

The Metro Tunnel will free up space in the City Loop to run more trains to and from the suburbs by taking our busiest train lines through a new tunnel under the city.

Next-generation High Capacity Signalling technology will be installed as part of the project to deliver more trains, more often during peak times.

The Metro Tunnel, along with other network improvements, will create room for 121,000 passengers every week on the Cranbourne and Pakenham lines during peak periods – that's 45 per cent more peak capacity.



What is High Capacity Signalling?

High Capacity Signalling is a new hi-tech 'moving block' signalling system that enables trains to automatically adjust their speed to maintain a safe distance from the train in front.

This replaces the current conventional 'fixed block' system, which uses coloured signals to indicate when it is safe for a train to proceed.

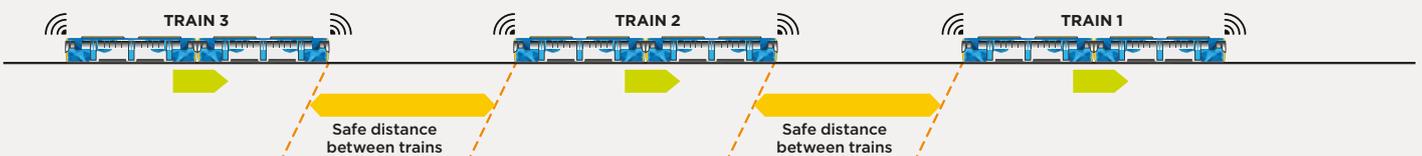
To visualise how High Capacity Signalling works, imagine driving on a freeway. Adaptive cruise control adjusts the vehicle speed according to the distance from the car ahead to help the driver travel more safely.

Under the control of train drivers, High Capacity Signalling works in a similar way by communicating wirelessly between trains and a control centre.

Existing fixed block signalling system



Moving block signalling system

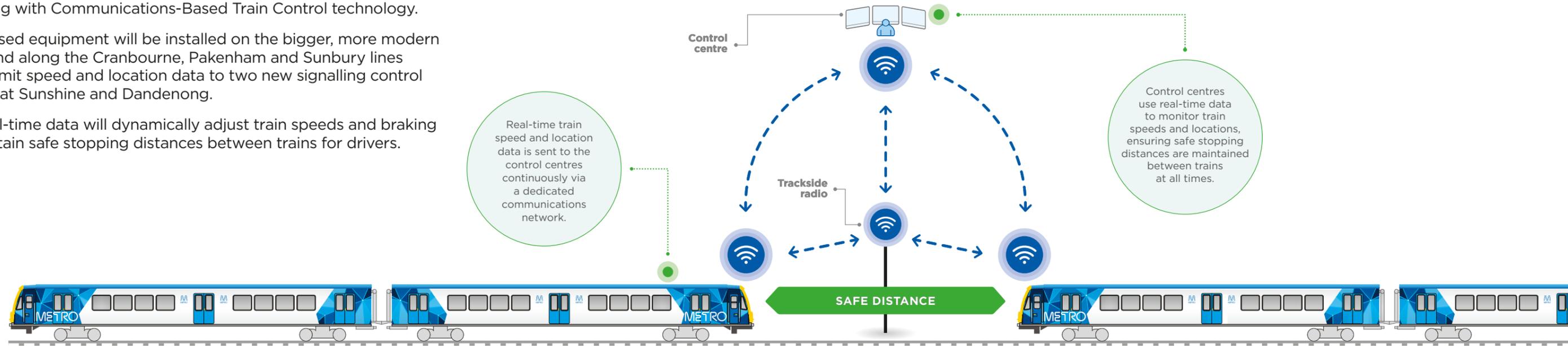


How High Capacity Signalling works

High Capacity Signalling will replace conventional 'fixed-block' signalling with Communications-Based Train Control technology.

Specialised equipment will be installed on the bigger, more modern trains and along the Cranbourne, Pakenham and Sunbury lines to transmit speed and location data to two new signalling control centres at Sunshine and Dandenong.

This real-time data will dynamically adjust train speeds and braking to maintain safe stopping distances between trains for drivers.



How will High Capacity Signalling benefit passengers?

High Capacity Signalling allows trains to run closer together and delivers more trains, more often.

It means that passengers on the Cranbourne, Pakenham and Sunbury lines will have more travel options and service reliability.

This technology will revolutionise Melbourne's train network as we move towards a reliable 'turn-up-and-go' system similar to other cities such as London, Singapore and Hong Kong.

Why do we need it?

The advanced signalling technology allows more trains to safely run on the network.

It monitors train movements in real-time, allowing network operators to reduce the impacts of incidents and unexpected delays.

