TRUSTED
INNOVATIVE
UNDERGROUND
SOLUTIONS
INNOVATIVE TUNNEL SOLUTIONS

HNTB experts have the insight and knowledge to provide innovative solutions on a wide range of tunnels, including cut-and-cover, tunnel boring machine (TBM) tunnels, conventional tunneling, NATM, immersed tube tunnels, shaft construction and micro-tunneling. Our long history in planning, program management, design, construction management and technical services for tunnel structures includes award-winning projects on some of the country’s most complex tunneling projects.

Recipient of numerous national and international awards including the International Tunneling Award, Advisor/Program Manager of the year and the UCA of SME Project of the Year Award.
HNTB's role included design of more than 3 miles of twin-bore tunnel and two underground stations. Project complexity included twin-bore segmental tunnels in a seismically active, urban environment; 18-foot 10-inch inside diameter, single-pass lined tunnels.

COMPREHENSIVE TUNNELING EXPERIENCE INCLUDES:

- Soft ground tunnels
- Rock tunnels
- Caverns
- Shafts
- SEM/NATM
- Cut-and-cover structures
- Immersed tunnels
- Micro-tunneling and pipe jacking
- Tunnel condition survey, inspection and rehabilitation
- Geotechnical engineering
- Rock mechanics and engineering geology
- Geotechnical and geophysical investigations
- GDR, GIR and GBR
- Liner design
- Excavation support
- Underpinning, support and protection of existing structures
- Settlement analysis and mitigation
- Ground/structure interaction
- Seismic design and seismic retrofit of tunnels
- Geotechnical and structural instrumentation
- Ground improvement
- Geohydrology/groundwater modeling
- Dewatering
- Waterproofing
- Blast design and monitoring
- Fire life safety
- Tunnel ventilation
- SES and CFD analyses
- Feasibility and alternative analysis
- Program management
- Construction management and resident engineering
- Underground construction and engineering services
- Risk management
- Peer and value engineering review
- Constructability/construction phasing
- Visualization and 4-D virtual construction

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B&P Tunnel Replacement Project
Baltimore

HNTB is the project management consultant to Amtrak for the delivery of the Baltimore & Potomac Tunnel replacement project. The existing B&P Tunnel is more than 143 years old and is approaching the end of its useful life. While the tunnel currently remains safe for rail transportation, it requires substantial maintenance and it does not meet current design standards. The project will include four new high-speed (100+ MPH) tracks, is projected to cost approximately $5 billion and take 10 years to complete.

Presidio Parkway
San Francisco

HNTB served as lead designer and provided construction design services for Phase II of the Presidio Parkway design-build project, which links San Francisco to the North Bay in the heart of the Golden Gate National Recreation Area.
HNTB is providing construction quality control services as part of the design-build contract for the Elizabeth River Tunnels public-private partnership project in Norfolk, Virginia. A component of the project, the new Midtown Tunnel is an all-concrete, immersed-tube tunnel adjacent to the 50-year-old Midtown Tunnel.

HNTB is lead designer for the Washington State Department of Transportation’s SR 99 Alaskan Way Viaduct and Seawall Replacement project. The design-build project is constructing the largest tunnel in the world with a two-level roadway to replace the aging, earthquake-damaged Alaskan Way Viaduct.

Elizabeth River Tunnels
Norfolk, Virginia
Washington Dulles International Airport Tunnels
Chantilly, Virginia

Leading design and construction, HNTB used multiple methods and designs to mine twin light-rail tunnels. The tunnels are the largest in the state and are believed to be the first large-diameter tunnels bored under an active commercial airfield.

Minneapolis-St. Paul International Airport Light Rail Transit Tunnels and Lindbergh Station
Minneapolis

The 10-mile multi-tunnel is the longest airport airside tunnel system to accommodate a new baggage handling system, underground tugs, utilities and pedestrians. It was constructed using TBM, NATM and cut-and-cover methods.