

# United States

**Name:** Underground Construction Association (UCA of SME)



**Type of structure:** Non-profit, open association

**Number of members:** 1,496 members, 31 corporate members

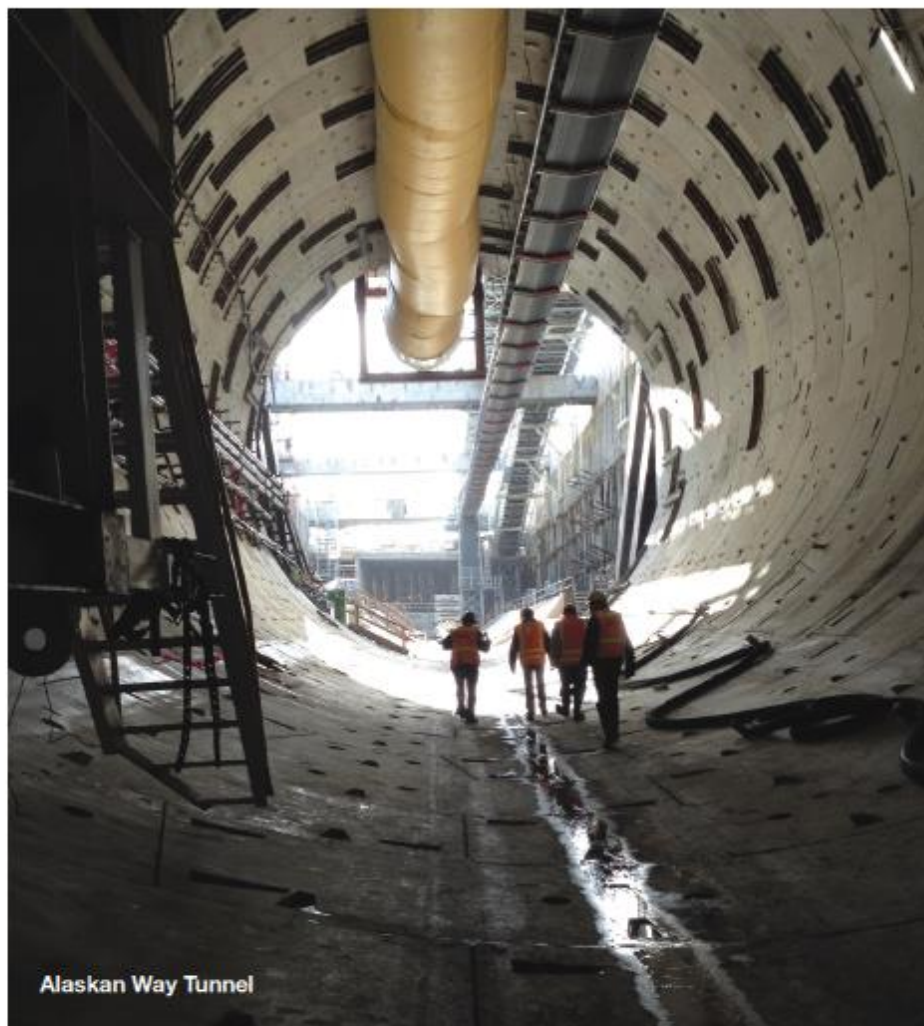
## ASSOCIATION ACTIVITIES DURING 2017 AND TO DATE

Throughout 2017 and to date, the UCA of SME continued to promote the wise, efficient and sustainable development and use of underground space. Some of the ways that we are accomplishing this are:

- 2017 and 2018 George Fox Conferences. These one-day conferences provide concise information on emerging technologies, project updates, and future planning.
- Provided numerous student scholarships for attendance of the Rapid Excavation and Tunneling Conference (RETC).
- 2017 Cutting Edge Conference. Annual

two-day conference to explore technical advancements and innovations in the industry. This year's event featured a working site visit organized and promoted by our Young Members group.

- Our Young Members group also presented monthly webinars on various topics of interest to our developing associates.
- Published four editions of our magazine, "Tunneling & Underground Construction".
- Published the book, "History of Tunneling in the United States", which chronicles the 200-year evolution of the societal benefits that tunnelling has brought to the U.S. This is a new tool in the UCA's tool



Alaskan Way Tunnel

box to educate government decision makers and the private sector to the advantages of underground space utilization.

