



The Sydney Harbour Tunnel ventilation outlet is located in one of the northern pylons of the Sydney Harbour Bridge.



View of ventilation from Paternoster square, London.

**WestConnex is part of the NSW Government's vision for supporting Sydney's growing population and keeping our economy strong. The M4-M5 Link will connect the extended M4 Motorway at Haberfield with the New M5 in St Peters, easing congestion on Victoria Road and City West Link and improving local connections across the inner west.**

## Modern tunnel ventilation systems

Air quality is an important part of the design and operation of motorway tunnels. It is also a condition of the Department of Planning and Environment's approvals that WestConnex tunnels meet the NSW Environment Protection Authority's strict guidelines on air quality.

Generally, tunnels are designed with ventilation facilities located near each of the portals, which are the start and end of each tunnel. The exact number of ventilation facilities are finalised during the detailed design process for each section, which is then considered by the Department of Planning and Environment as part of the Environmental Impact Statement (EIS).

WestConnex tunnels will be significantly wider and higher than existing tunnels in Sydney. This allows greater volumes of fresh air to move through each tunnel and further dilutes vehicle emissions.

## What do ventilation outlets look like?

There are a number of ventilation facilities across Sydney and around the world, which are designed to integrate with the local urban environment and as such can take a range of forms, as seen in the photos above. The designs for the M4-M5 Link ventilation facilities will be outlined in the EIS.

## Tomorrow's Sydney

In the next 10 years, another million people will call Sydney home. The Australian and NSW governments are building the infrastructure now to support Tomorrow's Sydney. This includes an integrated transport solution of public transport and critical road infrastructure.

WestConnex is one of the flagship projects in delivering Tomorrow's Sydney. It will widen and extend the M4, double the capacity of the M5 and join them together to form a new continuous, free flowing motorway with connections to the future Western Harbour Tunnel and Beaches Link, as well as the airport and port. It will also enable motorists from the west to bypass the CBD on their way to the northern suburbs.

WestConnex will provide relief to the hundreds of thousands of road users struggling in traffic every day, and connect them to their jobs, homes, families, sports and friends.



More  
community  
space



Better  
cycling links



Connecting  
communities

## Environmental Impact Statement

The M4-M5 Link EIS will provide detail on ventilation facility designs and air quality studies.

The EIS will also include comprehensive air quality impact assessments and modelling results.

As a usual part of the project assessment process, the EIS will be placed on public exhibition in 2017. The community will be invited to make submissions on all components of the EIS.

## Principles guiding ventilation design

The tunnel ventilation system will be designed and operated to:

- Meet stringent in-tunnel, local and regional air quality criteria imposed by the Department of Planning and Environment
- Ensure the tunnel has a negligible impact on local and regional air quality
- Meet current and future traffic volumes, allowing for 'worst case' conditions such as an incident that resulted in congestion within the tunnel.

The design will incorporate lessons learned from other tunnel projects, such as the existing M5 East tunnel and Lane Cove tunnel, from which extensive data has been collected and analysed since they opened to traffic.

## Monitoring air quality

Ventilation outlets will be designed to discharge tunnel emissions high into the atmosphere ensuring they are dispersed and diluted so there is no measurable effect on local ambient air quality. The effectiveness of ventilation facilities in safely and efficiently dispersing emissions is well established.

In 2013, the NSW Government established the Advisory Committee on Tunnel Air Quality, chaired by NSW Chief Scientist and Engineer, Professor Mary O'Kane. The Committee has undertaken a range of reviews on international best practice to provide a 'whole-of-government' understanding of the scientific and engineering issues informing road tunnel ventilation design and operation. For further information go to [chiefscientist.nsw.gov.au](http://chiefscientist.nsw.gov.au).

Air quality monitoring stations have been installed along the M4-M5 Link corridor to collect data in places where people work, live and play. They are located at:

- Ramsay Street in Haberfield
- City West Link in Rozelle and
- St Peters Public School.

In addition, we are collecting data from multiple long-term monitoring stations operated by the NSW Office of Environment and Heritage and Roads and Maritime Services.

A health impact assessment will be carried out as part of the Environmental Impact Statement and we will consult with NSW Health and other agencies as part of this process.

Air quality monitoring stations would continue to be used to monitor any changes in air quality during operation.

## What would we do with the air quality data?

After construction, an air quality monitoring and reporting strategy would be developed. This would be reviewed to ensure it meets with stringent planning requirements.

## Keeping you informed

We are committed to keeping you informed and will provide regular information on the M4-M5 Link through direct mail and email notifications, community updates, local papers and face-to-face activities.

You can also contact the WestConnex info line on **1800 660 248**, email: [info@westconnex.com.au](mailto:info@westconnex.com.au) or visit [westconnex.com.au/m4-m5link](http://westconnex.com.au/m4-m5link) for more information.



## We speak your language

To learn more simply visit [westconnex.com.au/yourlanguage](http://westconnex.com.au/yourlanguage).

Need an interpreter? Call the Translating and Interpreting Service on **131 450**