

Engineering and Maintenance

Sydney Trains



Contents





About Engineering and Maintenance	3
About each function	5
Major Works	6
Network Maintenance	7
Fleet Maintenance	8
Commercial and Supply Chain	9
Asset Management	10
Engineering System Integrity	11
About Sydney Trains	13
Why join Transport?	15
A place to progress your career	17

About Engineering and Maintenance



Sydney Trains' Engineering and Maintenance Branch manages a \$1.5 billion annual maintenance program for Sydney Trains and NSW Trains.

Engineering and Maintenance is made up of 4,173 people working across NSW to deliver a safe, reliable passenger fleet and metropolitan rail network, meet growing customer demand and keep Sydney and NSW moving.

Engineering and Maintenance is made up of six functions:

- Major Works
- Network Maintenance
- Fleet Maintenance
- Commercial and Supply Chain
- Asset Management
- Engineering System Integrity

Whether its identifying infrastructure needs, or procuring goods and services, or the designing, building, operating, or maintaining transport infrastructure, each function plays an important role in every aspect of our network.

Working in Engineering and Maintenance brings so much variety. You could be part of rebuilding bushfire-affected infrastructure. You might be crunching data to inform future network upgrades. Or working with drones to assess for flood and landslip damage to railway infrastructure. Or helping deliver significant events like the FIFA World Cup or Grand Final Day.



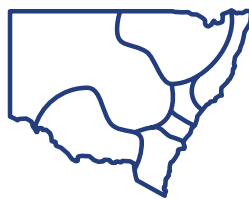
4,173

People in Engineering and Maintenance



\$39 bn

Value of assets under Sydney Trains management



364

Sydney Trains and NSW TrainLink stations maintained

We operate and maintain

2,190 electric and diesel cars

1,610 kilometres of track

948 kilometres of electrified mainline track

1,548 kilometres of overhead wiring

1,970 turnouts

3,972 signals

82 tunnels

97 substations

1,197 bridges

“We ultimately work as one team with a common purpose – our travelling customers. I love being involved in change and driving outcomes that directly benefit the communities we support.”

– Samiha Najem, AD Operational Technology, Network Maintenance



About each function



“It’s quite inspiring to see the loyalty and dedication team members have towards their work - as if they’re working on an asset which they owned themselves.”

— Jerry Yeo, A/Principal Engineer,
Electrical Power Systems





Major Works

Our Major Works function delivers maintenance, and renewal and some capital works for Sydney Trains' metropolitan railway assets. We're modernising the state's metropolitan rail infrastructure in partnership with Transport for NSW and the private sector.

With over 1,100 people and a \$680 million annual works program of more than 1,000 projects, the Major Works schedule spans track, civil, signals, control systems, electrical and operational technology infrastructure improvements for rail customers in Greater Sydney.

No two days are the same. Crews work with an impressive selection of heavy equipment and machinery, often in remote and hard-to-access locations. At times, barges and helicopters transport people and resources to jobs, and it's not unheard of for Major Works people to scale the sides of rockfaces to do their jobs.

Stories from our Major Works team

After almost three years of planning, design and construction, Major Works' teams celebrated the completion of a multi-million-dollar project to bring the Granville area of train control into the Rail Operations Centre and decommission the Granville Signal Box.

The project involved numerous teams and over 150 people from Major Works, ESI, and Asset Management.

It represents a significant change in technology and how trains in this part of the railway corridor are managed. Two new Microlok computer-based telemetry signaling systems have been developed and installed at Parramatta and Westmead Relay Rooms, together with the existing Granville Solid State Interlockings (SSI) and integrated into the ATRICS train control system. The introduction of ATRICS has enabled Automatic Route Setting which increases operational efficiency, and Coded ASB, making track work safer.

The new technology enables the area to be remote-controlled from Sydney Trains' Rail Operations Centre, or the Homebush Control Centre in case of emergencies.

The final commissioning stage required a wheels-free closing of the line – known as a possession, to carry out the final testing and assurances. The previous Granville Signal Box was also decommissioned, with its staff relocated to the ROC.

Performing a possession at Granville posed challenges for the team due to it being a major junction on the network. The final commissioning was completed within a 12-hour window, thanks to meticulous planning and progressive testing throughout the project.

The Granville ATRICS commissioning is expected to bring real benefits to Sydney Trains and its customers.



Network Maintenance

Our Network Maintenance function delivers routine maintenance across all railway civil, signal, electrical and control system assets on our metropolitan passenger network and responds to infrastructure incidents when needed.

With 1,300 employees, Network Maintenance is the largest function in Engineering and Maintenance. We're made up of many moving parts working together to keep the network operating efficiently for Sydney Trains customers.



