

**Name:** Australasian Tunnelling Society

**Type of structure:** The ATS is an industry based Technical Society of Engineers Australia (EA) and is affiliated with the International Tunnelling Association (ITA).

**Number of members:** 549 members, 50 Gold and Silver Sponsoring members and 5 Platinum Sponsors

## ASSOCIATION ACTIVITIES DURING 2017 AND TO DATE

During the last year the Australasian Tunnelling Association has continued to promote the benefits of the underground environment to society through a range of activities, events, publications and working groups.

**Activities and events:** Our highlight activity for 2017 was the 16th Australasian Tunnelling Conference run over 3 days in Sydney. This was well attended with over 550 Registrants, 130 technical papers and attendees from 20 countries. Two ATS awards were presented at the conference, the David Sugden young tunnellers writers award to R Connors and the Allen Neyland memorial award to E Taylor.

The ATS is involved in monthly technical sessions run by the four Australian Regional Groups, and the Australian Shotcrete Society. In addition, the ATS has held several training events in 2017 including a Metro Tunnel Symposium in Brisbane and a Shotcrete workshop in Perth, as well as supporting two commercial conferences in Sydney.

**Publications:** The ATS Journal was published twice in the last calendar year in conjunction with the international publication, Tunnelling Journal.

**Working Groups:** The ATS has a number of members active in WG's with 2 Animator, 1 Vice Animator, 7 Participating members and approximately 8 Corresponding members.



## CURRENT TUNNELLING ACTIVITIES

### Australia:

**Image 1:** LendLease/Bouygues JV is continuing with the design and construction of the \$A2.65bn NorthConnex in Sydney, twin 9km long road tunnels linking the M1 to the M2 and M7 motorways. The project is planned for completion by 2019. The project requires the use of 17 roadheaders.

**Image 2:** CPB/Samsung/John Holland JV is continuing with the design and construction of the \$A2.7bn M4 East project (WestConnex Stage 1B) in Sydney. The project includes twin 3-lane road tunnels, each 5.5km in length and requires 18 roadheaders to mine the tunnels through Hawkesbury Sandstone and Ashfield Shale. The project is planned for completion by 2019.

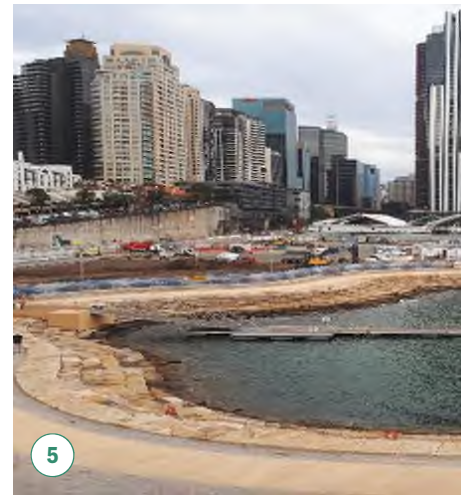
**Image 3:** CPB/Samsung/Dragados JV is continuing with the design and construction of the \$A4.3bn New M5 project (WestConnex Stage 2) in Sydney. The



project includes twin 3-lane road tunnels, each 9km in length and requires 18 roadheaders to mine the tunnels through Hawkesbury Sandstone and Ashfield Shale. The project is due to open to traffic in 2019.

**Image 4:** Salini-Impregilo-NRW JV has commenced the design and construction of the \$A1.15bn Forrestfield Airport Link in Perth. The project includes twin 8km tunnels excavated by two TBMs and three stations.

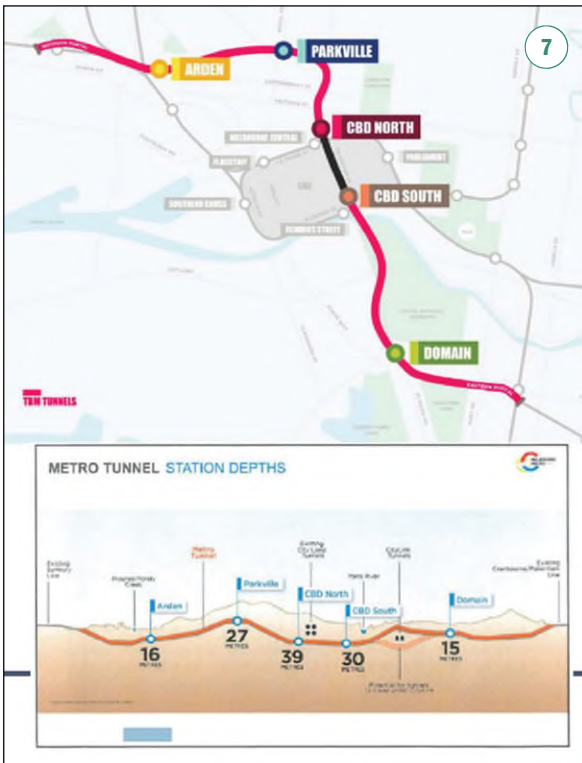
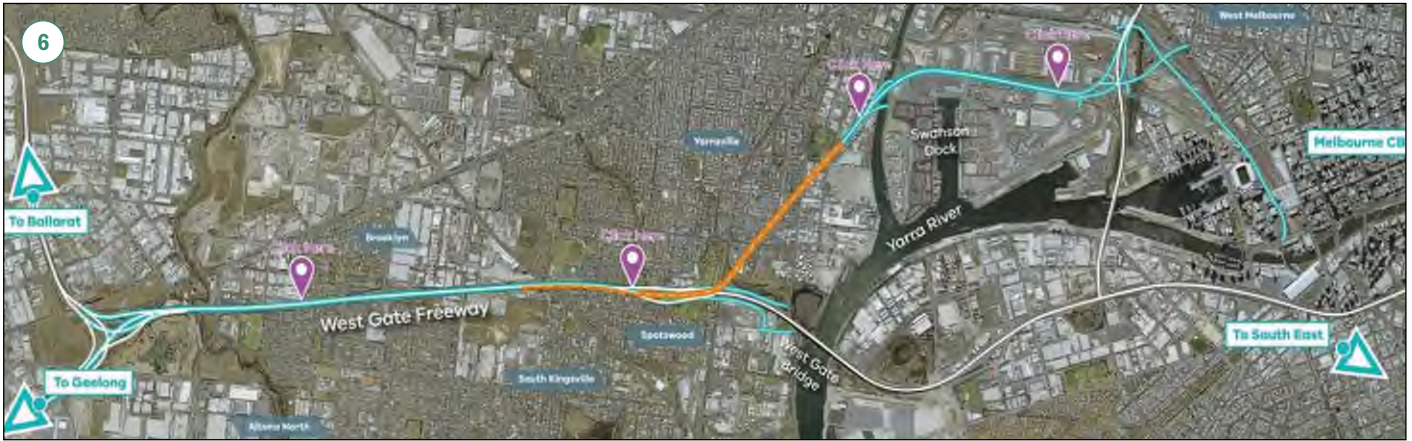
**Image 5:** Sydney Metro City and South West Tunnels and Station excavation contract has been awarded to the John Holland/CPB/Ghella JV. The contract involves the construction of twin running tunnels, each 15km long, between Chatswood and



