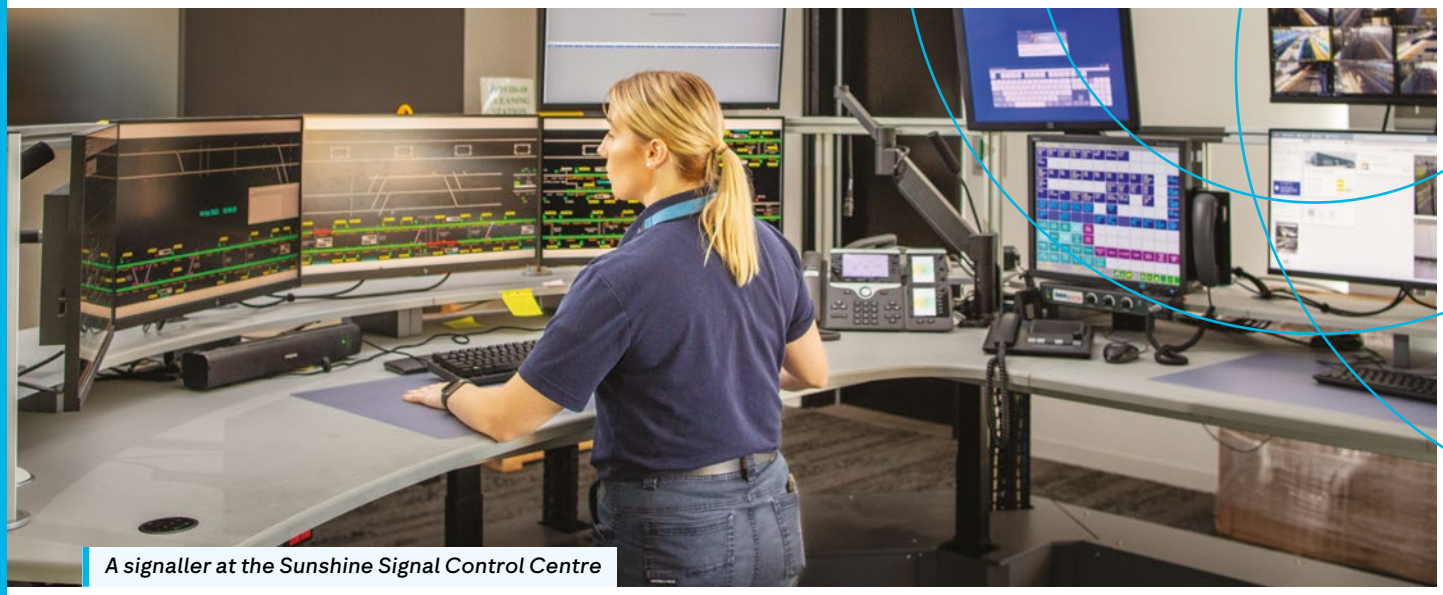
High Capacity Signalling



A signaller at the Sunshine Signal Control Centre

What is High Capacity Signalling?

High Capacity Signalling is the high tech system used to run trains in turn-up-and-go rail networks across the world.

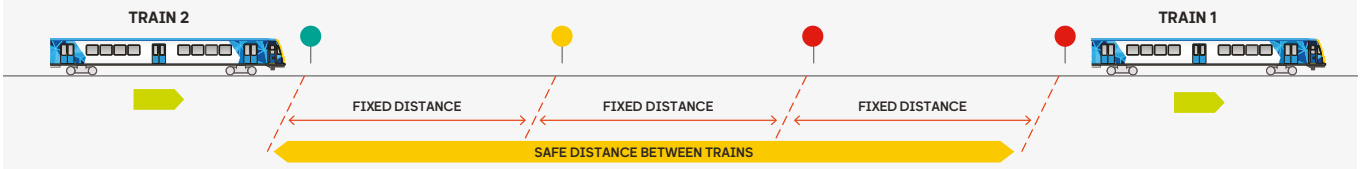
It enables trains to automatically adjust their speed to keep a safe distance from the train in front – like adaptive cruise control in cars – which means services can run closer together and more frequently.

High Capacity Signalling will allow more frequent services through the Metro Tunnel and on the busy Cranbourne, Pakenham and Sunbury lines from 2025.

Signalling is like your body's nervous system – it's not something you can easily see or touch, but it's essential for trains to function.

