



High Capacity Signalling



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

It will enable more services and reduce travel times to key destinations by running the busy Sunbury, Cranbourne and Pakenham lines through a new tunnel and a new tunnel under the city.

It will include next-generation High Capacity Signalling technology - the first step towards a reliable 'turn-up-and-go' network similar to other world-class cities such as London and Singapore.

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.

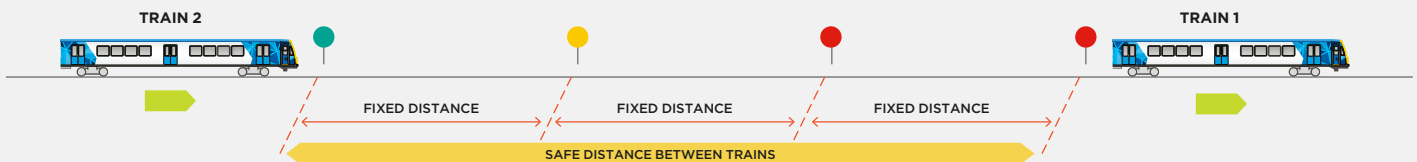
High Capacity Signalling will allow for more trains, more often

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.

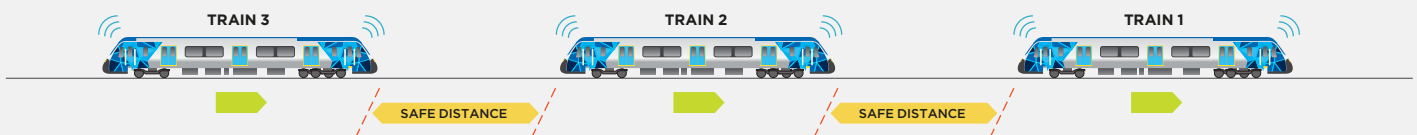
Traditional signalling system used on the Melbourne rail network

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



Sign up for Metro Tunnel project updates

[metrotunnel.vic.gov.au](https://www.metrotunnel.vic.gov.au)

