

PROJECT

16th Street Mall Granite Pavers
Denver, Colorado

CLIENT

Downtown Denver Business Improvement
District
Denver, Colorado

PROJECT DESCRIPTION

The 16th Street Mall in downtown Denver, Colorado is a pedestrian and transit mall that extends for more than a mile along 16th Street connecting people to major businesses, hotels, restaurants, and retail. Recently, the street mall pavers have experienced a substantial number of loose and cracked granite pavers. Atkinson-Noland & Associates conducted an extensive investigation at the 16th Street Mall granite tile pavers to determine the causes of distress in the paving system. We also helped develop appropriate solutions to paver debonding, slip-resistance, aesthetics, and maintenance.



Overall view of the 16th Street Mall showing the granite paving system.



View of a granite paver being removed as part of maintenance operations.

SERVICES PROVIDED BY ATKINSON-NOLAND

- Visual survey of paving system to identify distress conditions
- Laboratory tests to identify material properties of stone paving units and setting bed material
- Field testing to measure slip resistance under wet and dry conditions
- Use of ground penetrating radar (GPR) to verify the presence of voids in the setting bed material
- Analysis of the paving system subjected to traffic load using a finite element approach
- Generation of a prioritized listing of recommended approaches for preserving historic features of the mall



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