

Silicon Valley Rapid Transit Corridor

Based on extensive studies, the Santa Clara Valley Transportation Authority (SCVTA) determined the Bay Area Rapid Transit (BART) Silicon Valley Project was the best transit solution for the Bay Area's congested east side I-880 and I-680 commute corridors. SCVTA broke ground in April 2012 for the initial \$2.3 billion Berryessa Extension, which includes two new stations.

PROJECT RESULTS

Kleinfelder's recommendations for ground modification, foundation design, seismic and lateral earth pressures for underground structures, and excavation/earthwork requirements were used to develop design recommendations for the preliminary engineering and 65 percent phases of the project, in accordance with BART seismic design criteria and Facilities Standards guidelines and criteria.



SEVERE SEISMIC ACTIVITY

The four BART subway stations along the 16-mile rail transit extension are subject to severe seismicity—7.25 earthquake magnitude—from the local active faults, including the San Andreas and Hayward faults. Subsurface conditions include high groundwater levels and some liquefaction-susceptible ground. Additionally, some of the BART subway stations underlay congested urban streets and intersections and are immediately adjacent to mid-rise level buildings with basements.

MULTIPLE GEOTECHNICAL SERVICES PROVIDED

Kleinfelder's geotechnical and earthquake engineering services included subsurface investigations, interpretation of geologic and groundwater data, and developing seismic design input criteria and soil-structure interaction analyses. Kleinfelder also created comprehensive geotechnical and seismic reports that provided the client with clear direction and recommendations to proceed with design of the project.

Location:

San Jose, California

Owner:

Santa Clara Valley
Transportation Authority
(SCVTA)