- Completed the majority of planning for June's North American Tunneling (NAT) Conference, UCA's biennial technical event.

Realized a 36% growth in membership within the past 12 months.

## CURRENT TUNNELLING ACTIVITIES

There are dozens of notable tunnels currently under construction in the United States. These include:

### Highway Tunnels –

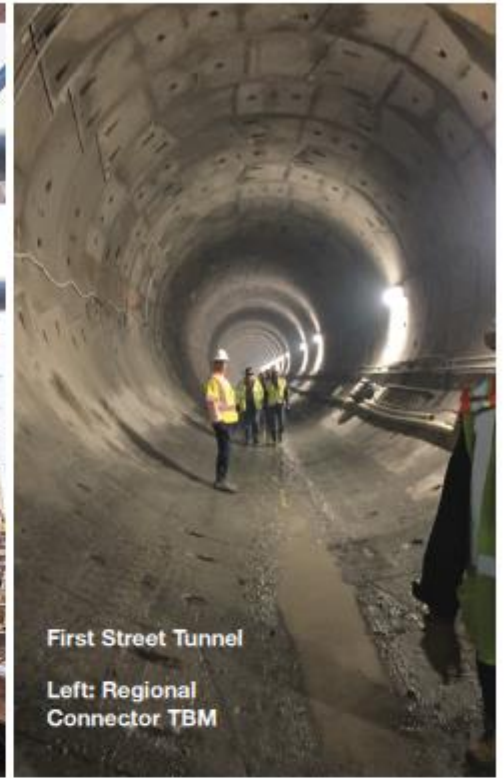
- The Alaskan Way Tunnel, boasting the World's largest EPB TBM (17.5m) has completed excavation, and will be substantially complete later this year.
- The Parallel Thimble Shoal Tunnel project in Virginia Beach, VA is underway, following a ground-breaking ceremony last September. This EPB TBM excavation will twin the existing immersed tube tunnel under the Chesapeake Bay constructed between 1960 – 1964.

### Transit Tunnels –

- Ahead of the 2028 Olympics, Los Angeles is the American hot bed for transit tunnels right now. Four major subway projects are currently underway; Crenshaw/LAX Corridor, Regional Connector, Purple Line Extension – Phase 1 and Purple Line Extension - Phase 2. Phase 3 of the Purple Line Extension is in tender, with the winning team expected to be announced in April 2018. Combined, these projects will add 19 miles of new commuter lines and connect existing lines for shorter overall travel times.
- The Greater Seattle Area continues its "Sound Transit" expansion as the Northlink TBM Tunnels project nears completion. East of Seattle, the Downtown Bellevue Tunnel (SEM) approaches the half-way mark in construction.

### Water Supply –

- TBM tunnelling is underway beneath the Hudson River in upstate New York on the Rondout West Branch Bypass Tunnel. As the project name implies, this tunnel will bypass a deteriorating portion New York City's main water supply.
- The City of Atlanta is utilizing a novel approach to bolster its water reserves with its Raw Water Storage Program. A TBM driven tunnel, deep pump stations, adits and shafts will connect existing treatment and distribution facilities to an abandon quarry. When the project is completed, the quarry will be flooded to create an additional 2.4 billion gallons of on-hand storage.



First Street Tunnel

Left: Regional Connector TBM

### Wastewater –

Sewer and drainage tunnels continue to be the most prevalent tunnels being constructed in the United States. Several municipalities continue with their programs, as others are just beginning.

- In Washington, D.C., the Blue Plains Tunnel, First Street Tunnel are complete, and the Anacostia River Tunnel project is nearing completion. The 4th and largest of 5 major projects, the Northeast Boundary Tunnel is now underway.
- St. Louis, MO currently has three wastewater tunnel projects underway, the Deer Creek Sanitary Tunnel, Jefferson Barracks Tunnel and the Maline Creek CSO Storage Tunnel.
- Cleveland, OH also has three wastewater tunnel projects ongoing – the Doan Valley Storage Tunnel, Dugway South Relief Tunnel and the Dugway South Relief Tunnel.
- Hartford, CT, Akron, OH, Ft. Wayne IN and Louisville, KY have the first of their wastewater tunnel projects underway.