Stories from the team

You'd never think a routine pole replacement could turn into a wildlife rehoming exercise.

In April 2023, Network Maintenance's Rail Traction team from Hamilton set out to repair a damaged power pole at Morisset when they came across a family of sugar gliders living in an unusual spot.

Sugar gliders are prevalent on the southeast of Australia, meaning they were hard hit by the 2019/2020 bush fires. The fires resulted in large-scale degradation of the sugar glider habitat, which could explain why this family had chosen to create a home inside the damaged power pole.

Mitchell and the team devised a plan to replace the damaged power pole while taking great care to minimise disruption to the sugar glider family's living quarters. They carefully separated the section of pole the sugar gliders were living in and securing it to the branches of a nearby tree with some strong rope, even installing a pole cap on one end and angling the pole to protect the family from wet weather.

The team have kept a close eye on the sugar gliders since their rehoming, and by all accounts they seem to be enjoying their new spot in the trees.





Fleet Maintenance

Our Fleet Maintenance teams deliver safe, reliable and commercially competitive fleet maintenance services for Sydney Trains and NSW TrainLink.

We're made up of 1,100 people that work around the clock as part of a 24-hour operating schedule for cleaning and maintenance. Our work ensures our fleets meet world-class standards of cleanliness and reliability now and into the future.



Stories from the team

A clean train equals a safe train in our customers' minds. That's why our Fleet teams have been working together to ensure our trains are sparkling clean, inside and out.

Customer feedback tells us that train cleanliness is an important factor in making customers feel safe when they use our services. Even if a train is in perfect working order, we know that a graffitied exterior and a dirty interior can make people feel less secure. Our Fleet team has made it their mission to ensure our trains are pristine.

To speed up our efforts, we formed a special 'First Impressions' taskforce at Olympic Park. These cleaning teams operate like a pit crew, ready to swiftly clean and turnaround the trains upon arrival. In a show of support, executives from Sydney Trains were invited to join the team for a shift, allowing them to experience a day in the life of a train cleaner. The event was a resounding success, with positive experiences reported by all participants.

Alongside this, every train that arrives at our maintenance centre gets a thorough scrub every visit. Our Fleet Customer Experience teams look after the train interiors, ensuring the floors and surfaces are immaculate.

Everyone's efforts have been incredibly rewarding. Jodie Stoyles, Manager of Fleet Customer Experience, expressed, "In the first few months of this year, one of the most complained-about aspects has become one of the most praised."



Commercial and Supply Chain

Our Commercial and Supply Chain function is made up of 135 people. Our teams oversee supply chain performance and planning, contract management, commercial management, and manufacturing, refurbishment and logistics services.

Visiting the REC: Inside Sydney Trains' Production Plant

Chief Executive Matt Longland recently visited the Rail Equipment Centre (REC), Sydney Trains' exclusive production facility. Joined by E&M Executive Director Nev Nichols, Matt took a tour to see the impressive manufacturing and refurbishing work firsthand.

The REC, located in Strathfield, is a key Engineering & Maintenance supply and production site. With a team of 25 professionals, they produce and refurbish a wide range of rail signalling, electrical, and mechanical equipment used on the network, boasting over 1,000 unique stock codes.

During the visit, Matt congratulated Engineer Operator Stephen Wills for his 40 years of service with Sydney Trains. Commercial & Supply Chain Deputy Executive Director Jason Kelly also praised the REC team for their exceptional work.

Impressed by what they saw, Matt and Nev acknowledged the complexity and range of operations at the REC. Jason commended REC Manager Lasith Ranasinghe and the entire team for their meticulous preparation and the facility's impressive standards.

The visit showcased the remarkable work of the REC team, highlighting their valuable contributions to Sydney Trains' success.





Asset Management

Our Asset Management function looks after all Sydney Trains assets. Our 250 people work across various teams to ensure that the strategies, systems, capabilities and governance that support these assets adhere to best practices.

Stories from our team

The weekend of 18-19 March 2023 was a big success for Engineering and Maintenance, with multiple teams pulling off some of the largest and most complex projects in years.

Over 12 months of planning went into the multiple station upgrades, brownfield works, re-railing and defects rectifications, and contact wire and turnout renewals carried out by over 1,000 rail workers across the network.

Deputy Executive Director, Grant Burton, emphasized the extensive planning, coordination, and teamwork required for a weekend like this.

“This was one of the largest possessions ever managed. A major undertaking, involving over 300 planned scopes, 17 possession stages and 127 planned work train and track machine movements expertly planned and coordinated. Weekends like this don’t happen by magic. They take loads of planning, coordination and teamwork,” explained Burton.