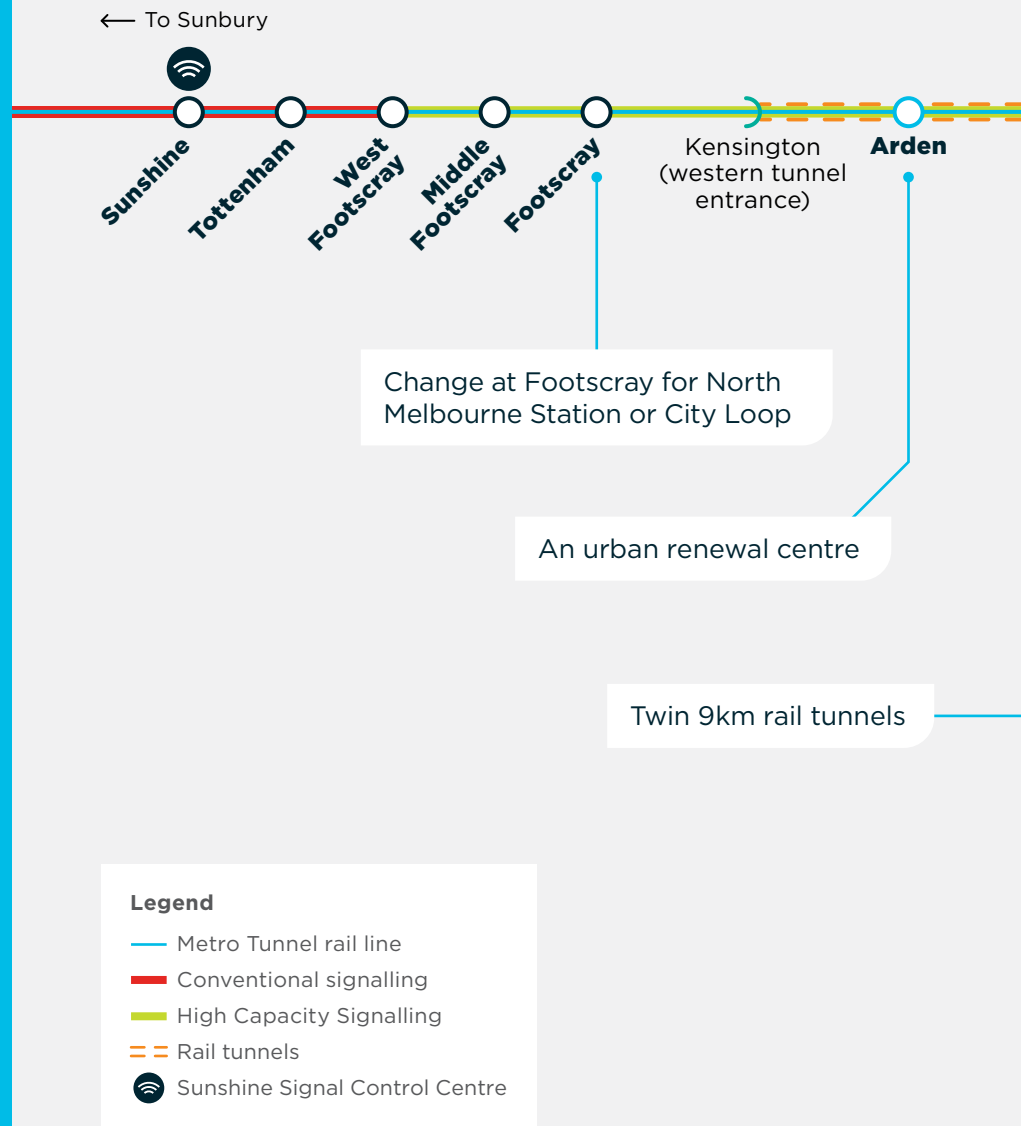
How does it work?

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.

Where is High Capacity Signalling being installed?