Sydenham and six new underground stations. Five TBMS have been ordered and will commence excavation later in 2018.

**Image 6:** In December 2017 the CPB/John Holland JV was awarded the West Gate





Tunnel Project which includes twin three lane road tunnels under the suburb of Yarraville in Melbourne. Two 15.5m diameter TBMs have been ordered for the excavation of the 2.8km long eastbound tunnel and the 4km long westbound tunnel. The project is scheduled to be completed by the end of 2022.

Image 7: In December 2017 the Melbourne Metro Tunnels and Stations PPP contract was awarded to the Cross Yarra Partnership comprising John Holland/Lendlease/Bouygues and Capella Capital. The contract involves the construction of twin running tunnels, each 9km long, between Footscray and South Yarra and five new underground stations. Four TBMS will be required for the excavation of the running tunnels. The section between the two CBD stations will be mined by roadheaders.

## FUTURE TUNNELLING ACTIVITIES

### Cross River Rail – Brisbane

The tender for the Tunnels, Stations and

Development PPP contract will commence in April 2018 for award by April 2019. This contract will include the construction of twin running tunnels each 5.9km long and four underground stations.

### Snowy 2.0 Hydro Project – New South Wales

Tenders for the 2000MW civil works contract which will include 27km of TBM tunnels are expected to be called in the first half of 2018.

### North East Link – Melbourne

There will be a road link between the existing M80 Ring Road and the Eastern Freeway. It will include twin tunnels each 5km long. Tenders are expected to be called in the first half of 2019.

### Inland Rail Project – Queensland

The 126km long Gowrie to Kagaru section of the Inland Rail Project in south east Queensland will include three single track rail tunnels totalling 8.5km in length. The Inland Rail Project is a 1700km freight rail link from Melbourne to Brisbane. Tenders for this section of the project are expected to be called in 2019.

### WestConnex Road Tunnels – Sydney

Stage 3A (M4-M5 Link – Main Tunnel Works Contract) 2 x 4 lane tunnels, 8.5km long to commence construction in 2018 for completion by 2022. Stage 3B (M4-M5 Link – Rozelle Interchange Contract) includes substantial mined tunnel works to connect the mid-tunnel point of the main tunnel works with surface roads and future Western Harbour Tunnel. Construction to commence in 2019 for completion by 2023.

### Western Harbour Tunnel – Sydney

The second under harbour road tunnel in Sydney will connect the proposed Rozelle Interchange (WestConnex Stage 3b) with

the existing Warringah Freeway on the North Shore.

### Northern Beaches Link – Sydney

This road tunnel will connect the northern beaches area of Sydney with the Warringah Freeway and the proposed Western Harbour Tunnel.

### F6 Stage1 – Sydney

Twin 3-lane road tunnels, each 4km long, from the New M5 (WestConnex Stage 2) at Arncliffe to Kogarah.

### Sydney Metro West – Sydney

This will be a new metro style underground rail line between Parramatta and the Sydney CBD.

## STATISTICS

### 1. Length or volume excavated - % mechanized / % conventional during 2017:

#### Australia

- Length of bored tunnels by TBM completed in 2017 (excluding pipejacking): 1,923m
- Volume of mined tunnels completed in 2017: 3,420,000m<sup>3</sup>

### 2. Amount (USD or EUR) of tunnelling/underground space facilities awarded in 2017:

#### Australia

- €5,000M

### 3. List of tunnels completed:

#### Australia

- Amaroo Main Sewer
- Maroondah Aquaduct

### 4. List of tunnels under construction:

#### Australia

- WestConnex Stage 1B (M4 East), Sydney, NSW;
- WestConnex Stage 2 (New M5), Sydney NSW;
- Forrestfield Airport Link, Perth, WA;
- Sydney Metro City and Southwest, Sydney, NSW;
- WestGate Tunnel, Melbourne, Vic;
- Melbourne Metro Rail Project, Melbourne, Vic;