



A section of the completed twin tunnels between the Airport Terminal and the Bringelly Services Facility.

## Celebrating the completion of tunnelling and excavation

Sydney Metro–Western Sydney Airport (SM–WSA) has reached a significant milestone, with all major tunnelling and excavation work for the project now completed, including 9.8 kilometres of twin tunnelling and five station boxes.

Station Boxes and Tunnelling (SBT) work started in early 2022 and all major works were completed in December 2024. Works included:

- 5.5 kilometre southern tunnels between Airport Business Park and Bradfield, via the Airport Terminal at the new Western Sydney International Airport
- 4.3 kilometre northern tunnels between Orchard Hills and St Marys
- five station boxes at St Marys, Orchard Hills, Airport Business Park, Airport Terminal and Bradfield
- two services facility shafts at Bringelly and Claremont Meadows
- 39 cross passages every 240 metres along the twin tunnels, providing safe emergency access between the tunnels
- 19.6 kilometres of concrete floor in the tunnels to form a foundation for the metro rail tracks
- four stub tunnels at St Marys and Bradfield to allow for potential future extensions of the metro network.

The tunnelling works were a great opportunity for local employment and construction skills development. At peak production when all four tunnel boring machines were in the ground, the SM–WSA contractor employed 3380 people, including those directly working on the tunnelling as well as support roles, with 57 per cent coming from Greater Western Sydney.

*In collaboration with the SM–WSA SBT team, CPB Contractors Ghella (CPBG) delivered the SBT contract for the SM–WSA project.*



A concrete floor being poured in a tunnel north of the Orchard Hills Station site.







The placement of the final segment to complete the viaduct installation for the project.

## High praise: elevated viaducts milestone reached

An exciting milestone for the Sydney Metro–Western Sydney Airport project was achieved late last year with the 3.2 kilometres of elevated viaducts connecting Orchard Hills and Luddenham now 100 per cent complete. These viaducts form part of the above-ground section between the tunnels for the new 23 kilometre metro line.

An impressive feat of engineering, the viaducts are made up of 1101 precisely crafted concrete segments. Each segment, made at a specialised precast facility near Newcastle, is 10.85 metres wide, up to 3.2 metres long, 2.4 metres high and weighs between 45 and 65 tonnes. Advanced techniques, such as match-casting, were used to ensure the segments fitted together seamlessly, creating a solid and resilient structure.

Supporting this expansive deck are 84 piers and six abutments (supporting structures), each built onsite to provide a stable foundation. Reaching heights of up to 15.3 metres, particularly over critical infrastructure like the Warragamba pipelines, the piers required 38,500 cubic metres of concrete to ensure long-term durability and stability.

The construction process relied on innovative techniques, including a custom-built gantry called an underslung temporary beam (UTB), which played a crucial role in positioning each segment. This gantry system, paired with a 300-tonne crawler crane, used 110-tonne temporary beams to lift and align each segment, reducing the need for extensive scaffolding and protecting the infrastructure, people and machinery below. Engineers then threaded high-tension cables through ducts in each span and applied hydraulic tensioning to ensure each span was self-supporting. More than 1100 kilometres of tensioning cable was used to reinforce the viaducts.

The Surface and Civil Alignment Works (SCAW) package of works for the project also includes 6.7 kilometres of earthworks for track formation, more than 200 metres of rail bridges and key access roads. These are all essential for a metro system that will support the region's growth and provide a modern, sustainable transport option for decades to come.

*CPB Contractors and United Infrastructure joint venture (CPBUI JV) is delivering the SCAW contract for the SM-WSA project.*



The SCAW team has successfully delivered and erected all 1101 precast segments for the viaducts.





St Marys Station site.



Perimeter Walls of the St Marys Station box being formed.

## Full steam ahead on station works

The Sydney Metro –Western Sydney Airport project has been working around the clock to mobilise Stations, Systems, Trains, Operations and Maintenance (SSTOM) operations at Luddenham south, completing the set-up of the compound, environmental protections, crane pad earthworks, and stair and hoist installations on the viaduct. All rail service crossings are also complete.

At St Marys Station, all base pours are complete, and deflection walls on the eastern side are finalised, with central wall casting set for February. A new tower crane will arrive this month with crane pad installations currently underway near the Glossop Street entry. Once the crane arrives, it will be erected centrally between the station box and the heavy rail corridor and will begin operation immediately.