While Asset Management does a lot of the possession planning and coordination to provide safe access to the network, every part of Engineering and Maintenance got involved. Planning for the weekend also involved working closely with the Customer Experience branch, Sydney Metro and Transport’s Infrastructure and Place to deliver infrastructure programs such as More Trains More Services, the Transport Access Program, and the New Intercity Fleet.

Everyone’s hard work and commitment meant that all planned tasks were successfully completed to help ensure a safe and reliable rail network for customers.

Engineering System Integrity

Our Engineering System Integrity (ESI) function keeps Sydney moving by providing design, engineering, and assurance integrity services to Sydney Trains and Transport for NSW more broadly.

We're made up of over 500 people who are responsible for ensuring system safety and integrity. Our teams provide technical expertise and assurance to our partners across the asset management teams. Our team also holds a Sydney Trains' Technically Assured Organisation (TAO) accreditation.

Stories from our team

How a proactive ESI design helped to avert disaster

Shahram Farnoudi, a Senior Geotechnical Engineer within ESI identified a high-risk site on the Main North Line near the Hawkesbury River Bridge.

"The site is part of the National Park, with lots of large caves and isolated boulders extending outside the rail corridor, and a high risk of slippage, that could potentially do major damage to trains and infrastructure," explained Shahram.



To prevent potential damage to trains and infrastructure, Shahram designed a five-meter high rockfall barrier capable of supporting 3,000 kilograms of fallen rocks. Shahram worked closely with installation teams from Major Works and Safety Environment Quality Risk and the barrier was completed in June 2021.

During a subsequent assessment in June 2022, Shahram discovered that the barrier had accumulated over 300 tonnes of rocks, debris, and trees due to a breached top drain caused by extreme weather.

The accumulation could have led to a major incident, including track closures and significant delays. However, the rockfall barrier successfully prevented any such incident.

To address the issue, Shahram proposed using jack hammers and water jets to break the large rocks and wash away the loose debris. A temporary top drain was created, and the damaged area was protected with an impermeable geomembrane. Repairs at the site are ongoing, with top drain repair work scheduled to commence in October 2022.



75

WARNING TO PASSENGERS
AND VISITORS TO STATION
AND RAILWAY: DO NOT CROSS
THE RAILWAY TRACKS OR
PLATFORMS AT ANY POINT
UNLESS YOU HAVE BEEN
TOLD TO DO SO BY A
MEMBER OF STAFF

EMERGENCY
STOP

AGI

WOLU
SIGN





↶ Watch the video

About Sydney Trains

At Sydney Trains, our rail services keep Sydney moving by putting our customers at the centre of everything we do.

We work with our local communities to deliver safe, timely and efficient rail services 24 hours a day, seven days a week.

Our trains and network are evolving to meet the needs of our customers now and well into the future. We're continuing to integrate technological innovations that help us deliver a smarter and more sustainable network.

Find out more about [Sydney Trains](#)



Deliver transport infrastructure projects across NSW

We're committed to delivering better transport for the future of NSW. Our current projects are helping to shape our cities, centres and communities for generations to come.

Explore all current projects via [Projects - Transport for NSW](#)

Our teams voted these as the top four reasons to work at Transport



**Flexible working/
work-life balance**



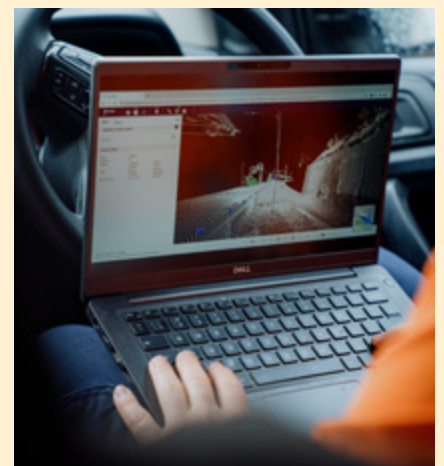
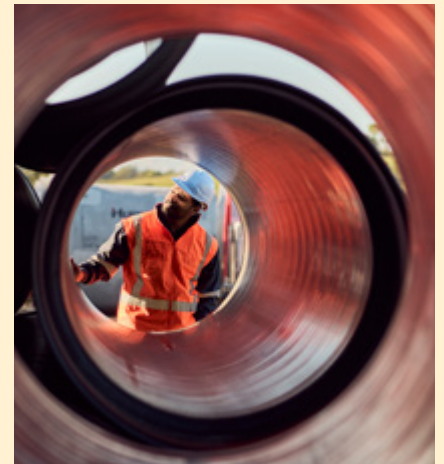
**Great teams and
co-workers**



Interesting projects



**Job impact in making
NSW a better place to
live, work and visit**



Why join Transport?

