



The safety of track workers can be impacted by:

-  Reliance on verbal communications that are vulnerable to human error.
-  Unclear worksite limits and safe boundaries that can lead to hazardous situations.

4PTW is 4Tel's digital solution for managing authorities to support track maintenance in signalled and train order territory. Proven in operational use since 2018, it is used to manage track access across more than 10,000 km of track across Australia.

Track access information is delivered from the train control environment to track workers via a mobile app, enhancing their safety and improving the efficiency of work on track activities.

4PTW addresses these risks through:



Visual Map Display

Real-time GPS tracking allows track workers to see their position in relation to worksite limits.



Live Alerts

Notifications are delivered to the app to warn track workers of their limits of authority.



Engineering Controls

Replaces administrative processes such as paper-based forms and phone calls to grant access to track workers.



Competency Validation

Checks that workers are qualified for the work on track authority they are being authorised.

Advantages:

- ✓ Provides engineering controls for a traditionally administrative process
- ✓ Reduces communication errors through the digital transfer of safety critical information
- ✓ Minimises CAPEX investment by utilising staff-owned smartphones or tablet devices
- ✓ User-centric design offers familiarity and usability, built in consultation with industry
- ✓ Boosts network controller capacity for managing track work operations
- ✓ Configurable to individual network requirements with integration into existing control systems
- ✓ Faster track access for workers and crews using a more streamlined process

4PTW supports the following rail work categories and can be adapted for business rules and industry standards:

Lookout Work

Work performed on or near track while trains operate, with notifications provided by designated lookouts.

Authority / Track Occupancy

Work requiring exclusive access to a defined portion of track, authorised by a central authority.

Corridor / Line-Adjacent Work

Work performed within a defined corridor adjacent to live track without exclusive track possession.

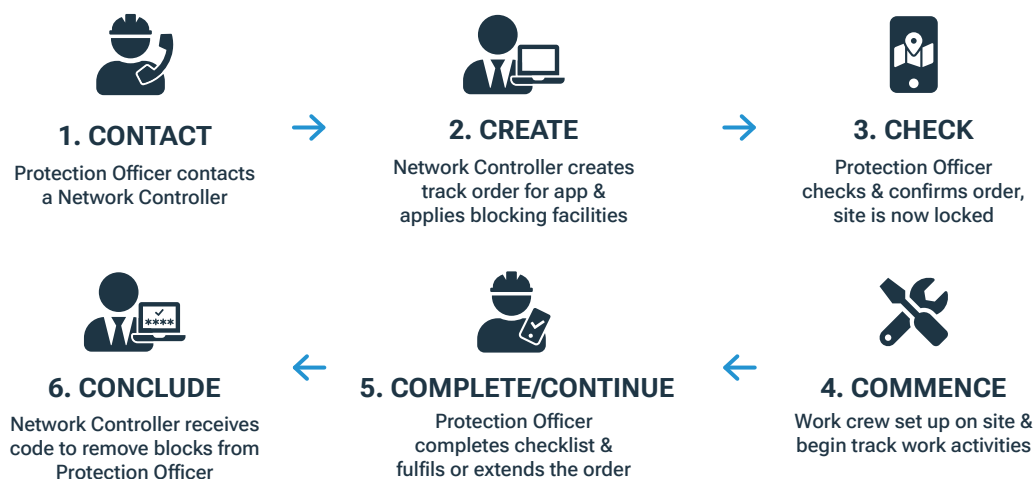
Track Vehicle Movements and Journeys

For track patrols, the app generates proximity alerts when approaching limits, and alarms if the vehicle proceeds beyond the authority limit. Alerts are displayed on the app and at the network control centre.

Absolute Blocking / Line Blocking

Work performed under a rail traffic block between defined limits.

The 4PTW process



CASE STUDY - Australian Rail Track Corporation (ARTC) Digitising ARTC's Track Work Activities with eTAP

The ARTC facilitates the movement of more than 400 freight and passenger trains daily across an 8,500km network that spans multiple states including New South Wales, Queensland, Victoria, South Australia and Western Australia.

In 2019, ARTC identified an opportunity to apply mobile technology to improve the track access authority process and 4Tel was engaged to digitise existing manual processes. 4PTW was customised as the eTAP app which went live in New South Wales in February 2020. Its success led to its expansion across the whole ARTC network in October 2023.



ARTC

<12 months

To implement across the NSW state network

+99% uptake

In 2 months among track workers and network controllers

8,700 calls diverted

Per month from network controllers