

Turkey



Name: Turkish Road Association

Type of Structure: TRA is an open association. Its function is to promote, coordinate and conduct studies and research in the fields of roads, highways, motorways, tunneling, and other underground works.

Number of Members: As of January 1st, 2022, TRA has 504 members of which 438 are individuals and 66 are corporate members.

ASSOCIATION ACTIVITIES DURING 2021 AND TO DATE

A doctoral thesis, a master's thesis, and three papers/articles on Highway Engineering and Transportation were given awards in 2021, under the "TRA Award Regulation". International activity included a meeting held under the auspices of the Ministry of Transport and Infrastructure and the General Directorate of Highways, with the Turkish Road Association and the Turkish Asphalt Contractors Association. The 8th National Asphalt Symposium and Exhibition was held during the 8th and 9th December 2021 with the theme "Asphalt 4.0 for Digital Transformation and Mobility".

CURRENT TUNNELLING ACTIVITIES

As of 2021, there are 465 tunnels on highways in Turkey with a total length of 650km. The longest tunnel on State Roads is the Ovit Tunnel has a length of 14,000m and is Turkey's 1st, Europe's 2nd, and the world's 4th longest double-tube tunnel. The widest tunnel with an opening of 21.9m is on the Kuzey Marmara Motorway which has a total of eight (2 x 4) tunnels. In 2021, construction works continued on

100 tunnels located on Turkey's highways. These tunnels have a combined length of 419km. Here is a summary of some of the major tunnels located on Turkey's major roads:

Highway tunnels on the Antalya-Mersin Highway: There are 34 tunnels with a combined length of 45,700m on the 440km long highway, 19 out of the 34 have been completed, amounting to a total length of 15,000m. The remaining 15 tunnels with a combined length of 30,700m are under construction.

There are three tunnels under construction on the Western Black Sea Coastal Road, T0 (2 x 236m) - T4 (2 x 4,607m) and T5 (2 x 3,090m) have a combined length of 7,833m.

Three out of the nine tunnels located along a mountainous area of the 149km long Karaman-Mut-Silifke Highway have been completed. These have a combined length of 2,176m.

30 tunnels with a total length of 31,207m have been designed along the Konya-Hadim-Alanya route, 13 with a combined length of 9,524m have been completed. Currently, there are ongoing works on three

tunnels, the Karapınar (697m), Kaplanhanı 3T (665m) and Kaplanpınar 2T (363m).

Karstic voids measuring 400m² were encountered during the excavation works of the 7,360m long double tube Alacabel Tunnel. This route connects the Central Anatolian region to the Mediterranean region. The tunnel passes at an elevation of 1,525m; 6.146m of the left tube and 5,905m of the right tube, i.e. 12.051m in total have been excavated, boasting a completion rate of 81.48%. Additionally, 56.78% of the concrete lining works have been completed.

The 5,000m long Demirkapı tunnel is located at an elevation of 835m along the Konya-Beyşehir-Serik-Antalya route. This particular route connects Central Anatolia to the Mediterranean Region. The excavation works for the Demirkapı Tunnel have been completed, along with 71,33% of the concrete works. There are ongoing constructions works on three other tunnels.

There are 13 tunnels (36,509m) along the 238km long Rize-Erzurum route which connects the Eastern Black Sea Region to Eastern Anatolia. Nine out of these with a combined length of 21,849m have been completed, while there are ongoing works for the Kırık, Dallıkavak and İkizdere tunnels that have a combined length of 13,466m.

The 4,700m long twin-tube Çirışli Tunnel is under construction on the Erzurum-Çat-Bingöl Highway. This tunnel is expected to be completed in 2023.

The 5,905m long twin-tube Eğribel Tunnel lies along the Sivas-Giresun route that connects Central Anatolia to the Black Sea Region. Excavation support, concrete lining, and asphalt works have been completed for the right tube. Ongoing works include electronic and lighting systems. This tunnel will be opened to traffic in 2022.

There are two double tube tunnels (2 x 5,710m) located along the Çanakkale-Ezine-Ayvacık-Küçükkuyu Highway (along the Kazdağ Ramps). Works completed include, concrete lining on the 1,693m long T1 Tunnel. Excavation support works for the 4,017m long T2 tunnel (left tube). Ongoing works include, concrete lining, right tube excavation works and other support works.

