Australian Government

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NSW GOVERNMENT

Transport for NSW

# Great Western Highway Upgrade Program

## Air quality fact sheet

August 2021

The Great Western Highway Upgrade will meet strict standards to maintain air quality in the Blue Mountains

Together the Australian and NSW Governments are investing more than $4.5 billion towards upgrading the Great Western Highway between Katoomba and Lithgow. The Great Western Highway Upgrade will reduce congestion, deliver safer, more efficient and reliable journeys for those travelling in, around and through the Blue Mountains, and better connect communities in the Central West.

Transport for NSW (Transport) is committed to improving air quality.

We recognise the importance of delivering transport infrastructure for our customers and local communities that meets high air quality standards.

As we investigate the feasibility of a longer tunnel between Blackheath and Little Hartley as part of the Great Western Highway Upgrade Program, air quality and human health are key priorities.

## Air quality in and around tunnels

External air quality in areas adjacent to tunnels will vary during the year due to seasonal climate variations, wind speeds and external events such as dust storms, bush fires and construction works in the area.

Modern tunnel ventilation design ensures tunnels meet strict air quality requirements set by the Department of Planning, Industry and Environment (DPIE) and the Environment Protection Licence issued by the Environment Protection Authority (EPA).

Our modern tunnels are designed to achieve:

- strict in-tunnel air quality
- emissions that result in little, if any, change to the quality of the air people breathe.

Air quality within major NSW tunnels is continuously monitored to control the ventilation system. This ensures the strict air quality limits outlined in the approval conditions are complied with at all times.

Australia's requirements are amongst the most stringent in the world. The EPA regulates the ventilation outlets for all operating tunnels to ensure they meet air quality limits.

## Will a longer tunnel need ventilation outlets?

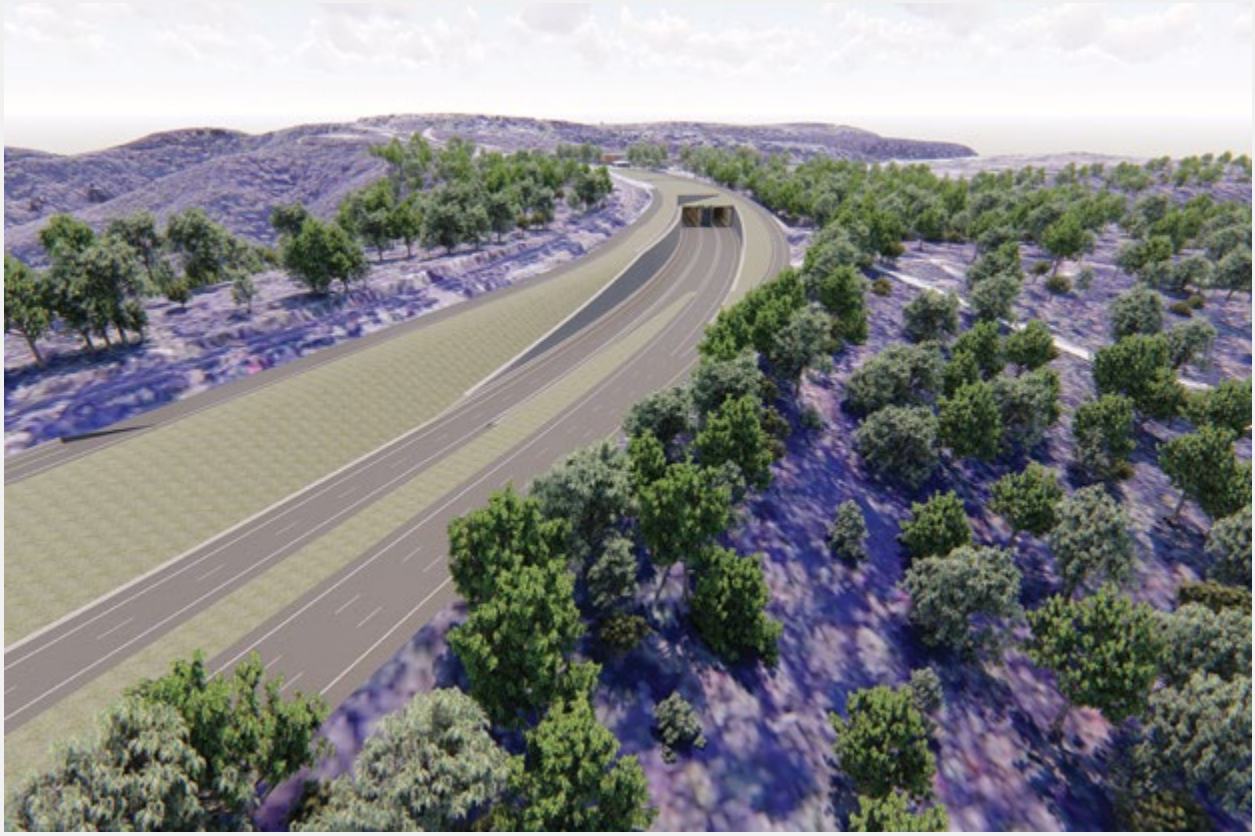
Ventilation outlets are designed to take tunnel air up and away from populated areas around tunnel portals (tunnel entry/exit points).

