



*Above and at left: New entrance facilities and new entrance well.*

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## Franklin Avenue Shuttle Rehabilitation

*Brooklyn, NY*

Brooklyn's 113-year-old Franklin Avenue Shuttle was one of the most deteriorated subway lines on New York City Transit's system. As a result of a massive rehabilitation program, it is now one of the most modern and attractive lines.

STV, Inc. provided engineering and architectural design services for the line and three stations. Mueser Rutledge Consulting Engineers (MRCE) served as the geotechnical and foundation consultant.

The Franklin Shuttle dates from the mid 1880s and includes 8100 lineal feet of cut and above-grade railway sections. The above-grade sections consisted of fill contained between concrete gravity walls with steel bridges at street crossings. At several locations there was significant deterioration, including rotation of the top of the retaining wall. MRCE's design services included rehabilitating the retaining wall and bridges and providing new station platforms and suitable drainage in cut sections.

MRCE performed a geotechnical investigation, including borings and test pits, to determine the characteristics of the retaining wall fill and underlying natural soils; determined the subsurface conditions for rehabilitation of bridges and design of new stations; provided geotechnical design parameters to evaluate the existing retaining walls; and designed suitable drainage systems for cut sections.