There are six tunnels with a combined length of 5,952m located along the Esenköy Pass which is a part of the Yalova-Çınarcık-Armutlu Highway. Excavation support works have been completed on the T1 (2,053m) tunnel where concrete lining works are ongoing. Excavation support works have been completed for the T2 (1,579m) tunnel. There are ongoing excavation support works on the T3 (862m), T4 (693m) and T5 (294m) tunnels. The exit portal works have commenced on the T6 (471m) tunnel.



Zigana tunnel

The 3,137m long Güzeldere twin-tube Tunnel is located along the Van-Başkale Highway, 3,400m of excavation and support works have been completed.

The 5,900m long twin-tube Ilgar Tunnel lies along the route that connects Ardahan, Posof and Türkgözü, 500m of excavation support works have been completed. The tunnel will be opened to traffic in 2023.

Ten tunnels with a combined length of 28,026m have been designed along the 173 km long route that connects the Eastern Black Sea Region to Eastern Anatolia. There are ongoing works on eight of these, namely, (Sünebeli 2. x 5,220m), Yakaköy (1,650m), Kemaliye (3,170m), Toybelen (1,539m), Kozlupınar (3,105m), Yeşilyurt (2,470m), Vali Recep Yazıcıoğlu (2,030m) and Dutluca (2,734m)

Construction works have been completed on 32 of the 36 tunnels located along the 278 km long Trabzon-Aşkale highway which connects the Central Black Sea Region to Inner and Eastern Anatolia. The combined length of these 32 tunnels is 29,805m. The remaining four tunnels, the Zigana, Vauk 1 & 2, and Kop with a combined length of 28,411m are under construction.

The 8,560m (2 x 4,280m) long Geminbeli Tunnel which lies along the Zara-Geminbeli-Suşehri Road has undergone 8.278m of excavation and support works, along with 5,585m of concrete lining works.

There are seven single tube tunnels totalling 16,608m in length along the Refahiye - Kuruçay - İliç - Kemaliye - Dutluca Road. A total of 2,198m of excavation support works have been performed on the T1 (Yakaköy) and T2 (Kemaliye) tunnels.

There are six double tube tunnels with a combined length of 9,492m on the first section of the Ordu Ring Road. The length of this section is 10.7km. The double tube tunnels, named Boztepe (2 x 3,311m) and Öceli (2 x 2,019m) have been completed. In regards to the other tunnels included in the scope of this Project, excavation works have been completed on the Terzili Tunnel (2 x 1,180m) with concrete lining works ongoing. Excavation works have started on the tunnels Akçatepe -1 (2 x 440m) and Akçatepe -2 (2 x 1,740m) whereas the Turnasuyu Tunnel (2 x 802m) is still in design.

While construction works continue on tunnels T1 and T2 located on the İstanbul - Şile - Ağva Road, there are seven double tube tunnels that have been completed (T3 - T4 - T5 - T6 - T7).

The Halkalı - Ispartakule double tube tunnel (2 x 5.978m) is being constructed by TBM as a part of the Halkalı - Kapıkule

Yusufeli Dam Relocation Road Tunnels



(İstanbul) Railroad Project.

There is a double-deck double tube tunnel being built for the Halkalı-Airport Metro line. The right tube measures 28,132m and the left 27,611m long. The metro line is under construction via TBM and NATM. 60% of the tunnel has been completed. The 31,500m route is expected to be opened in 2022.

Within the scope of the Gayrettepe-Kağıthane new airport subway line, TBM construction works have been completed on a section of 2 x 34,140m, and construction works are continuing with the NATM method at a section of 2 x 3,507m. It is planned to be put into service at the end of 2022.

The Başakşehir - Kayaşehir Subway Line is 6,187m long with an estimated travel time of 19 minutes through eight stations. A double-decker tube is being constructed by TBM and 72% of the excavation work has been completed.

The Sabiha Gokcen Rail Network is 14,536m long and designed for the NATM method. The rail systems have been installed and designed as a double-deck model. The construction works have been completed, whereas the construction works for the pedestrian crossing link are being carried out. The left tube is 810m long and the right 380m long, both being constructed by NATM.

The İstanbul Bakırköy - Bahcelievler -

Kirazli Subway Line will be 13,111m long.

The line contains eight double-deck stations which have been constructed by TBM. There are also TBM works between the Bakırköy - Incirli stations. Excavation works have been completed on the 2 x 1.035m section using NATM. Construction works are being carried out via the TBM method on the 2 x 6,500m section.

