



# Grand Central Station No. 7 Line Access Improvements – Construction Management

## Metropolitan Transportation Authority

**Location:** New York, New York

**Date:** 2023 - 2025

**Structure:** Pedestrian Tunnel and Station Cavern Opening Frame, with temporary access shaft and tunnel

**Length:** Approximately 100 ft (30.5 m)

**Cross-Section:** 140sf (13 m<sup>2</sup>), 13'-2" (4.0 m) wide by 10'-8" ft (3.3 m) high max. internal dimensions

**Geology:** Schist, schistose gneiss, and gneiss

**Cost:** US \$75 million

**Client:** NAIK Group

**Owner:** Metropolitan Transportation Authority (MTA)

design-builder. GZ provided Construction Management support to the MTA during the construction works at Grand Central Station, with an assigned Resident Engineer position for the construction of the Passageway Tunnel. The Resident Engineer was responsible for verifying the tunnel excavation means and methods with different types of ground support, installation of the waterproofing PVC membrane system including grouting, shotcreting the final liner, and the architectural finishes within the New Passageway.



Figure 1. Top Heading Excavation of the New Passageway Tunnel.

### Construction Management Support Services:

To relieve projected congestion and overcapacity due to increased ridership between the Lexington Avenue Line and the Flushing Line at Grand Central Station, MTA is implementing a series of packages to improve access and passenger circulation for the interchange, including widening of existing stairways and the construction of a new passageway that will break in the existing Flushing Line station cavern arch. The new passageway extends east from the existing Flushing Line mezzanine parallel with the station cavern and turns north to break through the arch of the station cavern where the new 7-foot-wide stairway provides access to the station platform.

The tunnel design and construction for the passageway will follow the principles of the Sequential Excavation Method (SEM). The construction of the passageway was carried out from a temporary access drift, which in turn was excavated from a temporary access shaft at the intersection of Lexington Avenue and East 42th Street. The new passageway connects from the wall of the existing walkway, in front of a pair of escalators, to the Lexington Line at mezzanine level.

Gall Zeidler Consultants (GZ) previously developed preliminary designs, participated in selecting contracting strategies, and reviewed various design submissions and specifications from the



Figure 2. Completed new passageway connecting from the wall of the existing walkway going towards the Flushing Line at the platform level (Image Courtesy MTA).