At the Stabling and Maintenance Facility, construction is ongoing for the substation, maintenance, administration and operational control buildings slabs. Utility services and drainage installation is also continuing.

Orchard Hills Station is nearing the halfway mark on perimeter wall pours, with waterproofing now finished.

Luddenham Station is progressing well with concrete pours complete for the fire stairs and lift pits, while the building footprint is almost complete. External inground services and waterproofing are in progress.

Significant structural works continue with 14 perimeter walls complete at Bradfield Station, the first perimeter wall poured at Airport Terminal Station and at Airport Business Park Station the scaffold is set up for concrete works. Concrete pours are ongoing and dive structure works focused on piling, waterproofing, and drainage are progressing.

*Parklife Metro (PLM) is delivering the SSTOM package of works for SM-WSA.*

## Out of the frying pan and into the ... construction equipment

As part of Sydney Metro –Western Sydney Airport's commitment to reducing greenhouse gas emissions, Hydrotreated Vegetable Oil (HVO) was trialled as a sustainable alternative to diesel in construction equipment being used to deliver the new St Marys Station footbridge for the SM-WSA project.

Derived from vegetable oils and waste-based feedstock, HVO significantly reduces greenhouse gas emissions compared to fossil diesel, while delivering consistent engine performance and allowing seamless transitions between fuel types. The initiative trialled in piling rigs has demonstrated promising results, reinforcing the project's commitment to environmental sustainability. Recognising the construction industry's significant contribution to global emissions, phasing out diesel is crucial for meeting net zero targets.

The fully accessible footbridge at St Marys Station will seamlessly connect the new WSA metro platforms with suburban trains on the T1 Western Line, enhancing commuter convenience. Additionally, a new pedestrian plaza at the northern end of the footbridge will provide improved connectivity, offering green spaces, kiss-and-ride facilities, bicycle storage, and the potential for future development. The design prioritises safety, durability, and aesthetic appeal to complement the urban surroundings.

Construction of the St Marys Station footbridge is progressing well. Recent on-site activities have included excavation, concrete works, and steel reinforcement. The team is on track to achieve key milestones in the coming months, including the completion of foundations and precast pier walls, with the first visible structures expected to emerge.

*Transport for NSW in partnership with Laing O'Rourke is delivering the new footbridge and northern plaza at St Marys Station as part of the SM-WSA project. Laing O'Rourke collaborated with subcontractor AnewX in the trial of HVO.*



Piling rig fuelled by Hydrotreated Vegetable Oil.





## Orchard Hills Open Day helps bring project to life for local community

Hundreds of people attended a Sydney Metro – Western Sydney Airport Community Day at Orchard Hills towards the end of last year, receiving an exclusive sneak peek into part of the construction progress of Australia's largest public transport project.

The main attraction of the day were the guided bus tours. Starting at the tunnelling section of the Orchard Hills site the bus took attendees to the other end of the site to see the dive and station box where the new Orchard Hills Station is being built.

The bus then drove along the metro alignment to the elevated viaduct over Blaxland Creek. The informative tours were popular with people saying they were impressed at the project's scale and complexity.

Attendees were also invited to share a sausage sizzle and visit stalls being run on the day by SM-WSA, M12 Motorway and Western Sydney International Airport, providing information about the major infrastructure projects in the Greater Western Sydney region.



*The Open Day was a successful collaboration between the SM-WSA team and the three major contractors of the project: CPBG (Station Boxes and Tunnelling Works – SBT), CPBUI (Surface and Civil Alignment Works – SCAW) and Parklife Metro (Stations, Systems, Trains, Operations and Maintenance – SSTOM).*



Guided bus tours and information stands gave visitors the chance to find out all about what has been happening in and around Orchard Hills sites.

## Fauna going wild for new homes

Local wildlife is the winner with 101 nestboxes installed around Orchard Hills to provide new habitats for animals affected by construction activities. The boxes have attracted species like sugar gliders, brush-tailed possums, galahs and rainbow lorikeets.

The Sydney Metro – Western Sydney Airport project has implemented a detailed Nestbox Management Plan to ensure the ongoing success of the nestboxes. This includes regular inspections by an ecologist to monitor signs of occupancy and maintain the health and functionality of the nestboxes. Each inspection yields valuable insights into the area's biodiversity and reports confirm these new habitats are thriving with activity from furry and feathered native residents.

