

# DMRC achieves tunnel breakthrough at Tughlakabad Railway colony

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Delhi Metro Rail Corporation (DMRC) has achieved a significant construction milestone in Phase 4 with the completion of the underground tunnel between Tughlakabad and Tughlakabad Railway colony on the Tughlakabad-Aerocity corridor of Phase-IV.

The breakthrough of the Tunnel Boring Machine (TBM) at the Tughlakabad Railway colony site of the Delhi Metro took place in the presence of Naveen Gulati, Member (Infrastructure) Railway Board and senior officials of DMRC.

A TBM broke through on Tuesday morning at Tughlakabad Railway colony Station after a boring 0.792-kilometre-long tunnel. This tunnel breakthrough was achieved using a mammoth 91-metre-long TBM.



Two parallel circular tunnels for up and down movement are being constructed on this stretch as part of the Aerocity-Tughlakabad corridor. The Civil contractor which has implemented this project is M/s Afcons Infrastructure Ltd.

This new tunnel has been constructed at an average depth of approximately 18 meters. About 559 rings have been

installed in the tunnel, with an inner diameter of 5.8 meters.

"The tunnel has been built using the proven technology of EPBM (Earth Pressure Balancing Method) with a concrete lining made of precast tunnel rings. These tunnel rings were cast at a fully mechanised casting yard set up at Mundka. The concrete segments were cured with a steam curing sys-

tem to achieve early strength," a DMRC spokesperson said. All necessary safety precautions were taken during the construction of the tunnel below the existing built-up structures. Ground movements were monitored with highly sensitive instruments fixed on nearby structures, ensuring that there was no settlement anywhere.

As part of the Phase 4 work approved so far, 40.109 kilo-

metres of underground lines are being constructed. The Aerocity-Tughlakabad corridor has underground sections totaling 19.343 kilometres.

A TBM is a machine used to excavate tunnels with a circular cross-section through various soil and rock strata. They can be designed to bore through anything from hard rock to sand. TBMs have revolutionised tunneling work worldwide, enabling tunnels to be bored without disturbing buildings and other surface structures.

TBMs are particularly useful for underground tunneling work in congested urban areas. DMRC has been using TBMs for its tunneling work since Phase 1. In Phase 3, when approximately 50 kilometres of underground sections were built, about 30 TBMs were deployed in the national capital.