are excavated separately. This allows each section of the tunnel to be supported before the cavern is fully widened.

Second stage - Benches

The second stage is called benching and involves removing rock below the heading using a roadheader and rock hammer. This stage is generally completed more quickly than the heading and the benches are excavated to the full width of the cavern.

Third stage - Invert

The final stage of excavation is the invert, which involves cutting the floor of the cavern. This requires trimming of the curved tunnel floor with a roadheader to the full width of the cavern. The Westmead Metro Station invert will be completed in mid-2024.



Key

- Completed
- In progress
- Not started

Note: Diagram not to scale, indicative only and subject to change

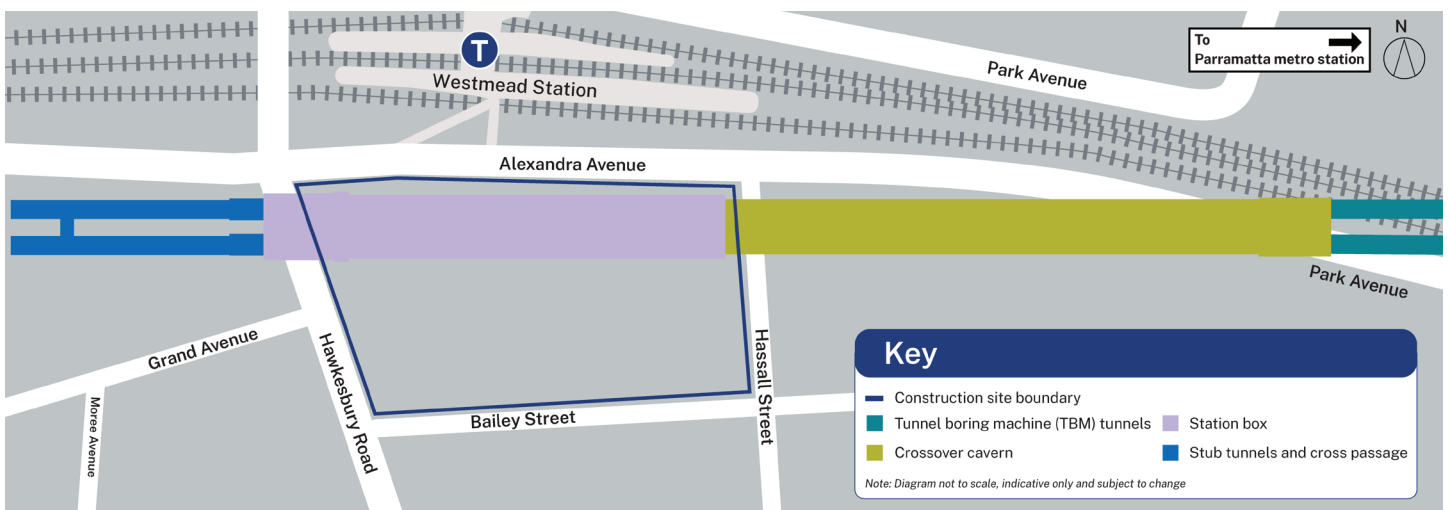
The stages of underground cavern excavation at the Westmead Metro Station site.

What is a crossover cavern?

A rail crossover cavern allows trains to change to the other track while services continue to run within the tunnels. The crossover cavern at Westmead ranges from 15-29 metres underground due to the slope of the land and will also house mechanical ventilation equipment. Excavation of the crossover cavern is expected to be complete in mid-2024.

What is a stub tunnel?

Stub tunnels will be constructed underground on the western side of the Westmead Metro Station box. These 90-metre-long tunnels will be excavated to future-proof construction of the metro network.



Key

- Construction site boundary
- Tunnel boring machine (TBM) tunnels
- Station box
- Crossover cavern
- Stub tunnels and cross passage

Note: Diagram not to scale, indicative only and subject to change

Map showing Westmead site.

Six-month look ahead and out-of-hours work activities

Activity	Noise impact	May	June	July	August	September	October
Removal of excavated material	Low to medium	●	●	●			
Delivery of machinery, materials and equipment	Low to medium	●	●	●	●	●	●
Excavation of rail crossover caverns and stub tunnels	Low to medium	●	●	●			
Concrete deliveries	Low to medium	●	●	●	●	●	●
Installing formwork and concrete foundations within the station cavern	Low to medium	●	●	●	●	●	●
Utility upgrades around the site and on local streets	Medium to high	●	●	●	●	●	●
Installing and maintaining survey devices in local streets and within the rail corridor	Low to medium	●	●	●	●	●	●

● Standard construction hours ● 24 hour work activities ● Up to 10 nights per month

Out-of-hours work

The majority of GLC construction is completed underground, around the clock. Occasionally, activities such as delivery of oversized plant and machinery or road works around site are carried out above ground at night for the safety of workers, motorists and pedestrians.

The project team aims to minimise impacts to the local community during out-of-hours work as much as possible. Mitigation measures that may be used include completing the noisiest work before midnight, installing noise blankets around the worksite, implementing respite periods, or providing alternative accommodation. Noise and vibration monitoring is conducted. The type of mitigation depends on the work activities and expected impacts.

When out-of-hours work is required, the team liaise with directly affected residents to provide more information and discuss mitigation options before the work. Quickway site activities will be coordinated with GLC to minimise community impacts as much as possible.

To learn more or provide feedback about the work, including appropriate respite periods, please contact the project community team using the details overleaf.



Example of a completed cross passage.

Future stages of work

With major excavation nearing completion, the next stage of work involves waterproofing, steel fixing, formwork installation and concreting within the station cavern. The work will also include the installation of services and drainage, which will be undertaken out-of-hours 24 hours a day, Monday to Sunday until the end of 2025. Many of the materials and formwork will be constructed on-site, within the station cavern and moved progressively into the crossover cavern.