Tunnel construction works are being carried out on the Kocaeli, Gebze - Darıca Coastal Metro line. The TBM method is being used on the 3,398m section of the left tube and the 3,376m section of the right tube. NATM is being used on the 10,721m section of the right tube and the 10,698m of the left tube.

On the Southeastern Anatolia Project, the Babakaya and Silvan Tunnels are being built to transport water from the Silvan Dam which is under construction. The Babakaya Tunnel is 5,320m long, with a 7m i.d. with two tubes. This tunnel will transport water from the dam into the Silvan Tunnel, which will carry 212m³ of water per second. It is being constructed as a single tube with a length of 13.4km and a diameter of 10m. The water in the dam will be transferred to the 97.6km long canal through the Silvan and Babakaya Tunnels. 23% of the Project has been completed with 960m of excavation work completed by TBM. The project is expected to be completed within two years.

FUTURE TUNNELLING ACTIVITIES

Subway Lines

- Üsküdar-Harem Line (İstanbul) (2,200m)
- Eyüp-Bayrampaşa Line (İstanbul) (3,200m)
- Sefaköy- Beylikdüzü-Tüyap Line (İstanbul) (19,050m)
- İTÜ-İstinye Funicular Line (İstanbul) (2,650m)
- Esenyurt Sadetdere Line (İstanbul) (4,600m)
- Sabiha Gökçen Airline-Kurtköy Line (İstanbul) (6,000m)
- Yenikapı-İncirli-Sefaköy Line (İstanbul) (14,620m)
- İncirli Gayrettepe-Söğütluçeşme Line (İstanbul) (31,000m)

Highway

- Silifke-Mut T4 Tunnel (Mersin) (861m – 858m)
- Mazıkıran Tunnel (Sivas) (4,071m – 4,071m)
- Dokuzdolambaç Tunnel (Kayseri) (4,501m – 4,491m)
- Ziyaret Tunnel (Sivas) (640m - 640m)
- Berçin Tunnel (Kayseri) (6,542m – 6,542m)
- Salman Tunnel (Çorum) (380m – 380m)
- Turnasuyu Tunnel (Ordu) (788m – 816m)
- Turhal-Zile T1 Tunnel (Tokat) (1,227m – 1,193m)
- Çukurçayır Tunnel 2 (Trabzon) (159m – 280m)
- Gölçayır Tunnel 2 (Trabzon) (762m – 727m)
- Eskişehir-Seyitgazi-Kirka (Eskişehir-Seyitgazi) T1-T3 Tunnel (8,869m – 9,894m)
- Merzifon-Gürbulak Highway (Between Merzifon-Koyulhisar) T1 – T29 Tunnel (55,302m – 55,038m)
- Mardin Ring Road T4 Tunnel (Mardin) (1,105m – 1,175m)
- Merzifon - Gürbulak Highway (Erzurum) T1 – T10 Tunnel (29,897m – 29,627m)
- Bartın Ring Road Tunnel (Bartın) (2,570m – 2,570m)
- Sivas South Ring Road Tunnel (Sivas) (1,060m – 1,060m)
- Merzifon - Gurbulak Highways (Sivas-Erzincan) T1 – T28 Tunnel (67,293m – 68,145m)
- Seferihisar – Kuşadası (İzmir) Government Road T1 – T7 Tunnel (78m – 2,965m)
- Bodrum Ring Road T1 – T4 Tunnel (Muğla) (9,027m – 8,847m)
- Akşehir – Yalvaç – Şarkikaraağaç Road Cankurtaran Tunnel (Konya) (4,373m – 4,403m)
- Limankalesi Tunnel (Mersin) (850m – 850m)



Alacabel tunnel

- Bağcılar Tunnel (Mersin) (135m – 110m)
- Aydıncık Tunnel (Yozgat) (2,800m)
- Kabadüz Tunnel (Ordu) (305m)
- Palu-Beyhan-Gökdere Province Road (Elazığ-Bingöl) (1,890m)
- Şirnak - (Pervari - Narlı) Dist. Road T1 Tunnel (Şirnak) (2,844m)
- Bulancak - Kovanlık Province Road (Giresun) T2 –T4 Tunnel (2,924m)
- (Borçka - Artvin) Dist.- Murgul Province Road (Artvin) (290m)
- Yiğilca Tunnel (Düzce) (292m)
- Fatsa Çatalpınar T1 Tunnel (Ordu) (2,373m)

