

New Zealand



Name: New Zealand Tunnelling Society

Type of structure: The NZTS is an Industry based Technical Society of Engineering New Zealand.

Type of structure: 55 individual members / 10 members from corporate sponsors

include a pair of brand new underground stations – Aotea Station and Karangahape Road Station – in the CBD, and will involve expansion and redevelopment at Britomart and Mt Eden stations.

Construction contracts 1 and 2 (C1, C2) involve underpinning the Heritage CPO building at the current terminus station Britomart and the first sections of cut and cover tunnel within Albert St. Both contracts and the intervening sections through the Commercial Bay Development are progressing well. A stormwater diversion at Mt Eden (C6) has recently been awarded. Procurement of line wide

services (C7) and the remaining main civil works packages (C3, C5) are ongoing through 2018, although at the time of writing there are delays to the C3 tender process due to the withdrawal of one of the shortlisted construction consortia.

The Central Interceptor
Another major project for delivery enabling the stormwater and wastewater systems to keep pace with Auckland population growth is Watercare's Central Interceptor. This a wastewater tunnel that will run between Western Springs and the Mangere Wastewater Treatment

Plant. The tunnel will run underground for 13km and will be at a depth of between 22 and 110m below ground. It will cross Manukau Harbour at about 15m below the seabed. Along the route it will connect to the existing wastewater network, which will divert flows and overflows into the tunnel. The reference design phase is complete, with ongoing industry engagement and requests for tenders expected in Q2 2018.

2017 ACTIVITIES

MAIN ACTIVITIES – Quarterly technical sessions

WGs –2 Participating members

TRAINING – Annual Short Course and support to ATS tunnelling conferences (Sydney)

PUBLICATIONS – Contribution to ATS journal published twice per calendar year in conjunction with Tunnelling Journal.

Also the Pipejacking Guide for New Zealand available from <http://nztunsoc.org.nz>



CURRENT TUNNELLING ACTIVITIES

The Waterview Connection

The Waterview Connection opened in July 2017 and is 4.5km long, with 2.5km of twin bored three lane tunnels, the longest in New Zealand. By 2026, the link is expected to carry 83,000 vehicles a day. Delivered as a 'road of national significance' under NZTA's competitive alliance model, the project cost \$1.4bn and took more than five years to build.

The 'golden link' in the chain of the Western Ring Route around Auckland, the benefits of the scheme have been widely praised since the opening.



The City Rail Link

CRL represents a further step change in NZ underground infrastructure and when completed will fundamentally change public transport in New Zealand's largest city. The City Rail Link project consists of building two 3.4km twin tunnels, up to 42m under the centre of Auckland. The new line will climb roughly 70m of terrain over 3600m of rail line, which will be built through both tunnelling and cut and cover methods. It will



Kaikoura Earthquake Recovery

On 14th November 2016, a moment magnitude (Mw) 7.8 earthquake occurred on a fault near Culverden, approximately 15km deep, and continued north-eastwards for more than 170km, at a rupture speed of around 1.8km/s (6,450 km/hr). This caused 180km of surface rupture and vertical and horizontal displacement of up to 12m along 21 faults with between 80,000 and 100,000 landslides. Of the 21 tunnels on the MNL between Christchurch and Picton with a total length of 5,508m, only four tunnels required significant remedial support works with commercial train services commencing at the end of September 2017.



STATISTICS

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

- 7km comprising mainly tunnel repairs and pipejacks

2. Amount (USD or EUR) of tunnelling/ underground space facilities awarded in 2017:
• €40M

3. List of tunnels completed: NA

4. List of tunnels under construction:

- City Rail Link
- Parititahi and Raramai Tunnel Road Widening
- Kaikoura Rail Tunnels
- Lyttleton Tunnel FFSS Retrofit
- Various smaller diameter pipejack projects including Hunua No.4, Artillery Drive