Automatic Train Protection

Frequently Asked Questions

Project overview

What is Automatic Train Protection?

Automatic Train Protection (ATP) is a vital part of Transport for NSW's commitment to improve the safety of our rail network for our customers and staff.

Transport for NSW is enhancing safety across the electrified rail network by delivering new ATP technology. Automatic Train Protection (ATP) is a generic name used globally to describe a range of train safety technologies. The ATP and Digital Systems projects both utilise the European Train Control System (ETCS) technology as its ATP system. ETCS has been defined for use at different levels to suit differing operational requirements. The outcomes of the different systems range from improving safety, reliability, and/or increasing capacity on the network.

The ATP technology rolling out across the Sydney Trains and NSW TrainLink electrified network is ETCS Level 1 Limited Supervision.

How does ATP work?

ATP is a train system which monitors a train's speed, distance and direction and alerts the driver through indications, messages and audible alarms if the train is exceeding track speed.

Electronic transponders called 'balises' sit within the existing track infrastructure and transmit speed and signalling information as the train travels over the top. The system can automatically apply the train's brakes, bringing the train safely to a stop if required.

Where will ATP be operational?

ATP is being rolled out across the electrified rail network with equipment installed on the majority of the Sydney Trains and NSW TrainLink fleet. The ATP rollout includes the Sydney Trains metropolitan area as well as the South Coast Line to Kiama, the Blue Mountains Line to Lithgow, and the Central Coast / Newcastle Line.

The Eastern Suburbs Rail line will be delivered as part of the Digital Systems Program (DSP). Visit the DSP page for the latest information.

What is installed on-board trains?

The main ATP on-board equipment being installed is a computer called a Driver Machine Interface (DMI). Drivers stay informed via the DMI. Other on-board equipment includes wheel sensors and a radar which continually calculates train speed, distance and direction travelled.

Does ATP affect the role of the train driver?

No. Train drivers remain responsible for the safe operation of the train. ATP is an additional safety system and drivers are being trained on the operation of this system.

What type of ATP is being installed?

The system chosen to provide ATP is the European Train Control System (ETCS Level 1 Limited Supervision) which is in widespread use internationally.

The more recent Transport for NSW Digital Systems Program will enhance the ETCS system implemented by ATP from Level 1 to Level 2.

When will construction work finish?

Construction is currently under way, with equipment being installed progressively across the electrified network. Please refer to the ATP project page for up-to-date information.

What are the hours of construction?

COVID-19 extended construction hours

To support the industry and continue the delivery of critical infrastructure, the NSW Government has introduced new rules allowing construction sites to operate on weekends and public holidays. **Standard construction hours are now 7am to 6pm every day, including public holidays.** These changes have been made to facilitate social distancing on construction sites and support the health and wellbeing of workers.

Transport for NSW understands extending construction hours to weekends and public holidays may cause disruption for the community but all efforts will be made to minimise impacts where possible and ensure strict environmental conditions relating to noise, vibration and dust management are addressed.

Work will also take place outside of standard hours during scheduled Sydney Trains trackwork weekends when trains are not running, ensuring that we minimise the impact to our customers and protect our staff.

Will construction activities affect me?

Every effort is being made to minimise construction impacts to the local community and businesses. We will continue to inform the community and customers prior to any activities taking place outside of standard hours. In addition to community notifications and signage along the work corridor, impacts on local communities are being minimised wherever possible. This includes completing the noisiest work during the day wherever possible, using the quietest available equipment, regularly monitoring noise levels, as well as keeping traffic from work vehicles and visual impacts to a minimum.

Contact us

For further information please contact us via the Project Infoline 1800 684 490, email projects@transport.nsw.gov.au or visit transport.nsw.gov.au/projects.

The project team will continue to keep the community informed via regular notifications and updates on the Transport for NSW website.