The proposed portals are located away from populated urban areas, which may mean ventilation outlets are not required.

Further studies are necessary to determine what ventilation the tunnel needs, whether tunnel outlets are required, and where they might be located.

Tunnel ventilation systems use air flows within the tunnel to extract emissions.

As we develop the design for the Blackheath to Little Hartley tunnel, we will engage with air quality experts, government stakeholders and the local community to develop a ventilation design for the proposed tunnel.



Artist's representation of the proposed eastern portal at Blackheath

## Will you install filtration systems?

Australian tunnels are required to meet stringent air quality standards using state-of-the-art ventilation and tunnel design.

The NSW Government has more than 20 years' experience in assessing and operating long motorway tunnels, and has used that experience to ensure that tunnels built today incorporate world's best practice.

Studies have found that filtration systems do not provide any measurable improvement to the air quality in the surrounding community.

To find out more, you can download the Initial Report on Tunnel Air Quality from the Advisory Committee on Tunnel Air Quality: **http://www.chiefscientist.nsw.gov.au/__data/assets/pdf_file/0017/51911/060814-FINAL-Initial-Report-Tunnel-Air-Quality-WEB.pdf**

## Vehicle emissions

Vehicle emissions continue to decrease, despite there being more cars on the road. This is a result of advances in vehicle technology and design, improvements in fuel quality, and government initiatives to reduce emissions by improving the maintenance of heavy vehicles.

As new, cleaner vehicles replace older cars on the road, the total emissions from motor vehicles will continue to fall over the next decade. This is despite an expected increase in the total number of cars as the population grows. The new design would allow the Great Western Highway Upgrade Program to deliver a safer tunnel route with a gentler gradient, improving travel times and resilience and reducing vehicle emissions.

Artist's representation of the proposed western portal at Little Hartley

## Air quality monitors

Transport is installing three air quality monitors at key points along the road corridor to ensure we fully understand the environment of the Blue Mountains and the Hartley Valley, and identify all impacts of the proposed upgrade.

Air quality monitoring stations measure concentrations of air pollutants such as carbon monoxide and nitrogen dioxide, as well as ozone and particulate matter within the air. They also monitor weather conditions, including temperature, wind direction and wind speed.

Monitoring operates 24 hours per day, seven days per week and must meet strict operational guidelines that are set out in Australian Standards.

Personnel visit the stations about twice a month during weekdays to test and calibrate the equipment and ensure the data collected is accurate.

The operation of monitoring stations includes some mechanical noise from fans and pumps. This noise is not intrusive, and is generally less than local traffic noise.

For more information, please see our air quality monitoring stations fact sheet.


A typical air quality monitoring station

## Contact us

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