The positive environmental impact of the nestbox initiative is part of a larger commitment to sustainable practices, under the Biodiversity Offset Scheme. The scheme balances essential land clearing with actions that support long-term biodiversity. Biodiversity credits, a key part of the scheme, enables the project to offset the ecological impact of our activities by helping to protect or restore similar habitats.

Through careful planning and management, only 354 of our 675 available biodiversity credits have been used, achieving a 47 per cent reduction in required credits. This reflects the project's commitment to minimising impact and preserving Western Sydney's natural ecosystems.

*The Nestbox Management Plan was implemented on behalf of SM-WSA by our Surface and Civil Alignment Works (SCAW) partner, CPBUI.*



Wildlife at Orchard Hills have made new homes in the nestboxes.



## Local students name Sydney Metro – Western Sydney Airport cranes

Sydney Metro–Western Sydney Airport's 'Name the Crane' competition has successfully concluded, with six tower cranes now proudly sporting names chosen by local students. The competition was a SM–WSA Community Benefits Program initiative and designed to engage students from schools along the SM–WSA project alignment and promote a deeper connection with the project's significant developments.

Twenty finalists were selected out of the 79 entries received from seven primary schools and one home-schooled student. Staff then voted to decide on the top six names. The winning entries represent the creativity and enthusiasm of Western Sydney's younger generation.

The winning students and their crane names are:

### **Metro Max**

Veronica (8), Claremont Meadows Public School

### **Saint Liftus**

Cali (8), Claremont Meadows Public School

### **Sky Atlas**

Nicholas (11), Claremont Meadows Public School

### **The Train Crane**

Aubrey (9), Claremont Meadows Public School

### **The Hulk**

Lee-Anna (11), Luddenham Public School

### **Kangaroo Crane**

Austin (5), Kemps Creek Public School

*The Name the Crane Community Benefits Program initiative was delivered by SM–WSA SSTOM contractor PLM.*



The winning students proudly display the cranes' new names.

Each winner was awarded a \$200 voucher and their respective schools received a \$1000 voucher to be used towards educational supplies or services that support learning spaces or events.

Eight-year old Veronica from Claremont Meadows Public School who received the most votes for her entry said: "It's so cool to see my crane name picked! I chose Metro Max because it sounds strong and fast, like the Metro."

## Path surprise for Bringelly students

Students at Bringelly Public School got a huge surprise when they returned for a new school term last year and found a newly-installed concrete path complete with landscaping in their school playground.

The path, delivered as part of Sydney Metro–Western Sydney Airport's community benefits initiatives, is a significant improvement as it will assist a teacher who requires wheelchair access to reach the playground. Another benefit is that it will make the trek to the play equipment less muddy for the students during wet weather. The landscaping also helped to reduce the maintenance load for the large bush school.

*The Bringelly Public School Community Benefits Program initiative was delivered by SM–WSA SBT contractor CPBG and supported by its suppliers who provided materials and labour for the work.*



The new path starts at the school buildings: Before (top left) and after (right) and provides access to equipment in the playground (bottom).



## Fostering resilience: local schools partner for mental health awareness

In October 2024, the Sydney Metro –Western Sydney Airport project, together with Headspace, launched a mental health initiative at Kingswood and Jamison high schools in Western Sydney. Held in recognition of World Mental Health Month, the program aims to build resilience and wellbeing among Year 7-10 students and their parents.

A key part of the initiative was installing Connection Hubs –picnic tables featuring content linked to curated online mental health resources –encouraging positive interactions and easy access to support. These hubs created inviting spaces for students to connect and engage in mental health awareness.

Headspace rolled out workshops tailored for both students and parents. Students attended sessions focused on stress management and resilience, while parents participated in online workshops to support their children’s mental health at home.

This initiative received highly positive feedback, reflecting the importance of fostering mental health awareness and providing support to students and communities in Western Sydney.

*The Headspace Community Benefits Program initiative was delivered by SM-WSA SCAW contractor, CPBUI.*



Students at Kingswood High School (top) and Jamison High School (bottom) gather at the new Connection Hubs.



CPBG’s Project Director Will Freeland and Communications Manager Chantelle Garrett meet with Orange Sky volunteers in Liverpool.

