Construction overview

Tunnels

The West Gate Tunnel Project will be built over five years, opening in 2022 to provide a vital alternative to the West Gate Bridge, quicker and safer journeys and remove over 9000 trucks from residential streets in the inner west.

The project is a partnership between the Victorian Government and Transurban and will be built by a joint venture between CPB Contractors and John Holland.

The Western Distributor Authority is managing the project on behalf of the Victorian Government. There are three construction precincts: West Gate Freeway, Tunnels and Port to City.

In the Tunnels precinct we are building:

- **Twin tunnels under Yarraville** between the West Gate Freeway and the Maribyrnong River
- **Entry and exit portals** where the tunnels connect with surface roads
- **Ventilation structures** at each tunnel exit to remove air from inside the tunnels
- **Walking and cycling paths** on Hyde Street, Harris Street, Maribyrnong Street and bridges over Whitehall Street, Williamstown Road, Stony Creek and the West Gate Freeway
- **New landscaped open space** in Altona North and Footscray
- **Freeway Management System** to support good traffic flow and safety
- **Tunnel safety features** for smooth operation of the tunnel, including automatic detection for over-height trucks, fire systems and emergency access and exits.

**5 year construction period**

**2 Tunnel Boring Machines** operating up to 24 hours a day to construct the twin tunnels

**15 million cubic metres of rock and soil** removed for tunnel construction
A tunnel allows a freeway connection to be built in established residential and commercial areas with far fewer impacts and many benefits including:

- moving through traffic away from homes
- reducing traffic noise on local streets
- reducing trucks on local streets
- supporting urban redevelopment opportunities by protecting land on the surface.

**Key works - Tunnels precinct**

**Areas with far fewer impacts and many benefits including:**

- **Tunnel allows a freeway connection to be built in established residential and commercial:**
- **moving through traffic away from homes**
- **reducing traffic noise on local streets**
- **reducing trucks on local streets**
- **supporting urban redevelopment opportunities by protecting land on the surface.**

**Construction compounds**

**Timing: Set up 2018-2019 and operating until 2022**

- Construction compounds provide a base for workers, equipment and machinery.
- We will:
  - Meet all requirements for managing noise, dust, traffic, and other environmental Performance Requirements.
- Given our neighbours advanced notice about what to expect during works.
- Provide parking for workers.

The main base for tunnel construction is at the northern portal on Whitehall Street, Footscray. The TBMs will be launched here and a spoil management facility set up to manage earth and water generated by tunnelling. To minimise disruption we are:

- Fitting noise covers to noisy machinery and equipment.
- Using covered conveyors, sheds and trucks to reduce dust.
- Fencing and screening the site for safety.
- Reducing traffic in and out at peak times to minimise disruption.

**Tunnel portals**

**Timing: 2018-2021**

The start and end of each tunnel will be built using the ‘cut and cover’ method. This involves excavating a trench then covering it with a concrete deck to form a roof. This is where the TBMs start and end their journey.

**Working hours**

Tunnelling operations will take place 24 hours a day, seven days a week. The TBMs will work around the clock, and the main tunnelling construction compound at Whitehall Street will be busy both day and night.

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Two state-of-the-art tunnel boring machines (TBMs) will build the twin tunnels. These machines use the latest tunnelling technology and are custom designed and built to suit ground conditions in Melbourne’s west.

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**Ground conditions we will be working in**

- **Man-made fill** - The top layer on the surface, which is man made, is used to change the elevation or gradient of the surface and easy to tunnel through.
- **Gravel or sand fill** - Fine material normally one of the largest volumes and can be tunneled through with relative ease.
- **Cohesive soft ground** - Soft ground made up of sand and clay soil, much easier to tunnel through before they harden.
- **Cohesive soft ground** - Much softer rock that has a mix of hard and soft ground types, requires both disc cutters and soft ground tools to excavate through.

**North Yarra Main Sewer works**

**Timing: 2018-2022**

The North Yarra Main Sewer is a very old and large sewerage pipeline that runs under Whitehall Street. Before work on the tunnel can begin, the section of sewer between Youell Street and Somerville Road needs to be diverted.

This is a big job and will take around one year to complete. Diversion to traffic from Whitehall Street is expected for several months while this work is completed.

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Managing construction impacts

Vibration and ground movement
Thousands of tunnels are constructed and operate safely in cities around the world, including the CityLink and EastLink tunnels in Melbourne. Tunnel boring machines are very good at reducing vibration so people living and working above the tunnel may not notice construction happening underground. We will:
- Inspect properties before and after construction
- Monitor ground movement and vibration levels at all times
- Meet strict targets set to manage vibration, minimise disruption, and avoid damage to buildings.

Contaminated soil
Most of the soil and rock we’re digging out of the ground is natural fill material. Because heavy industry and rubbish tips have operated in this area over many years, we expect to find some contaminated soil and will manage it safely. We will:
- Carry out detailed studies to identify areas with contamination
- Manage any contaminated materials in accordance with EPA Victoria requirements, environmental laws and regulations
- Test soil and separate contaminated materials from clean fill
- Use facilities licenced by EPA Victoria to treat and dispose of contaminated soil or re-use fill according to approved guidelines.

Noise from above and below ground
Strict controls are in place to make sure construction noise is well managed and complies with EPA Victoria guidelines. We will:
- Use noise enclosures to reduce noise from major activities at construction compounds, as well as an acoustic shed at 221 Whitehall Street
- Plan noisy works at times when they will cause the least inconvenience where possible and provide advanced notice
- Monitor noise levels and take action to reduce noise.

Construction traffic
There will be changes on some roads, detours and a lot of trucks travelling to and from the site office on Whitehall Street. We will keep traffic moving by:
- Developing and following plans for how vehicles, cyclists and pedestrians move around work areas, public transport, speed limits, safety and property access
- Making sure any detours are safe, clearly signed and avoid residential areas where possible
- Reducing the construction traffic at peak times
- Keeping construction traffic on major roads, freeways and haulage routes.

Dust
We try to avoid creating dust, but if it can’t be avoided we will take action to reduce dust and stop it blowing around. We will:
- Cover dirt and rock when it is being moved
- Spray water on open stockpiles and roads to keep dust down
- Monitor dust levels at key locations and take action to suppress dust if it’s too windy
- Landscape areas as soon as possible so dirt isn’t left exposed.
Keeping you informed

We will keep people informed and work together to make things easier during construction.

You can expect to see regular information from us about construction activities happening in your area, including:

- Newsletters to keep you up-to-date
- Works notifications in your letterbox
- Door knocks or street meetings before major works
- Information on the website
- News and updates on social media.

We have a team that is dedicated to working with the community. They are available 24 hours a day, seven days a week to answer any questions or concerns.

Our West Gate Tunnel Project Visitor Information Centre will open in 2018, providing a one-stop shop for project information and enquiries.

Contact us

Do you have a question about the project? If you need more information or would like to provide feedback, please get in touch.

- westgatetunnelproject.vic.gov.au
- info@wgta.vic.gov.au
- 1800 105 105
- facebook.com/westgatetunnelproject
- @westgatetunnel

West Gate Tunnel Project
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**Interpreter service: 13 14 50**

If you are deaf, or have a hearing or speech impairment, contact us through the National Relay Service. For more information, visit: www.relayservice.gov.au.