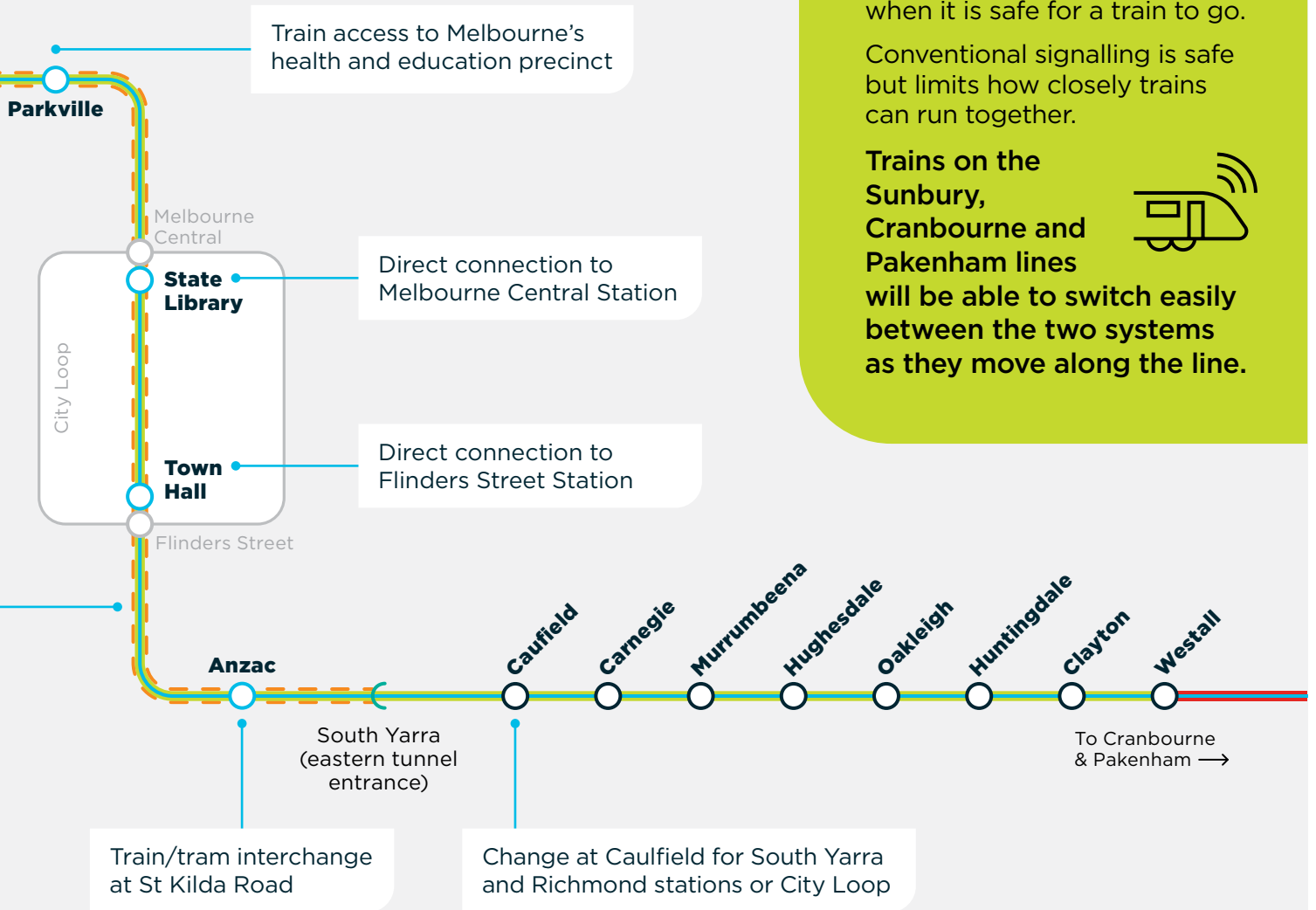
When will High Capacity Signalling be used for passenger services?

Next-generation High Capacity Signalling will be tested on passenger services on the Cranbourne, Pakenham and Sunbury lines in 2023 and 2024, in a Victorian first.

Progressively testing the new signalling technology will allow any problems to be identified and managed before the tunnels and five new stations open in 2025.



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 Westall in the south east.



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





Arden Station concept image

The Metro Tunnel

The Metro Tunnel will open in 2025, creating a new end to end rail line from Sunbury in the west to Cranbourne/Pakenham in the south east, with bigger, more modern trains, High Capacity Signalling and five new underground stations.

It includes:

- twin nine-kilometre rail tunnels from Kensington in the west under the Melbourne CBD to South Yarra in the south east
- five new underground stations at Arden (in North Melbourne), Parkville, State Library and Town Hall (both in the CBD) and Anzac (on St Kilda Road).

The Metro Tunnel is the first step towards a metro-style rail network for Melbourne, with the turn-up-and-go rail services that are the hallmark of the world's great cities.

It will transform Melbourne's train network, improving connections and slashing travel times by up to 50 minutes a day.

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 will be linked to the High Capacity Signalling system, opening and closing automatically when trains arrive at and depart stations.

Platform screen doors improve passenger safety and boarding times, help manage station temperature and improve tunnel ventilation.

Better travel



Cutting travel times to key destinations such as Parkville and St Kilda Road



Connecting Parkville's health and education district and the St Kilda Road residential and employment hub to the rail network for the first time



Creating capacity for an extra half a million passengers across the network every week




Five new state-of-the-art underground stations



Easing congestion on the busy St Kilda Road/Swanston Street tram corridor

More information

 metrotunnel.vic.gov.au

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(24 hours a day, 7 days a week)

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It should be noted that this information is current at the time of printing, however due to unforeseen circumstances, changes may occur. Please visit railprojects.vic.gov.au for the latest updates.