Stub tunnel construction is progressing, with the cross passage at the western end of the site also to be excavated in the coming months. Cross passages are connection tunnels between the two main metro tunnels and are located along the tunnel alignment. They are an important safety feature to allow people to move from one tunnel to another in case of an emergency.

Indicative construction timeline

		We are here		
2021 to 2022	Mid 2022 to early 2023	Early 2023 to late 2024	Mid 2024 to mid 2025	Late 2025
Site investigations and demolition	Site establishment	Station box, crossover cavern and stub tunnel excavation	Construction of twin TBM tunnels	Site handover for station construction

Construction hours

Work at the Westmead Metro Station site involves:

- Standard construction hours – Monday to Friday 7am to 6pm, and Saturday 8am to 6pm.
- Roadheader excavation is ongoing on the eastern and western sides of the station box, 24 hours a day, Monday to Sunday. Concrete deliveries to support these activities will be via the Hawkesbury Road access gate between 10pm and 6am.
- Excavated material is removed from site during standard construction hours.
- Quickway is trenching along Hawkesbury Road (between Alexandra Avenue and Bailey Street) and Hassall Street (between Alexandra Avenue and Bailey Street). This work is being completed on Hassall Street on Mondays, Tuesdays and Thursdays between 8pm and 5am. Work on Hawkesbury Road is being completed Mondays and Tuesdays between 8pm and 5am and Thursdays between 9pm and 5am.



Relocating utility services

Sydney Metro has engaged Quickway to relocate underground gas and telecommunications services around the future Westmead metro station site. This work involves trenching along Hawkesbury Road, Bailey Street and Hassall Street to install new gas pipes and telecommunications cables, and reconnecting them into existing services.

Trenching work began in December 2023 and is expected to continue until mid-2024, weather and site conditions permitting. Most of this work will occur at night to comply with road occupancy approvals, minimise disruption to local traffic and to ensure the safety of motorists, pedestrians and our workers. After the trenching is complete and the new pipes and cables have been installed and tested, work will begin to permanently restore any impacted areas until late 2024.

You will be notified in advance if you are impacted by any planned disruptions to gas and/or telecommunications services.

We will continue to keep you informed as our work progresses and coordinate with GLC's site activities to reduce project impacts on the community.

Se avete bisogno dell'ausilio di un interprete, vi preghiamo di contattare il Servizio di Traduzione ed Interpretariato al numero 131 450 e chiedere di chiamare Sydney Metro al numero 1800 612 173. L'interprete vi assisterà nella traduzione.

আপনার, একজন দোভাষীর (ইন্টারপ্রিটার) সেবা-সাহায্য আবশ্যিক হলে, অনুগ্রহ করে 131 450 নং এ ট্রান্সলেটিং এন্ড ইন্টারপ্রিটিং সার্ভিস এর সাথে যোগাযোগ করুন, এবং 1800 612 173 নং এ সিডনী মেট্রো কে কল করতে তাদের বলুন। তখন অনুবাদ/ভাষান্তরে, দোভাষী আপনাকে সাহায্য করবে।

如果您需要翻译服务, 请致电131 450 翻译和口译服务, 让他们打1800 612 173 给悉尼地铁, 翻译员然后将帮助您进行翻译。

إذا كنتم بحاجة إلى خدمات مترجم، يرجى الاتصال بخدمة الترجمة الكتابية والشفهية على الرقم 131 450 وأطلبوا منهم الاتصال بمترو سيدني على الرقم 1800 612 173. سيقوم المترجم بمساعدتكم في الترجمة.

Εάν χρειάζεστε τις υπηρεσίες διερμηνείας, παρακαλείσθε να επικοινωνήσετε με την Υπηρεσία Μεταφραστών και Διερμηνέων στο 131 450 και ζητήσετε τους να καλέσουν το Sydney Metro στο 1800 612 173. Ο διερμηνέας θα σας βοηθήσει στη μετάφραση.

통역서비스가 필요하시면, 번역 및 통역 서비스 (Translating and Interpreting Service) 전화 131 450 에 연락하시어 Sydney Metro 전화 1800 612 173 에 연결해달라고 요청하십시오. 통역관이 통역을 도와 드릴 것입니다.

Nếu quý vị cần dịch vụ thông dịch viên, xin liên lạc Dịch vụ Thông Phiên Dịch (Translating and Interpreting) ở số 131 450 và yêu cầu gọi Sydney Metro ở số 1800 612 173. Sẽ có thông dịch viên giúp cho quý vị việc thông dịch.

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如果您需要口譯員的服務, 請致電131 450聯絡翻譯和口譯服務, 要求他們致電 1800 612 173給悉尼地鐵 (Sydney Metro), 然後口譯員將會協助您翻譯。

Jekk għandek bżonn ta' interpretu, ikkuntattja TIS National fuq 131 450 u staqsihom biex icemplu 1800 612 173.

Kung kailangan mo ng mga serbisyo ng isang interpreter, mangyaring kontakin ang Translating and Interpreting Service sa 131 450 at hilingin sa kanila na tawagan ang Sydney Metro sa 1800 612 173. Ang interpreter ay tutulong sa iyo sa pagsasalang-wika.

Contact us

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

1800 612 173 Community infoline open 24 hours

metrotunnelsGLC@transport.nsw.gov.au

Sydney Metro West

PO Box K659, Haymarket NSW 1240



Translating and interpreting service

If you need help understanding this information, please contact the Translating and Interpreting Service on 131 450 and ask them to call us on 1800 612 173.



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