

Project Profile

Los Angeles Metro Purple Line - Westside 1

Maxwell GeoSystems replaced Trimble on Traylor Skanska's high profile TBM tunnel project from Beverley Hills to Central LA.



Image Courtesy of Metro.net

Maxwell GeoSystems were called on to retrofit MissionOS onto the highly sensitive tunnel project through Central LA when the existing solution failed to provide as per specification. West Coast instrumentation and ground engineering specialist Group Delta decided MissionOS was more able to provide requirements and the MissionOS was installed in parallel with Trimble over 1-2 months. Full transition was accomplished in 3 months with the system able to be fully compliant and ready to launch the first TBM.

Fundamental to our ability to do this was the flexibility to customise data models to suit the exact requirements of the job without extensive programming. Where programming was necessary our agile approach meant we were able to react to project requirements and deliver in days not weeks, something the client was grateful for.

The jobs involved deep top down retained excavations and EPB tunnel into soils and weak rocks containing hydrocarbons. Instrumentation is closely monitored with a heavy reliance on real time telemetry to avoid the need for manual access into busy roads.

TBM monitoring included the control of face pressure parameters and muck balance in addition to gas detection.

An important aspect of the system is the relation of ground movements to design expectations and to provide efficient methods to respond to instrumentation events. In this respect our blogging and canvas systems have become a central part of the project and are valued by all.

Two tunnels are currently excavating down Wiltshire Boulevard.



Image: Cutter head of one of Metro's Tunnel Boring Machines extending the Purple Line. Photo credit/courtesy of : Joe Linton/Streetsblog L.A.

Sector	Tunnels	Location	Los Angeles, USA
Client	Skanska/Traylor/Shea	Budget	USD\$ 2.8 Billion
Technical Summary	Instruments	2,000	(25% in Real-Time)
	TBM Drives	4	(Real Time Data Feeds)
	Stations	3	
	Instrument Records	22 Million	
	Users	64	
Status	Ongoing	(Shafts complete, Tunnels started)	