### FUTURE TUNNELLING ACTIVITIES

Several large tunnelling projects are on the horizon in the United States.

- The Los Angeles County Effluent Outfall Tunnel has been in the planning stages for over twenty years. At 18-foot diameter and seven miles long, this project will tender in 2018.
- The Ship Canal Water Quality Project in Seattle will also tender in 2018. This 18-foot diameter x 14,000-foot-long tunnel project will include the construction of five shafts.
- The Hampton Roads (Virginia) Bridge-Tunnel Expansion Project is scheduled to tender in late 2018. This project will twin

### Tunnel Projects Currently Under Construction

Project	Location	Use
Alaskan Way Tunnel	Seattle, WA	Highway
Parallel Thimble Shoal Tunnel	Virginia Beach, VA	Highway
Downtown Bellevue Tunnel (E330)	Bellevue, WA	Transit
Crenshaw/LAX Corridor Project	Los Angeles, CA	Transit
Purple Line Extension - Phase 1	Los Angeles, CA	Transit
Purple Line Extension - Phase 2	Los Angeles, CA	Transit
Regional Connector Transit Project	Los Angeles, CA	Transit
Northlink TBM Tunnels	Seattle, WA	Transit
Ohio Canal Intercaptor Tunnel	Akron, OH	Wastewater
Spring/Fishburne - Tunnels and Shafts	Charleston, SC	Wastewater
Des Plaines Inflow Tunnel	Chicago, IL	Wastewater
Doan Valley Storage Tunnel	Cleveland, OH	Wastewater
Dugway South Relief Sewer	Cleveland, OH	Wastewater
Dugway Storage Tunnel	Cleveland, OH	Wastewater
Blacklick Creek Sanitary Interceptor Tunnel	Columbus, OH	Wastewater
Three Rivers Protection and Overflow Reduction Tunnel	Ft. Wayne, IN	Wastewater
Reedy River Basin Sewer Tunnel	Greenville, SC	Wastewater
South Hartford Conveyance and Storage Tunnel	Hartford, CT	Wastewater
White River Tunnel/Pogues Run Tunnel	Indianapolis, IN	Wastewater
Ohio River Tunnel	Louisville, KY	Wastewater
Black Snake Creek Stormwater Separation Project	St. Joseph, MO	Wastewater
Deer Creek Sanitary Tunnel	St. Louis, MO	Wastewater
Jefferson Barracks Tunnel	St. Louis, MO	Wastewater
Maline Creek CSO Storage Facility	St. Louis, MO	Wastewater
Bergen Point Outfall	Suffolk County, NY	Wastewater
Anacostia River Tunnel	Washington, D.C.	Wastewater
Northeast Boundary Tunnel	Washington, D.C.	Wastewater
Water Supply Program/Raw Water Storage Facility	Atlanta, GA	Water
Rondout West Branch Bypass Tunnel	Newburgh, NY	Water

## United States continued



Purple Line Phase 1 TBMs

the existing highway tunnel where the James River meets the Chesapeake Bay. Both bored tunnel and immersed tube options are being considered.

- Subject to available funding, the massive Bay Delta Water Conveyance Program will get started in 2018, as several design and logistical contracts are scheduled for procurement. The entire project will consist of over 36 miles of twin 40-foot diameter tunnels.
- We may see the Gateway Tunnels Project in procurement in 2018. These twin heavy rail tunnels will run under the Hudson River between New Jersey and New York to compliment the existing and aging North River Tunnels. This project originally went into procurement in 2009

but was cancelled when the State of New Jersey withdrew funding. A follow-on project will rehabilitate the existing tunnels to effectively double current rail commuter rail capacity. The project continues to face major funding hurdles.

- Wastewater tunnels will continue to make up the majority of tunnelling projects in the United States throughout 2018. St. Louis, MO, Cleveland, OH, Providence, RI and Los Angeles are just some of the U.S. cities that will continue to expand their facilities.

### STATISTICS

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

We don't track this statistic.

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

The value of major tunnel projects awarded in 2018 was nearly US\$3,000,000,000.

3. List of tunnels completed

While many U.S. tunneling projects are nearing completion, the Deep Rock Tunnel Connector/Eagle Rock Tunnel in Indianapolis is the only major project to reach final completion in 2017.