

# Baltimore Red Line Downtown Tunnel & Cooks Lane Tunnel

**Client:**

Baltimore Red Line GEC

**Location:**

Baltimore, MD

**Service Provided:**

Geotechnical rock and soil testing.

**Value Provided:**

- Ability to handle a variety of testing within one laboratory
- Coordinated work with specialty subcontractors for the client
- Provided specialized test reports as specified by the client

## Background & Project Challenges

The proposed Baltimore Red Line is a 14.1-mile, east-west transit line connecting several areas of the city to downtown Baltimore.

The Red Line would provide enhanced mobility and connecting service to Baltimore's existing transit systems: MARC commuter service, metro, light rail and local and commuter bus routes.



## GeoTesting Role & Accomplishments

GeoTesting Express, Inc. (GTX) provided a wide range of rock and soil testing services in support of the design of two rock tunnels, the Downtown Tunnel and the Cooks Lane Tunnel. GTX performed over 1,600 rock tests and more than 500 soil tests for this project.

**Rock tests included:**

- Uniaxial compression
- Triaxial
- Cerchar abrasivity
- Punch penetration
- Petrographic analyses
- NTNU / SINTEF drillability
- Pulse velocities and elastic constant
- Direct shear
- Splitting tensile
- Point load
- Slake
- Rebound hammer
- Unit weight, porosity, and specific gravity

**Soil tests included:**

- Incremental consolidation
- Triaxial
- Grain size
- Limits
- Organic content
- Density
- Corrosion
- Specific gravity