

# Iran



**Name:** Iranian Tunnelling Association (IRTA)

**Type of Structure:** non-profit, open association

**Number of Members:** 785 (non-student) members, 500 student members, 185 corporate members

## ASSOCIATION ACTIVITIES DURING 2018 AND TO DATE

- Holding monthly technical seminars
- Publishing "Tunnel" Magazine quarterly
- Publishing the bi-annual "Tunnelling and Underground Space Engineering" Journal with Shahrood Technical University
- Holding technical meetings with contractors and consultants on current project challenges
- Preparations for the 13th Iranian Tunnelling Conference to be held in November 2019 entitled "New Horizons in Tunnelling"

## CURRENT TUNNELLING ACTIVITIES

- Several Metro Lines are being designed or are still under construction in Tehran, Karaj, Mashhad, Shiraz, Tabriz, Isfahan and Ahwaz. These include:
  - Tehran's Metro Line 6 southern extension with 6km tunnel length of which 1400m is constructed
  - Tehran's Metro Line 4 western extension with 4km length of which 1000m is constructed
  - Tehran's Metro Line 10 with a total length of 10km is currently being designed
  - Karaj Metro Line 2 with a total length of 25km is under construction
  - Shiraz Metro Line 2 with a total length of 12km of which 4500m is constructed
  - Tabriz Metro Line 2 with a total length of 22km of which 5000m is constructed

- Mashhad Metro Line 2 with a total length of 12km construction finished
- Water transfer Tunnels: More than 154km of Water Tunnels are being constructed including the Kerman water tunnel with 37km total length, the Kanisib tunnel with 36.5km total length (%76 progress), the Zagros Long Tunnel with 49.7km total length, the Konjancham water tunnel section 1 completed with 5km length and section 2 with 12.06km total length and 10km completion, the Bazideraz tunnel 8.9km total length, and the Azad tunnel with 10km total length.
- Rail Tunnels: Approximately 144km of single line Railway Tunnels were constructed including the 13.3km in the Azarbaijan province, 24.25km in the North and 18.1km in the North-west of Iran, and 27.8km in the Zagros area; and approximately 29km of double line Railway Tunnels including 16km in Hormozgan province, 3.3km in Fars province, 8km in Tehran.
- Completed the Zarbalizadeh Shallow Tunnel Construction underneath Operating Railways in Tehran. This 11.9m high and 14m wide double line tunnel had a total length of 105m which was constructed in 12 months. This award winning (ITA Tunnelling Award 2018) tunnel was constructed just 3m below ground surface where Tehran's railway was operating.

## FUTURE TUNNELLING ACTIVITIES

- Completing and expanding the road

and railway networks

- Completion and development of metro lines in numerous cities
- Completion of water transfer tunnels including section 2 of Konjancham water transfer tunnel and construction of Lar-Kalan water transfer tunnel

## STATISTICS

### 1. Length or volume excavated - % mechanized / % conventional during 2018

- Approximately 165km of water tunnels were constructed during 2018 of which 152km were excavated by mechanized means;
- Metro Lines: Approximately 30% of the metro lines listed in the above activities were constructed by mechanized means
- Rail Tunnels: Constructed mostly by conventional methods

### 2. List of tunnels completed

- The award winning Zarbalizadeh shallow urban tunnel project below Tehran's operating railway line
- Konjancham water tunnel section 1 completed
- Mashhad Metro Line 2 with a total length of 12km completed

## EDUCATION ON TUNNELLING IN THE COUNTRY

**Tunnelling as a field of Study is being held at Postgraduate level (Master's Degree) in the following Universities:**

- 1) Amirkabir University of Technology;
- 2) Shahrood University of Technology;
- 3) Tarbiat Modares University;
- 4) Urmia University of Technology.

Tunnelling is also taught at Bachelor level in form of study modules in Mining and Civil Engineering fields in numerous universities.



Zarbalizadeh Shallow Tunnel

