

Western Harbour Tunnel and Beaches Link

Community Update



This is the first of an ongoing series of updates on progress for the proposed Western Harbour Tunnel and Beaches Link project.

This update will provide you with details on:

- what we have heard
- how we are using the information
- what our next steps will be

Since March 2017, we have:

- directly engaged with over 4,000 people and received over 1,700 interactive web page map comments
- used community feedback to inform our design decision making
- completed test drilling in Sydney and Middle Harbours and finished 90 per cent of land based geotechnical work
- started the detailed analysis of geotechnical data and harbour seabed information
- conducted a wide range of investigations including surveys, flora and fauna studies, heritage assessments, marine ecology reviews, traffic counts and other specialised studies
- discussed world's best practice construction methods with industry

We thank everyone who has taken the time to provide valuable feedback and look forward to a continuing dialogue with the community.

6.6 kilometres of rock samples

A total of 6,600 metres of core rock samples has been obtained from the land and marine geotechnical tests.

In addition, 357 sediment samples (338 marine) have been collected.

The core samples are undergoing geological and seismic analysis as well as other laboratory testing including mechanical testing, sample quality assessment and CT scans. All core samples will be retained for further analysis.

The field studies program has included 55 marine geotechnical test drills in Sydney and Middle Harbours.

Sydney Harbour drilling – 30 sites – all completed

Up to 16 metres below sea level to drill into rock which lies 48 metres below sea level (sediment overburden). Deepest rock drill 86 metres below sea level.

Middle Harbour drilling – 25 sites – all completed

Up to 31 metres of water to drill into rock which lies 60 metres below sea level (sediment overburden). Deepest rock drill 102 metres below sea level. Side scan sonar, cone penetrometer, geophysical and seismic investigations such as seismic reflection and seismic refraction analysis have also been conducted.

Land drilling

Around 90 per cent of the land geotechnical test drilling program has been completed.

More test sites may be chosen as a result of this work.

The deepest land site to date has been at Northbridge where a 165 metre deep test drill was conducted.

Other land based studies have included ground and soil quality tests, insatllation and monitoring of ground water wells, topographical and cadastral surveying.



Geotechnical test drilling at Northbridge

Field studies

The outcomes of field investigations including land and marine geotechnical test drills, marine ecology and flora and fauna studies are also being used to help determine key factors such as tunnelling methodologies, depth and alignment of tunnels and tunnel portal locations.

A wide range of studies into local flora and fauna have been conducted in areas such as along the Wakehurst Parkway.

These studies allow the design to cater for local environments and to include features such as wildlife crossings.

Some common species recorded from the Wakehurst Parkway studies included Bandicoots, Swamp Wallabies and a Marsupial Mouse.

All information gathered will be incorporated into the environmental assessment process.

Overview

Communication and stakeholder engagement is one of three critical work streams needed to progress from the initial concept design to a detailed design by mid-2018.

From late April and across May, June and July, the first phase of communication and stakeholder engagement was conducted.

This was an extensive engagement of its type

for a major NSW transport infrastructure project in a concept design phase, and included:

- more than 4,000 face to face conversations, and over 2,400 written communications
- over 1,700 hits on the interactive web page
- 6,300 notifications about geotechnical work
- around 1,000 telephone calls
- more than 700 emails
- direct discussions with owners of 71 potentially affected properties
- 16 community feedback sessions, 12 shopping centre displays
- email blasts to the 2,300 people now on our contact data base
- 25 community meetings

What you have told us

The information gathered from engagement has been factored into design development and also into our planning.

Over 2,400 written comments have been lodged via feedback forms at meetings, the website, emails and submissions.

Extensive submissions have been received from people living in the Seaforth/Balgowlah area as well as sporting groups.

Meetings have been held with councils, local resident groups, precinct committees and others.

Direct feedback has been received on topics including environmental impacts, design, the engagement process to date, road use, property, construction and project cost.

A key outcome from this engagement is feedback about topics including the location of tunnel portals and the operation of tunnel ventilation systems.

The community has also clearly communicated their desire to retain open space and playing fields such as Birchgrove Oval, St Leonards Park, ANZAC Park, Clive Park and Seaforth Oval. Other topics included the possible alignment of tunnels, portal locations, public transport, potential property impacts and requests for greater design detail.

All information received is integral to advice to Government around its decision making.

What we are doing

Community feedback has been fed directly into design development as well as being reported to government.

