

LA Metro Purple Line 1

Owner:

Los Angeles County Metropolitan Transportation Authority (Metro)

Client:

Parsons Transportation Group

Role:

Geotechnical Instrumentation Monitoring

Key Characteristics:

- \$2.8 billion
- 3.9-miles of twin 23-ft dia. 75 to 90-ft deep tunnels
- Design-Build Project Delivery
- Construction in an urban environment

Professional Services:

From: June 2018
To: Present



TBM break through into Western Station July 2019
(Photo Credit: LA Metro)



Westside Purple Line Section-1 Alignment (Photo Credit: Skanska-Traylor-Shea)

Los Angeles Metro’s Purple Line Extension Section 1 project is the first of three sections being built along a new 9.1-mile corridor below Wilshire Blvd. The project includes twin subway tunnels extending from Wilshire/Western station to a new Wilshire/La Cienega station in Beverly Hills, with two additional stations at La Brea and Fairfax. The station excavations range up to 1000-ft long and 70-ft wide, with depths between 65 to 80-feet using soldier piles and lagging, struts and localized dewatering. During station construction, temporary surface decking was also employed to maintain the heavily travelled Wilshire Boulevard. Between the stations, Twin Earth Pressure Balance Tunnel Boring Machines were employed to mine the tunnels in the San Pedro formation (dense sands to silty sands interbedded with layers silts and clays) and the Fernando formation (weakly cemented siltstone /claystone). Among the more notable challenges posed by the ground were significant deposits of tar-sands which led to unusual material behavior and the presence of hazardous gas.

As part of the Design-Builder’s team, JCK Underground works with Parsons Transportation Group to monitor over 2,500 geotechnical instruments, installed on historical iconic buildings, third party facilities and along the busy streets of Los Angeles. Evaluating and assisting interpretation of real-time data, JCK Underground is assisting both the Design-Builder and Owner to achieve the project goals of advancing the work safely and expeditiously while protecting existing structures and managing stakeholder concerns regarding the perceived risks of construction.

Link: <https://www.metro.net/projects/purple-section1/>

“...JCK’s expertise in the review and interpretation of installed project instrumentation was crucial in keeping the local governmental authorities ...in the loop, on a real time basis. Especially appreciated was the professional honesty that was displayed at all times when meeting with JCK personnel, that honesty, speaks volumes about their management and core values....” Joe DeMello, Director Construction Management, LA Metro