## Support for Orange Sky

A Sydney Metro –Western Sydney Airport project community benefits initiative held in partnership with the Orange Sky charity is making a real difference to people living rough in Liverpool. Donated funds will help provide 130 loads of laundry, 30 safe hot showers and 140 hours of genuine conversation between volunteers and visitors who use the services.

Orange Sky supports people experiencing homelessness or hardship through access to free laundry and shower services, and the opportunity for regular connection. Volunteers provide a supportive, welcoming and

inclusive space for anyone experiencing loneliness or disconnection from the community, with a focus on improving hygiene, health and quality of life.

Dawn regularly uses the charity’s services and recalls: “When I first heard about [Orange Sky], I walked around and being a bit curious, I was saying, ‘Now, what’s that flash van?’ I like that you can come here, get your washing done, have a little bit of a chat and talk to your neighbours. This has been a benefit to a lot of people including myself.”

*The Orange Sky Community Benefits Program initiative was delivered by SM-WSA SBT contractor, CPBG.*

## Community connections

The Sydney Metro –Western Sydney Airport team would like to thank the community for their support in 2024.

Last year the team attended local events including Luddenham, Hawkesbury and Penrith shows, Western Sydney International Airport Open Day and St Marys Spring Festival. We were able to speak with more than 11,000 community members across 59 engagement activities during this year. We are grateful for the widespread support and feedback we received, as we create a new Metro line that will transform the way travellers and the community will connect in Western Sydney.

We are excited to build on last year's success and share the Sydney Metro –Western Sydney Airport story with the community in 2025.



A young metro supporter is all smiles after completing the Sydney Metro model train at the Western Sydney International Airport Open Day.

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## Security upgrades enhance family safety

The Sydney Metro –Western Sydney Airport project has collaborated with DV West to help strengthen security measures at DV West's properties in Western Sydney.

DV West is a refuge that offers temporary shelter and vital resources for women and children affected by domestic and family violence.

The SM-WSA community benefits initiative has funded robust security upgrades at one of the DV West shelters for women and children at high-risk of domestic violence, along with installing security cameras at two other locations. These enhancements were designed to create secure, welcoming spaces where families can focus on healing and rebuilding.

DV and local suppliers were closely involved in the initiative, to ensure the upgrades were thoughtfully implemented to provide protection and peace of mind for residents. This community-focused partnership goes beyond physical improvements; it reflects a shared commitment to the wellbeing and empowerment of families in need.

*The DV West Community Benefits Program initiative was delivered by SM-WSA SCAW contractor, CPBUI.*

## Interfacing projects in Greater Western Sydney

There are a number of major infrastructure projects underway and planned in Greater Western Sydney. These projects will support growth and underpin the development of key precincts in the Western Parkland City.

We are coordinating how we communicate with the local community to ensure residents and businesses understand who is carrying out the work and who to contact with any enquiries or complaints.

If you have any questions or need to contact a particular project, use the reference below for the right project contact details.

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### Western Sydney International (Nancy-Bird Walton) Airport (WSI)

1800 972 972

[info@wsaco.com.au](mailto:info@wsaco.com.au)

[westernsydney.com.au](http://westernsydney.com.au)

Western Sydney International Experience Centre,  
100 Eaton Road, Luddenham NSW 2745

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### Transport for NSW – M12 Motorway

1800 517 155

[m12motorway@transport.nsw.gov.au](mailto:m12motorway@transport.nsw.gov.au)

[nswroads.work/m12](http://nswroads.work/m12)

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### Sydney Water

1800 238 881

[uppertsouthcreek@sydneywater.com.au](mailto:uppertsouthcreek@sydneywater.com.au)

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### Department of Planning, Housing and Infrastructure

1300 420 596 (9am-5pm, Monday-Friday) and ask for the Western Sydney Aerotropolis team

[aerotropolis@dpie.nsw.gov.au](mailto:aerotropolis@dpie.nsw.gov.au)

[planning.nsw.gov.au](http://planning.nsw.gov.au)

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### Bradfield Development Authority

1800 321 999

[hello@bda.nsw.gov.au](mailto:hello@bda.nsw.gov.au)

[nsw.gov.au/bradfield-development-authority](http://nsw.gov.au/bradfield-development-authority)

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### Transport for NSW – roads and carpark projects