The feedback has also been incorporated into the next steps of the planning process, particularly for the State Significant Infrastructure Applications. (See back page).

All feedback has been taken into consideration, especially in relation to topics including air quality, property requirements, open space, potential impacts from operations and project design.

Ongoing work

Extensive traffic studies and traffic flow modelling have been conducted to help better inform the motorway design and its integration with the broader Sydney road system.

Three ambient air quality monitoring stations have been installed along the concept alignment to gather “baseline” information on current air quality.

These will add to the knowledge base already available from the 16 ambient air quality monitoring stations operated by the Office of Environment and Heritage.

Over 60 noise monitors which record “background” noise levels have been installed along the concept alignment.

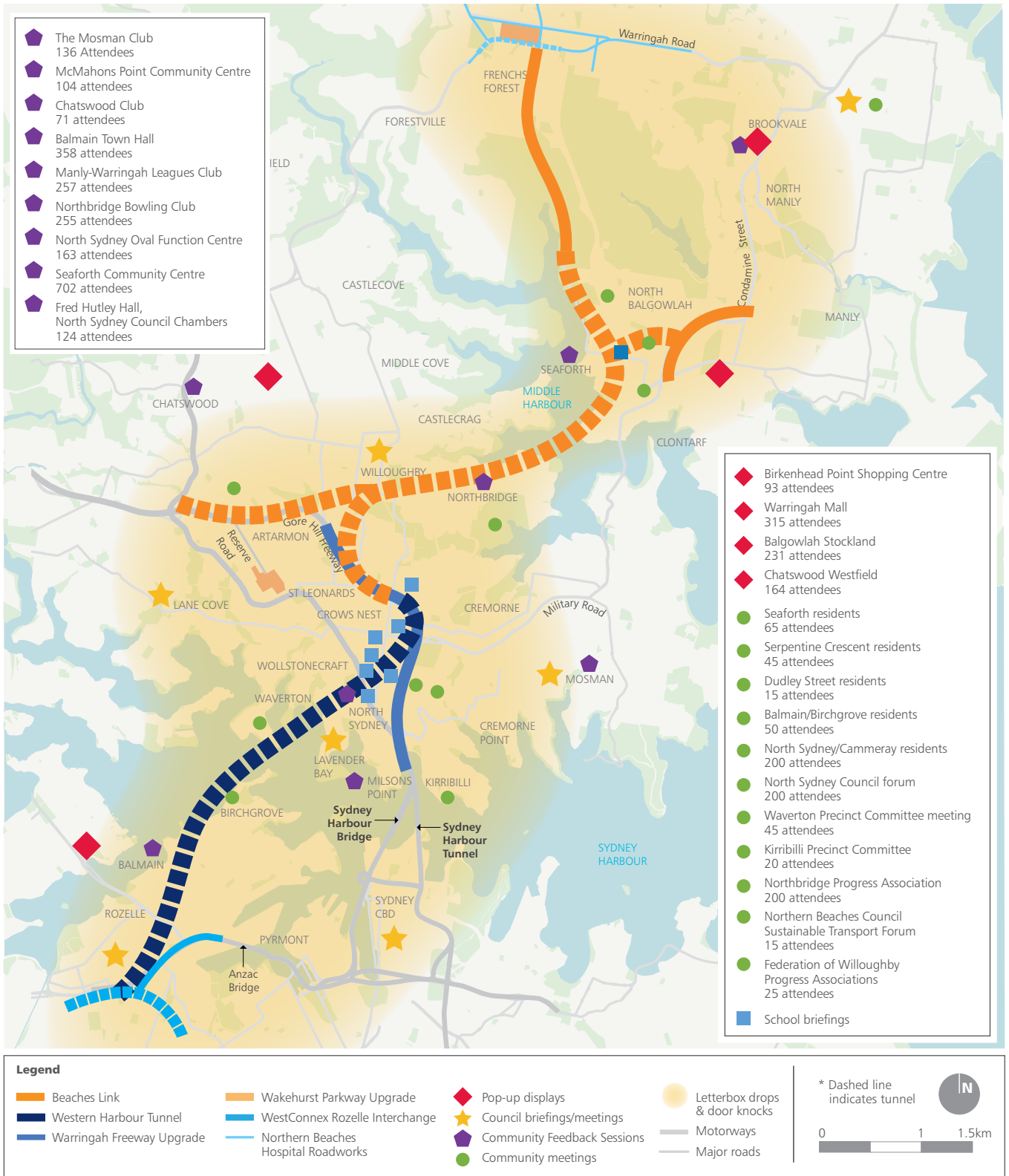
Information has been gathered on world’s best practice construction methods, providing further insights into both immersed tube tunnel construction and tunnel boring machine options.