Flexible hours and leave

We want our people to feel empowered to work in ways that work for them and their teams. We know work-life balance looks different to everyone so we've developed workplace flexibility policies. That might mean working remotely some days. Or having the option to start and finish a bit earlier or later, or allocating extra hours you've worked to a day off from time to time. We offer paid annual leave, sick leave, family leave, and community service leave for things like volunteering.

Health and wellbeing

We are committed to providing a healthy workplace for our people, both mentally and physically. This includes a range of initiatives to promote wellness across our organisation as part of our Mental Health and Wellbeing Strategy.

- Fitness Passport provides discounted access to more than 400 gyms, pools and recreational centres across NSW for employees and their families.
- Free support and counselling for employees and their families through Transport's Employee Assistance Program.
- Free annual influenza vaccinations.
- Regular health and wellbeing workshops.





We're diverse because you're diverse

Transport for NSW is deeply committed to creating an inclusive and diverse workplace where our people can be their whole selves at work. We champion people of all backgrounds, abilities, sexual orientations, gender identities, ages, family statuses and lived experiences.

We've developed a range of initiatives that support and develop great people from diverse backgrounds, and encourage a culture built on respect.

Some of E&M's key initiatives include:

- Harmony Week events to celebrate inclusion, diversity, and respect through employees sharing their personal stories.
- Our PPE Working Group ensures PPE options for women, including maternity clothing.
- Women within E&M have exclusive access to development events such as our regular E&M Connecting Women forums, Women in Rail, Women in Engineering and Women in Leadership groups.
- RISE Program intensive career and leadership training program for women.
- Our E&M Women's Amenities Working Group has introduced specific amenities for women at E&M worksites, including more toilets at remote and out-of-hours work locations and 25 breastfeeding rooms at E&M work locations.
- Opportunities for schools to participate in Engineering and Maintenance's immersive experience to help build an understanding of engineering activities within early-career groups and encourage students to consider Sydney Trains as a career option.
- School visits as part of the Inspiring the Future Australia program, where students learn about STEM careers from industry workers to encourage more students to pursue VET courses or engineering degrees.
- Participating in EmpowerHER Trades - Try-a-Trade Networking events, which target female students from Western and South Western Sydney schools.
- The development of the Women's Stream within the E&M Inclusion and Diversity Committee to hear and understand what women need to be supported and succeed in the workplace and create more opportunities for women to network and develop their careers.

A place to progress your career

We're passionate about supporting our people to pursue their career goals and deliver great work. We offer a range of learning and development opportunities designed to grow your skills, get experience in different areas and plan for the future.



Entry-level programs

Sydney Trains offers a range of apprentice and trainee programs for people who are new to the industry or workforce to kick-start a career in rail and transport. All programs involve mentoring, on-the-job learning and working towards an industry-recognised accreditation.

It's your career. Own it.

Taking ownership of your career starts right here. Our career hub, *Drive your career*, is full of advice, tools and strategies. These resources will help you get a clear picture of where you're at, what to work on and how to plan for your future career.

Five Ways of Leading

Leadership isn't about a position, title or role — everyone is considered a leader at Transport. The [Five Ways of Leading](#) website covers the five key behaviours of strong leaders and promotes practical ways of applying these in our everyday interactions with each other. A range of podcasts, tool kits, videos, guides and activities are available to all Transport employees.

Online and classroom-based learning

Stay curious and keep learning, with access to a variety of online and classroom-based courses to build your skills in a range of areas. We also offer a huge range of internally-run courses and workshops, access to LinkedIn Learning, subsidised programs, conferences and seminars to further your development and professional networks.

Study assistance

Keep learning while you work. Study assistance is available for employees enrolled in part-time study. You may be eligible for financial contributions to help cover tuition and course-related expenses, as well as study leave for exams and study commitments.



Transfers, temporary transfers, secondments and acting opportunities

Transfers, temporary transfers, secondments and acting opportunities

Whether you're looking to build on your skills or try something completely new, there are lots of ways to get experience across the huge variety of teams and projects at Transport or even another government agency.

Temporary transfers and secondments are temporary placement arrangements where you have the option to return to your substantive role.

Acting opportunities are a chance to step into a more senior role for a period of time and stretch your skills and experience.

Role changes also help Transport and the NSW Public Service meet short and long-term organisational goals by matching existing employee skills with available opportunities.

“Work within the railways is truly unique and there are so many great opportunities to learn more and work in different areas across Transport.”

— **Jack Siu, Professional Head
Electrical Engineering, Engineering
System Integrity (ESI)**

231 Elizabeth Street
Sydney NSW 2000

PO Box K659
Haymarket NSW 2008

T: (02) 8202 2200

W: www.jobs.transport.nsw.gov.au