Railway Tunnels

- Aksaray-Ulukışla-Yenice High Speed Rail (Niğde) (48,831m)
- Bandırma –Bursa – Yenişehir –Osmaneli – High Standart Railway (Bursa-Bilecik) (8,571m)
- Yerköy-Kayseri HSR Project (Yozgat-Kayseri) (12,991m)
- Ankara –İzmir High Speed Railway T 3-4 (Afyon) (1,140m)
- Ankara –İzmir High Speed Railway T 15-24 (Kütahya - Uşak) (6,599m)
- 3. Bridge-3.Airport Halkalı Railway Project (İstanbul) (37,900m)
- Yerköy-Kayseri Project (Yozgat-Kayseri) (13,100m)
- Konya Seydişehir Railway Project (Konya) (17,200m)
- Çorum-Merzifon Railway Project (Çorum-Amasya) (19,035m)
- Delice-Çorum Railway Project (Kırıkkale-Çorum) (19000m)
- Delice-Kırşehir Railway Project (Kırşehir) (9,229m)
- Ulukışla-Yenice Railway Project (Niğde-Adana-Mersin) (48,832m)
- Konya-Aksaray Railway Project (Konya-Aksaray) (4,590m)

- Seydişehir-Antalya Railway Project (Konya-Antalya) (81,530m)
- Çetinkaya Malatya Railway Project (Sivas-Malatya) (43,040m)
- Çerezköy-Ispartakule (Tekirdağ-İstanbul) (2,800m)
- Bursa-Gemlik Railway Project (Bursa) (10,090m)
- Sivas Erzincan Railway Project (Sivas-Erzincan) (169,820m)
- Burdur-Antalya Railway Project 8Burdur-Antalya) (92,440m)
- Erzurum-Kars Railway Project (Erzurum-Kars) (41,300m)
- Erzincan-Erzurum Railway Project (Erzincan-Erzurum) (54,520m)
- Siirt-Kurtalan Railway Project (Siirt) (16,380m)
- 3. Airport Müselles-Çatalca Railway Project (İstanbul) (7,385m)
- Malatya Elazığ Railway Project (Malatya-Elazığ) (28,450m)
- Elazığ-Diyarbakır Railway Project (Elazığ-Diyarbakır) (43,335m)
- Eskişehir Afyon Railway Project (Eskişehir-Afyon) (15,560m)
- Afyon Burdur Railway Project(Afyon-Burdur) (23,940m)
- Merzifon Samsun Railway Project (Amasya-Samsun) (50,611m)
- Aksaray-Kayseri Railway Project (Aksaray-Kayseri) (13,460m)
- Gaziantep Şanlıurfa Railway Project (Gaziantep-Şanlıurfa) (2,090m)
- Adıyaman –Gölbaşı Railway Project (Adıyaman) (28,440m)
- Nusaybin Cizre-Silopi-Habur Railway Project (Mardin-Şirnak) (9,500m)
- Malatya-Narlı Railway Project (Malatya) (24,182m)

*There can be changes with the length of the roads during the project stage.

STATISTICS

1. Length or volume excavated - % mechanized/% conventional during 2021

Total Excavation			
Length (m)		Length (m)	
35,594.9m		35,594.9m	
Mechanized (%)	Conventional (%)	Mechanized (%)	Conventional (%)
22.57	77.43	22.57	77.43