Input has been gathered from NSW Government agencies including Greater Sydney Commission, Transport for NSW, B Line, Sydney Metro, Sydney Water, Infrastructure NSW, Department of Planning and Environment, Port Authority of NSW, National Parks and Wildlife Service, Department of Education, NSW Health, Urban Growth NSW and key sectors of Roads and Maritime Services.

Other material being fed into the reference design process includes information on constructability, likely project costs and construction timing, development of a funding strategy and determining the potential level of private sector involvement.

As an immediate “next step” a series of fact sheets are available from our web page.

Community Engagement Map



Project benefits

Western Harbour Tunnel

Links WestConnex at Rozelle with the Warringah Freeway via a new tunnel beneath Sydney Harbour.

- New mainline traffic route running west of the CBD
- Takes pressure off Sydney Harbour Bridge and Tunnel
- Rapid connection between west and north of the harbour

Beaches Link

- Avoids 19 sets of traffic lights, from The Spit to Falcon Street, Cammeray
- Up to 40 per cent faster bus trips
- Major traffic relief across Mosman, Warringah Road, Roseville Bridge

Warringah Freeway

- Improved bus travel times
- Streamlined traffic - improved safety
- Dangerous merges eliminated

Tunnel air quality

In 2013, the NSW Government established the Advisory Committee on Tunnel Air Quality, chaired by the NSW Chief Scientist & Engineer.

The Committee's Initial Report on Tunnel Air Quality found air quality in Sydney is good by national and international standards and that stricter emission standards and improved fuel quality have substantially reduced vehicle emissions over the last 20 years. This trend is expected to continue.

Strict NSW air quality requirements ensure that air pollution levels are appropriately managed inside tunnels. For example, the new nitrogen dioxide requirements are amongst the most stringent in the world.

Although many tunnels around the world vent tunnel exhaust air through the exit portal, recent NSW tunnels are required to have zero emissions from portals,

with emissions exhausted from ventilation systems which use fans to disperse emissions high in the atmosphere.

The dispersion of emissions from the tunnel high into the atmosphere, results in them mixing with the surrounding air by natural turbulence, so they become indistinguishable from background levels. Because of this, further treatment of air, such as filtration, is not considered necessary.

Few tunnels internationally have filtration systems, and those that do rarely use them. The Committee's Initial Report on Tunnel Air Quality found emissions from well-designed road tunnels cause an indistinguishable change to surrounding air quality.

As such, there is little to no health benefit for surrounding communities in installing air treatment systems.

While motor vehicles are a contributor to emissions, Sydney is a major international city with residential, commercial, industrial and natural occurrences, such as bush fires, all contributing to air pollution.

It is worth noting that in the Sydney region motor vehicles contribute around 14 per cent¹ of air particle emissions, compared to domestic solid fuel burning such as open fire places, which contributes around 50 per cent of annual emissions.

For more information on motorway tunnels and air quality, and the membership of the Advisory Committee, please visit the NSW Chief Scientist & Engineer's website at chiefscientist.nsw.gov.au.

Endnotes

¹ This figure is a combination of petrol powered vehicles (0.8%), light duty (2.2%) and heavy diesel (5.3%) vehicles and non-exhaust vehicles such as brake and tyre wear (5.5%)



Artist's impression, Western Harbour Tunnel.

First step in the planning process

In NSW, projects of state significance follow the environmental assessment and approvals processes set out under the *Environmental Planning and Assessment Act 1979*.

All state significant projects require preparation of an Environmental Impact Statement (EIS) and approval from the Minister for Planning.

Following initial community and stakeholder engagement for the project, Roads and Maritime has now taken the first step in the planning process and made a State Significant Infrastructure (SSI) application for the project.

The application has been lodged with Department of Planning and Environment (DP&E), the agency responsible for directing the environmental assessment process.

The Secretary of DP&E will consult with other environmental agencies and councils before issuing Environmental Assessment Requirements (SEARs).

The SEARs will establish what topics need to be included in the environmental assessment.



You can have your say at any time.

Stakeholder engagement is ongoing.



www.rms.nsw.gov.au/whtbl



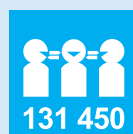
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