Upgrading existing signalling

In addition to introducing High Capacity Signalling to the Cranbourne, Pakenham and Sunbury lines, existing signals used along these lines will be updated. Trains that use High Capacity Signalling and those that use conventional signalling - such as freight and regional passenger services - can safely and efficiently operate on the one system.

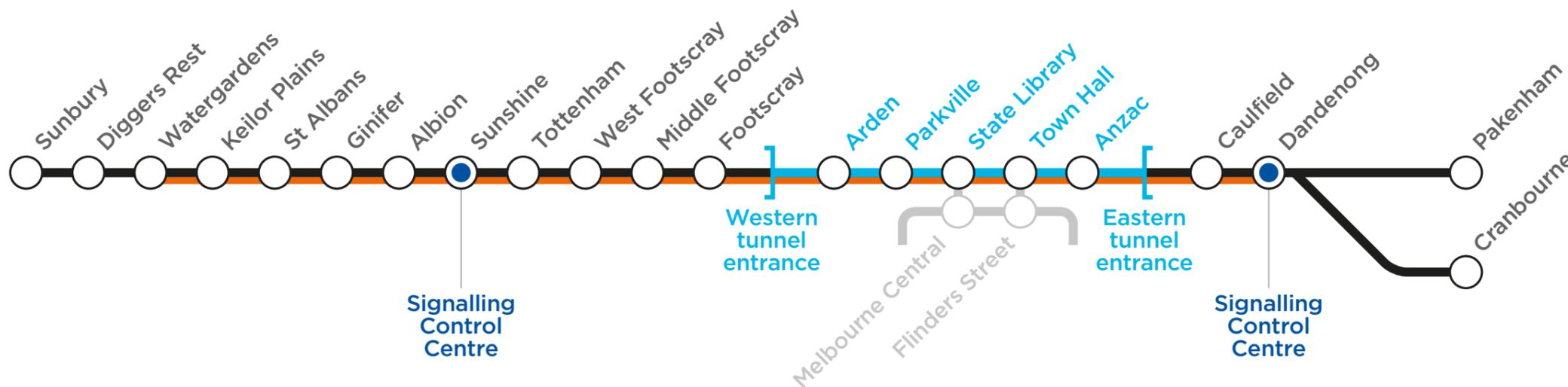
This means regional passengers and freight services will also benefit from the Metro Tunnel.

Initial test on the Mernda line

Testing of High Capacity Signalling is underway on the Mernda Line between Epping and South Morang stations mainly at night. These tests will help us fine tune the operation of the system for use in Melbourne. It will then be rolled out along the new Cranbourne, Pakenham and Sunbury lines between Watergardens and Dandenong stations.



High Capacity Signalling will be installed on the Cranbourne, Pakenham and Sunbury lines





Platform Screen Doors – example only

Platform Screen Doors

In a first for Melbourne, new hi-tech Platform Screen Doors will be installed at each of the Metro Tunnel's five new underground stations.

Each station will be fitted with floor-to-ceiling toughened glass walls along the length of its platforms and Platform Screen Doors that will open and close automatically when trains arrive at and depart stations.

They improve passenger safety and boarding times, help manage station temperature and improve tunnel ventilation.

Platform Screen Doors are used in some of the world's leading underground rail networks and this is the first time they will be used in Melbourne.

Benefits for all lines

Taking some of Melbourne's busiest metropolitan train lines – Cranbourne, Pakenham and Sunbury, out of the City Loop, means there will be increased capacity for other lines to run more services through the City Loop.

As a result, there will be room for more than half a million additional passengers per week across Melbourne's train network to use the rail system during peak periods.

The Metro Tunnel will also take cars off our busy roads and reduce travel times to key destinations for passengers across suburban and regional lines.

Front cover image © HiVis Pictures
Back cover image © Faiveley/C.Recoura

Who is delivering HCS?

High Capacity Signalling is being delivered by the Rail Systems Alliance, comprising CPB Contractors, Bombardier, Metro Trains Melbourne and Rail Projects Victoria.

More information

To find out more about the Metro Tunnel Project and register for future email updates:

 metrotunnel.vic.gov.au

 1800 105 105 (24 hours a day, 7 days a week)
Press 2 and follow the prompts

 facebook.com/metrotunnel

 Subscribe to eNews or construction notification emails: metrotunnel.vic.gov.au/contact/enews



Interpreter Service

(03) 9280 0700

Arabic	العربية	Russian	Русский
Cantonese	廣東話	Serbian	Српски
Greek	Ελληνικά	Sinhalese	සිංහල
Italian	Italiano	Spanish	Español
Korean	한국어	Turkish	Türkçe
Macedonian	Македонски	Vietnamese	Tiếng Việt
Mandarin	普通话		

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