2. Amount (USD or EUR) of tunnelling/underground space facilities awarded in 2021

€3,501,942,200

3. List of tunnels under construction

Subway Lines

- Tavşantepe - Tuzla Subway Line (İstanbul) (2,050m – 2,070m)
- Çekmeköy Sancaktepe – Sultanbeyli Subway Line (İstanbul) (3,350m – 3,355m)
- Dudullu-Bostancı Subway Line (İstanbul) (91.2m – 91.2m)
- Göztepe-Ataşehir-Ümraniye Subway Line (İstanbul) (6,220m – 6,233m)
- Halkalı New Airport (İstanbul) (28,132m – 28,132m)
- Gayrettepe – Kağıthane New Airport (İstanbul) (3,507m – 3,507m)
- Gebze Darıca Beach Line (Kocaeli) (14,119m – 14,074m)
- Bağcılar Kirazlı-Küçükçekmece Halkalı Subway Line (İstanbul) (52m)
- Kabataş-Beşiktaş-Mecidiyeköy-Mahmutbey Subway Line (İstanbul)
- Mahmutbey-Bahçeşehir-Esenyurt Subway Line (İstanbul)
- Ataköy Basın Express – İkitelli Subway Line (İstanbul)
- Boğaziçi U./Hisarüstü-Aşıyan Coastal Funicular Line (İstanbul)
- Tavşantepe Tuzla Line (İstanbul) (1,300m)
- Hastane-Sarıgazi-Çekmeköy-Taşdelen-Yenidoğan Line (İstanbul) (6,900m)
- Eminönü-Eyüpsultan-Alibeyköy Line (İstanbul) (1,100m)
- Bakırköy İDO – Bağcılar Kirazlı Line (İstanbul) (8,400m)
- Sabiha Gökçen Airline-Tavşantepe Line (İstanbul) (7,400m)
- Gayrettepe-Kemerburgaz-İstanbul Airline (İstanbul) (37,500m)
- Halkalı Arnavutköy - İstanbul Airline (İstanbul) (31,500m)
- Başakşehir –Kayaşehir Line Extension (İstanbul) (6,200m)
- Altunizade – Çamlıca (İstanbul) (4,000m)
- Sirkeci-Kazlıçeşme Line (İstanbul) (8,300m)

Highway Tunnels

- Kırık Tunnel Highway Tunnel (Erzurum) (7,105m – 7,105m)
- Eğribel Tunnel Highway (Giresun) (5,905m – 5,905m)
- Erdemli – Silifke Tunnel (Mersin) (985m – 985m)
- Denizli-Acıpayam Tunnel (2,460m – 2,640m)
- Seydişehir Tunnel (Konya) (7,361m – 7,355m)
- Denizli Acıpayam Honoz Tunnel (2,640m – 2,640m)
- Alacabel Tunnel (Konya-Antalya) (7,361m – 7,355m)
- Sertavul Tunnel (Karaman-Mersin) (3,303m – 3,283m)
- Mazkırın Tunnel (Sivas) (4,071m – 4,071m)
- Dokuzdolambaç Tunnel (Kayseri) (4,501m – 4,491m)
- Ziyaret Tunnel (Sivas) (640m – 640m)
- Berçin Tunnel (Kayseri) (6,542m – 6,542m)
- Kırkdilim Pass T1 -T3 Tunnel (Çorum) (4,013m – 4,185m)