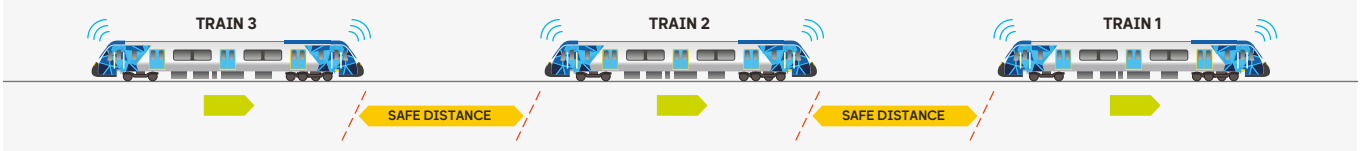
Traditional signalling system used on the Melbourne rail network

Traffic lights tell drivers when to stop or go



The Metro Tunnel's new High Capacity Signalling system

Trains adjust their speed automatically to keep a safe distance



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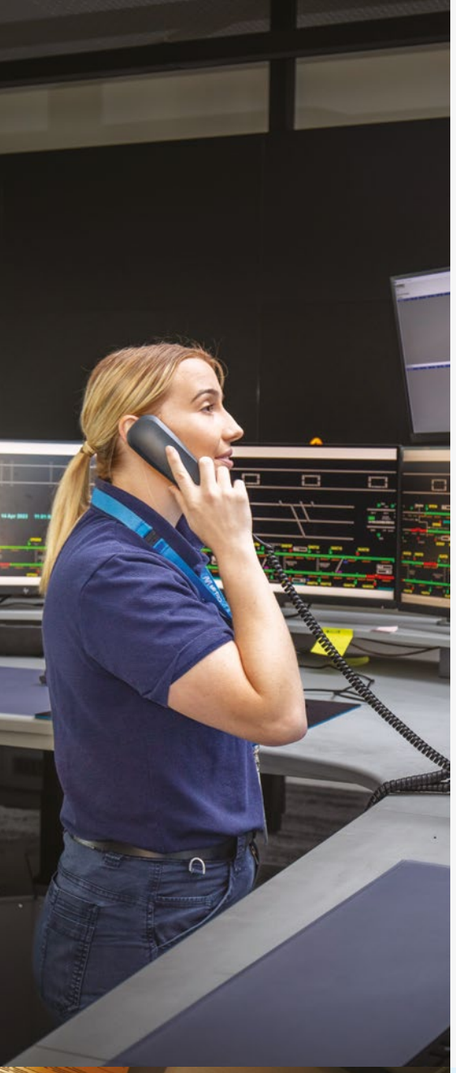
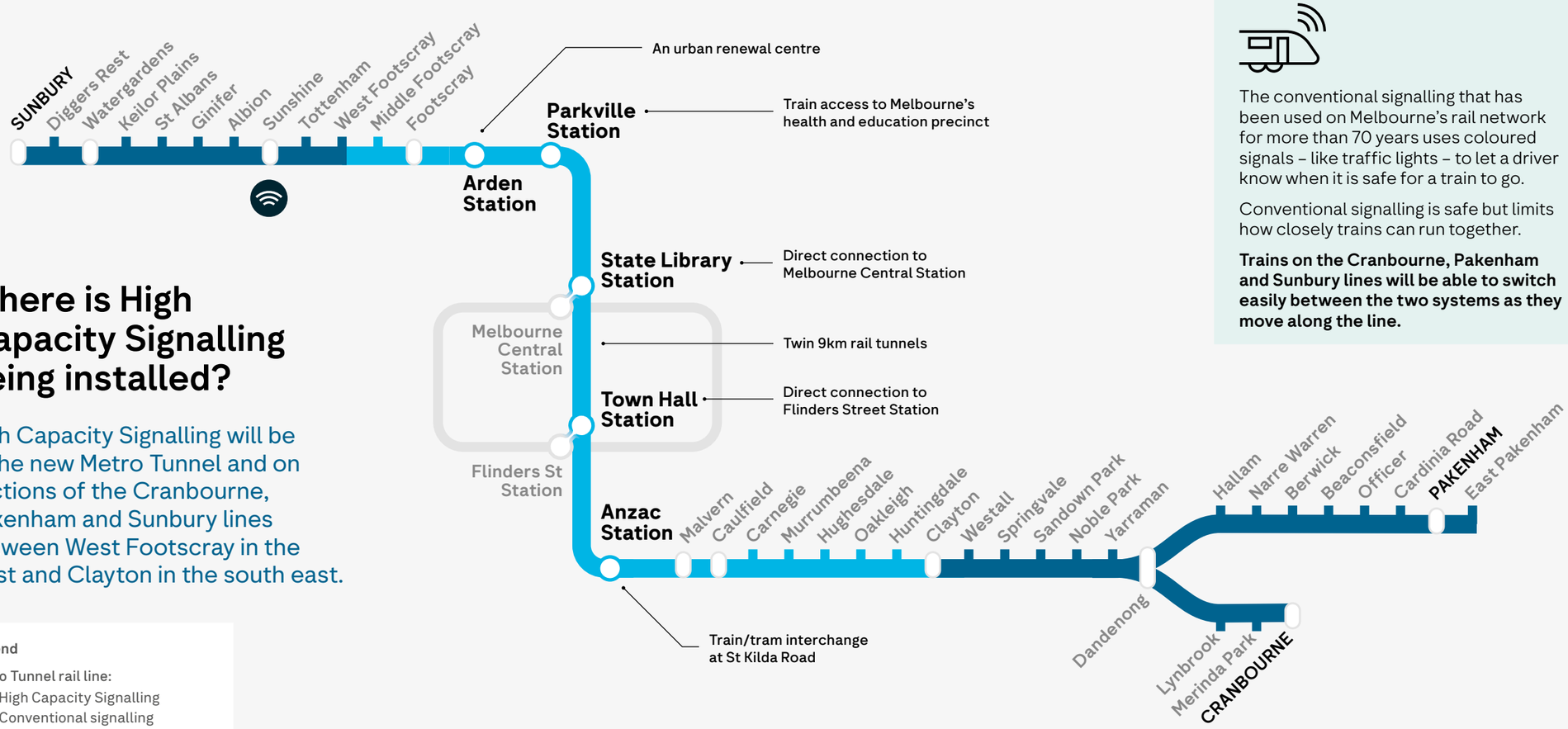
VICTORIA'S BIG BUILD