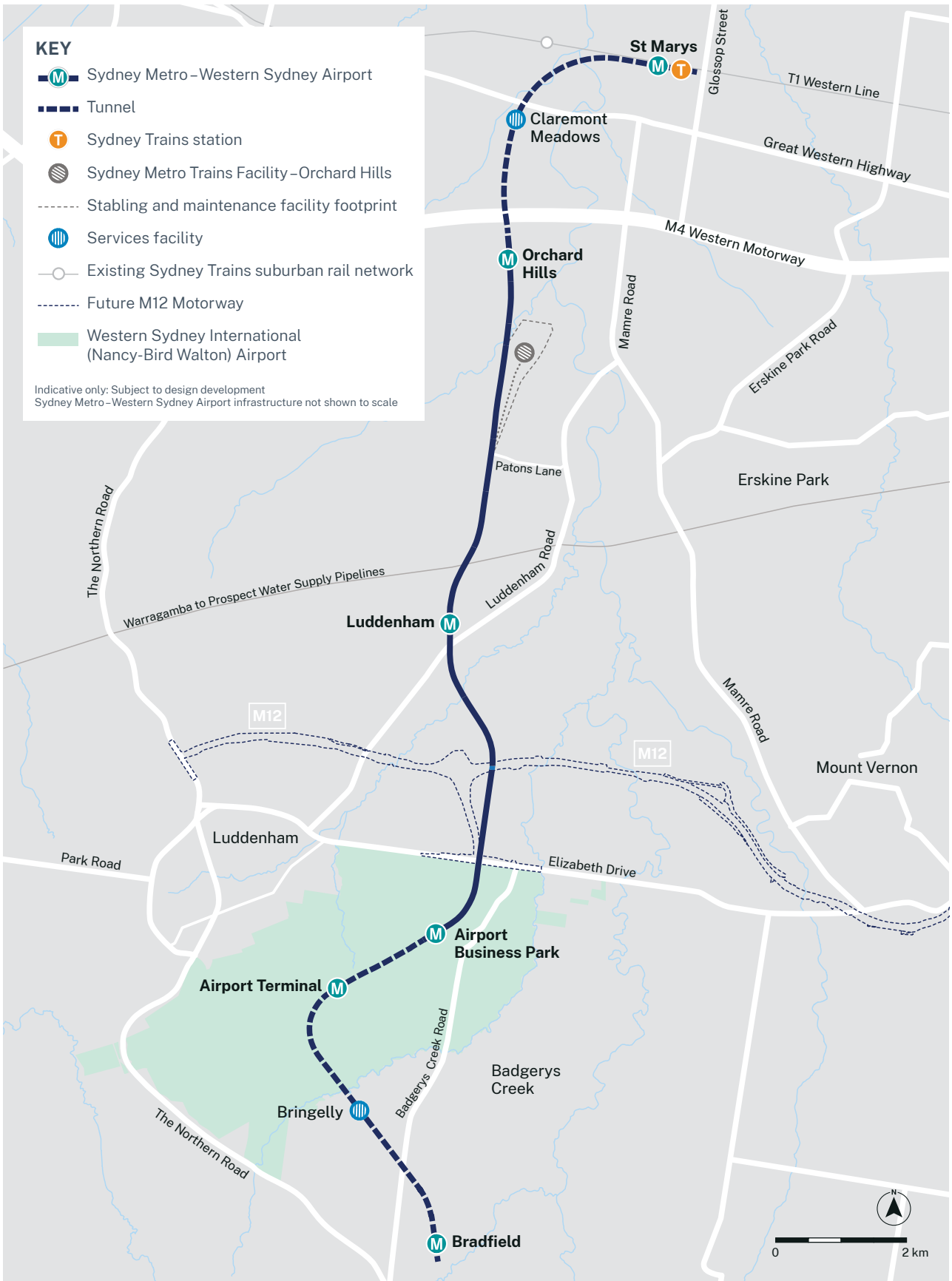
1800 684 490

1800 775 465 (emergency 24/7)

[projects@transport.nsw.gov.au](mailto:projects@transport.nsw.gov.au)

[transport.nsw.gov.au/projects](http://transport.nsw.gov.au/projects)





**Contact us**

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

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 sydneymetroswa@transport.nsw.gov.au  
 Sydney Metro – Western Sydney Airport  
 PO Box K659, Haymarket NSW 1240



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