- Salman Tunnel (Çorum) (380m – 380m)
- Terzili Tunnel (Ordu) (1,180m – 1,180m)
- Akçatepe Tunnel 1-2 (Ordu) (2,180m – 2,180m)
- Turnasuyu Tunnel (Ordu) (788m – 816m)
- Erkenek On-Off Tunnel (Malatya) (721m – 721m)
- Akyazı Tunnel (Trabzon) (2,487m – 2,392m)
- Beşirli Tunnel (Trabzon) (1,028m – 1,012m)
- Bahçeçik Tunnel (Trabzon) (540m – 529m)
- Boztepe Tunnel (Trabzon) (700m – 647m)
- Çukurçayır Tunnel 1-2 (Trabzon) (495m – 622m)
- Gölçayır Tunnel 1-2 (Trabzon) (1,213m – 1,149m)
- Yeni Zığana Tunnel (Trabzon-Gümüşhane) (14,477m – 14,448m)
- Başar Tunnel (Trabzon – Gümüşhane) (2,534m – 2,356m)
- Dikkaya Tunnel (Trabzon – Gümüşhane) (290m – 301m)
- Of-Çaykara Dokap Tunnel (Trabzon) (3,880m – 3,336m)
- Pekün Tunnel (Gümüşhane) (6,350m – 6,350m)
- Yeniköy Tunnel (Gümüşhane) (620m - 560m)
- Pirahmet Tunnel (Gümüşhane) (400m – 480m)
- Hopa-Borçka T1 Tunnel (Artvin) (538m – 597m)
- Tatvan Bitlis Government Road T1 Tunnel (Bitlis) (1,950m – 1,950m)
- Buzlupınar T1 Tunnel (Bitlis) (237m - 229m)
- Şemdinli Province Road (Hakkari) (143m – 157m)
- Güzeldere Tunnel (Van) (3,107m – 3,116m)
- Dalıkavak Tunnel (Erzurum) (3,115m 3,095m)
- Çirişli Tunnel (Erzurum) (4,749m – 4,751m)
- Oba Tunnel (Antalya) (666m – 670m)
- Demirkapı Tunnel (Antalya) (5,000m – 5,000m)
- Gökçebelen Tunnel (Antalya) (11,001m – 11,089m)
- Phalesis Tunnel(Antalya) (1,306m – 1,277m)
- Dizlermezeci Tunnel (Bartın) (2,312m – 2,319m)
- Kastamonu İnebolu T1 – T5 (Kastamonu) (18,107m – 18,008m)
- Uzunkum Tunnel (Zonguldak) (240m – 233m)
- Geminbeli Tunnel (Sivas) (4,288m – 4,279m)
- Sünebeli Tunnel (Erzincan) (5,220m – 5,220m)
- Gelibolu-Ecebat Tunnel T3-T5 (Çanakkale) (3,853m)
- Kabadüz Tunnel (Ordu) (305m)
- Kiği-Yedisu Tunnel T1-T11 (Bingöl) (6,777m)
- Bağlı Tunnel (Şırnak) (1,955m)
- Eruh-Fındık Road (Siirt) (4,502m)
- Akyazı Tunnel (Trabzon) (441m)
- Kiremitli Yamaç Tunnel (Trabzon-Gümüşhane) (208m)
- Yağlıdere Tunnel (Giresun) (1,080m)
- Yusufeli Government Road (Artvin) (32,917m)
- Kuskunkıran Tunnel (Van/Bitlis) (2,306m)
- Sarıtaş Tunnel (Hakkari) (445m)
- Deliktaş Tunnel T2-T3 (Bitlis) (1,100m)
- Yaylapınar Uğuraçan Tunnel (Hakkari) (5,708m)
- Olur Ardanuç Tunnel (Erzurum) (3,490m)
- Pirinkayalar Tunnel (Erzurum) (2,272m)
- KAplanhanı-1 Tunnel (Antalya) (96m)
- Karapınar Tunnel (Antalya) (697m)
- Gemlik-Armutlu-Çınarcık-Yalova Road (Yalova) (7,950m)
- Yakaköy Tunnel (Erzincan) (1,650m)
- Kemaliye Tunnel (Erzincan) (3,170m)
- Sarıçiçek-1 Tunnel (Sivas) (2,700m)
- Türkgözü Road (Ardahan) (4,810m)
- Seferihisar – Kuşadası Government Road T3 Tunnel (İzmir) (455m)

STATISTICS continued

- Fatsa – Aybasti – Reşadiye Province Road Fatsa Çatalpınar T1 Tunnel (Ordu) (2,373m)

Railway Tunnels

- Burdur- Antalya Project (27,935m – 27,935m)
- Erzurum – Kars Project (5,400m – 5.400m)
- Halkalı-Ispartakule Railway Line (İstanbul) (5,987m – 5,987m)
- Yerköy- Kayseri Project (Yozgat) (13,100m)
- Konya –Seydişehir Project (Konya) (5,700m)
- Çorum – Merzifon Railway Project (Çorum) (19,035m)
- Delice-Çorum Project (Kırıkkale – Çorum) (19,000m)
- Bandırma –Bursa – Yenişehir- Osmanyeli High Standard Speed Rail (Bilecik) (12,489m)
- Ankara –İzmir High Speed Railway T 8 – T13-14 (Kütahya) (7,160m)

Drinking Water Tunnels

- Afsar Bağlarbasi Hadimi Tunnel (Konya) (18,316m)
- Mersin Pamukluk Dam (Mersin) (4,618m)
- Yeni Yusufeli District (Artvin) (1,611m)
- Afsin Tunnel (Kahramanmaraş) (2,270m)
- Kahramanmaraş Tunnel (Kahramanmaraş) (1,824m)

Irrigation Tunnels

- Afsar Bağlarbasi Hadimi Tunnel (Konya) (18,316m)
- Kırıkkale-Kesikköprü Köprüköy Irrigation (Kırıkkale) (1,922m)

- Bolu Seben Taşlıyayla Project (Bolu) (1,155m)

Mining Tunnels

- Armutçuk I.and II.Block Floor Preparation (Zonguldak) (Single Tube – 110m)
- Armutçuk IV.Block Floor Preparation (Zonguldak) (Single Tube – 76.5m)
- Üzülmöz Asma Dilaver -320 Elevation Preparation of Mining Underground Structure (Zonguldak) (Single Tube-125m)

EDUCATION ON TUNNELLING IN THE COUNTRY

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