Where is High Capacity Signalling being installed?

High Capacity Signalling will be in the new Metro Tunnel and on sections of the Cranbourne, Pakenham and Sunbury lines between West Footscray in the west and Clayton in the south east.



Legend

Metro Tunnel rail line:
- High Capacity Signalling
- Conventional signalling

Sunshine Signal Control Centre

The conventional signalling that has been used on Melbourne's rail network for more than 70 years uses coloured signals – like traffic lights – to let a driver know when it is safe for a train to go.

Conventional signalling is safe but limits how closely trains can run together.

Trains on the Cranbourne, Pakenham and Sunbury lines will be able to switch easily between the two systems as they move along the line.

How does it work?

The new signalling system that will be used to run trains through the Metro Tunnel and along sections of the Cranbourne, Pakenham and Sunbury lines includes:

- The High Capacity Signalling (HCS) that gathers information on train speed and location from the trains and equipment along the rail lines and transmits it to the signal control centre.
- A new signal control centre in Sunshine – the 'brains' of the system – where highly qualified signallers monitor trains as they move along the lines and through the tunnels using the data transmitted by the High Capacity Signalling system.

HCS is a new system for the Melbourne rail network, that will work seamlessly with the conventional system that has operated on the network for decades.

High Capacity Signalling for passenger services

Next-generation High Capacity Signalling is already being used for some passenger services on the Cranbourne, Pakenham and Sunbury lines, in a Victorian first.

As we get closer to opening the Metro Tunnel and more drivers are trained on the new system, more services will run on the lines using HCS.

Arden Station concept image

The Metro Tunnel

The Metro Tunnel is the biggest upgrade of Melbourne's train network since the City Loop opened in 1981.

It will connect the Sunbury and Cranbourne and Pakenham lines via a new tunnel under the city.

The Metro Tunnel will open up the city like never before, giving passengers direct train access to St Kilda Road and Parkville for the first time.

It includes:

- twin nine-kilometre tunnels from Melbourne's north-west to its south-east.
- five new underground stations between St Kilda Road and North Melbourne.

The Metro Tunnel and City Loop will connect at two key CBD locations – between Flinders Street Station and the new Town Hall Station, and between Melbourne Central Station and the new State Library Station.

Technology

High Capacity Signalling is just one of the high-tech systems that will be used on the Metro Tunnel.

This includes platform screen doors, which have been installed at each of the Metro Tunnel's five new underground stations – a Melbourne first.

The platform screen doors provide a barrier between the track and platforms, preventing people and objects falling onto the tracks, reducing noise from trains and helping control the stations' temperature.

The doors are linked to the high capacity signalling system that controls train movements. The system tells the doors to open when a train stops, and will only allow a train to move when the doors are safely closed.

More choice, better connections

- **Better connections to jobs, education and health services**
- **Bigger, more comfortable trains with better accessibility**
- **Connecting Parkville and St Kilda Road to the rail network for the first time**
- **Expanding Melbourne's rail network for the city's growing population**
- **Five new state-of-the-art underground stations**
- **Next-generation High Capacity Signalling for turn up and go services**

Find out more

metrotunnel.vic.gov.au

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