

Tunnel Ventilation and Air Quality



Fact Sheet
March 2024



Artist's impression of the upgraded Bulleen Road and southern tunnel ventilation structure, Bulleen

The new North East Link Tunnels will be designed and operated to meet Victoria's stringent air quality standards - which are among the highest in the world.

North East Link will take traffic and trucks under instead of through our suburbs, giving local streets back to local people.

With thousands of road tunnels operating safely throughout the world, there are well-established ways to design ventilation systems so there are no negative effects on local air quality.

The ventilation structures for the North East Link Tunnels will protect the health of the local community and road users using the tunnels. We're building two ventilation structures – one in Yallambie and one in Bulleen.

Once the ventilation structures are operating, they will comply with North East Link's strict Environmental Performance Requirements and an EPA Victoria licence. Air quality will be regularly monitored and reported on daily.

Ventilation design

The design for the ventilation structures is inspired by traditional Wurundjeri eel traps - and both will be surrounded by new trees and plants.

The northern structure will be located near Blamey Road on former Department of Defence land in Yallambie. Trees along

Greensborough Road boulevard will also provide screening for the surrounding residential areas.

The southern structure will be integrated into the Yarra Link green bridge over Bulleen Road. The bridge will be planted with indigenous trees, grasses and shrubs.

Both ventilation structures will include solar panels to help power the tunnels below.

The height of the ventilation structures will be kept as low as possible to meet environmental and human health requirements. At the highest point, both ventilation structures are expected to be around 50 metres.

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Artist's impression of Marcellin College access road and southern tunnel ventilation structure, Bulleen

How tunnel ventilation works

Tunnel ventilation systems are designed to maintain safe air quality both inside and outside the tunnel to meet stringent air quality standards. The ventilation systems will work by drawing in fresh air from the tunnel entry, which is then pushed through the tunnel by the movement of vehicles and jet fans.

Before the tunnel exit, air is pushed up and out of the tunnel through a ventilation structure, and up into the atmosphere where it mixes with fresh air. There are no emissions from the tunnel portals where vehicles enter and exit. Smoke extraction fans are also located within the ventilation structures and would push out smoke if there was an emergency.

Monitoring

Assessments completed as part of North East Link's comprehensive Environment Effects Statement (EES) process found that there would be no significant or measurable impacts on the health of the community as a result of the ventilation system.

Air quality will be monitored as North East Link is built and when it opens to traffic, both inside and outside the tunnels.

Results from our air quality monitoring will be published in accordance with the project's Environmental Performance Requirements.

Minimising noise

As well as monitoring air quality, noise generated from the tunnel ventilation system and associated infrastructure will be monitored and must comply with EPA requirements and the project's strict environmental requirements.

Want to know more?

For more information about air quality and assessments completed for North East Link, you can read Chapter 10 of the Environment Effects Statement on the North East Link website (Publications and FAQs section): northeastlink.vic.gov.au

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