WestConnex is part of the Australian and NSW Governments' vision for supporting Sydney's growing population and keeping our economy strong. The M4-M5 Link is the third stage of WestConnex. It will link the New M4 Motorway at Haberfield to the WestConnex M8 at St Peters.

What is controlled blasting?
Controlled blasting is a tunnelling method commonly used to excavate hard rock using small charges to break up the rock. It involves pre-drilling a series of small diameter holes in the rock face, loading the holes with small charges and detonating them to break the rock into removable pieces.

Why do we use controlled blasting?
Tunnelling on the M4-M5 Link Tunnels Project usually involves excavating rock using machines called roadheaders. Sometimes additional tunnelling methods such as rock-breaking, jack-hammering or controlled blasting are required to break up sections of harder rock. Controlled blasting is a common tunnel excavation method used in areas of hard rock that, if proven as a viable option, can result in reduced duration of noise and vibration impacts for local communities as well as a reduction in the overall construction time in comparison to using rock-breakers and roadheaders alone.

Is controlled blasting safe?
Yes, controlled blasting is strictly regulated by the Environment Protection Authority (EPA), Department of Planning, Industry and Environment (DPIE) and SafeWork NSW. It is a common tunnel excavation methodology that has been safely used on many other Australian tunnel projects.

Every controlled blast is monitored to ensure vibration remains within allowable limits. The Project has engaged a specialist blasting expert to design, prepare and oversee each controlled blast in accordance with stringent Australian safety standards.
When and where is blasting happening?
The Project is exploring the option of using controlled blasting to excavate a section of the M4-M5 Link Tunnels between Annandale Street, Annandale and Catherine Street, Leichhardt.

Before proceeding with controlled blasting, the Project will undertake one day of trial blasts to determine if it is an effective excavation method for this location. If the trial is successful, the Project will then seek the relevant approvals to proceed with controlled production blasting to excavate a larger section of the tunnel in this location, and engage further with the community.

In addition, regular tunnelling activities such as roadheader excavation, rock bolting and shotcreting will still continue.

What can I expect during blasting?
Residents close to the work area may experience some noise and vibration for a fraction of a second during each of the three trial blasts. The predicted vibration levels are within the human comfort levels mandated by the EPA and may not be noticed.

Is my property at risk of damage?
The controlled blasting trial is designed so as not to cause vibration at a level likely to cause property damage. Properties close to the controlled trial blast work area have already been offered a pre-construction property condition survey. Should residents have concerns regarding the impact to their property or possible damage, they can contact the Project on 1800 660 248 at any time to discuss this.

Approximate location of trial blast

Do you measure vibration?
Vibration will be monitored at several locations during the controlled blasting trial to ensure vibration levels remain within allowable limits.

The maximum vibration limits are determined by the EPA and based on a German standard that outlines potential impact on residential and commercial structures from vibration events such as controlled blasting.

The controlled trial blast is designed to generate a maximum vibration level of 10mm/s at the nearest residential property at a frequency that does not present a risk of damage to properties.

Examples of controlled blasting on Australian infrastructure projects

Sydney Metro City and Southwest, NSW
- Trial drill and blast for shaft excavation of Victoria Cross station near residential and commercial areas in North Sydney

Clem 7 in Brisbane, QLD
- Production drill and blast under residential areas between Woolloongabba and Bowen Hills
- 9 – 54 metres under an urban area

NorthConnex, NSW
- Drill and blast excavation of tunnel shafts near residential areas of Pennant Hills, Thornleigh and Wahroonga

Airport Link Brisbane, QLD
- Drill and blast of a cut and cover tunnel in Toombul as well as production blasting
- Within 100 metres of a residential area and local school

WestConnex M8 (formerly New M5 Project), NSW
- Production drill and blast in tunnels under residential areas in Kingsgrove, Sydenham and Tempe
- 15 – 45 metres under an urban, residential environment

Contact us
If you have an enquiry or complaint or you would like to provide feedback about this work, please contact the M4-M5 Link Tunnels team on 1800 660 248 (toll free), email info@m4-m5linktunnels.com.au or write to PO Box 63, Mascot, NSW 1460.

For more information drop into the Community Information Centre at 201-205 Parramatta Road, corner of Alt Street, Haberfield 9.00am to 5.00pm Monday, Wednesday and Friday or by appointment on Tuesday and Thursday (excluding public holidays and the period between Christmas Day and New Year’s Day).