

Safeguarding our infrastructure

With more than 2,000 miles of tunnel projects worldwide, our tunneling engineers and inspectors are at the forefront of the industry

Our tunnel design experience includes high profile work like the Second Avenue Subway in New York City, the Regional Connector in Los Angeles and the Central Artery (the Big Dig) in Boston. What really sets us apart though is our outstanding performance, our consistent execution of the work, and our ability to provide fully integrated services on all aspects of large-scale tunnel design, inspection, rehabilitation and construction. We work on roadway, transit, water and energy tunnels around the world.

Cover:

I-90 Westbound Connector Tunnel
Inspection of Tunnel Lighting Fixtures
Boston, Massachusetts – MassDOT

Main:

Ted Williams Tunnel
Centrifugal Fan Inspection
Boston, Massachusetts – MassDOT

Setting the standard for tunnel inspection

For over 10 years, we have conducted inspections for all types of agencies and tunnel owners. Our engineers and inspectors are well versed in National Tunnel Inspection Standards (NTIS) and bring extensive experience and best practices to our inspection projects. Following a ceiling panel collapse in Boston, we worked with the Massachusetts Department of Transportation (MassDOT) to develop guidelines for tunnel inspection — these guidelines later became the basis for the NTIS.

Our national team has 25 NTIS-Certified tunnel inspectors, including some who were among the first to obtain certification as part of the 2014 pilot program. The team is supported by more than 50 engineers experienced on cut-and-cover, immersed tube, rock-cut, jacked, bored, slurry wall construction, and air rights tunnel structure inspections. We understand the unique demands of in-service tunnels and have developed a proven approach that uses state-of-the-art systems to deliver timely results that meet your budget and schedule requirements. Our access to in-house structural, mechanical, electrical, ventilation and fire and life safety professionals ensures you have a single-point of accountability on all NTIS compliance requirements.

As an ISO 9001-certified company, we have a long-standing commitment to quality, safety and client satisfaction on all of our projects. Our field staff is well-versed on all aspects of worker safety and protection, proper inspection procedures and the safe use of inspection equipment. We attend certified training programs on fall protection, confined spaces, aerial work platforms, CPR/AED and OSHA Construction Safety and Health. We take our role as an industry leader seriously and collaborate with the Federal Highway Administration to host National Highway Institute tunnel training courses across the United States.



Adding value

Inspection manuals

We develop detailed inspection manuals for our clients that are based on the Specifications for the National Tunnel Inventory (SNTI), the Tunnel Operations, Maintenance, Inspection and Evaluation (TOMIE) Manual, and other agency-specific guidelines. We also work on behalf of agencies, reviewing their tunnel inspection manuals for accuracy and completeness.

Load ratings

As required by the NTIS, our team conducts tunnel load ratings on all tunnel elements that carry live loads. These include concrete invert slabs, hanger anchorages, ceiling hangers and ceiling panels. We have also performed thousands of bridge load ratings across the U.S. in accordance with the American Association of State Highway and Transportation Officials (AASHTO) Manual for Bridge Evaluation requirements.

Structural rehabilitation

Our team performs structural rehabilitation design on tunnels throughout the U.S. We provide in-depth rehabilitation level inspections, recommendations, surveying and testing, and develop final design plans, specifications and construction estimates.

Mechanical/electrical repairs and safety upgrades

Tunnels provide one of the harshest environments for operating and maintaining mechanical and electrical equipment. It is exposed to vibration, moisture, salt, exhaust fumes, dust contamination and varying temperatures. Our tunnel rehabilitation professionals identify and address aging equipment and fire life safety concerns. Several are members of the National Fire Protection Association 502 Technical Committee and stay abreast of evolving standards that govern rehabilitation projects.



Emergency response

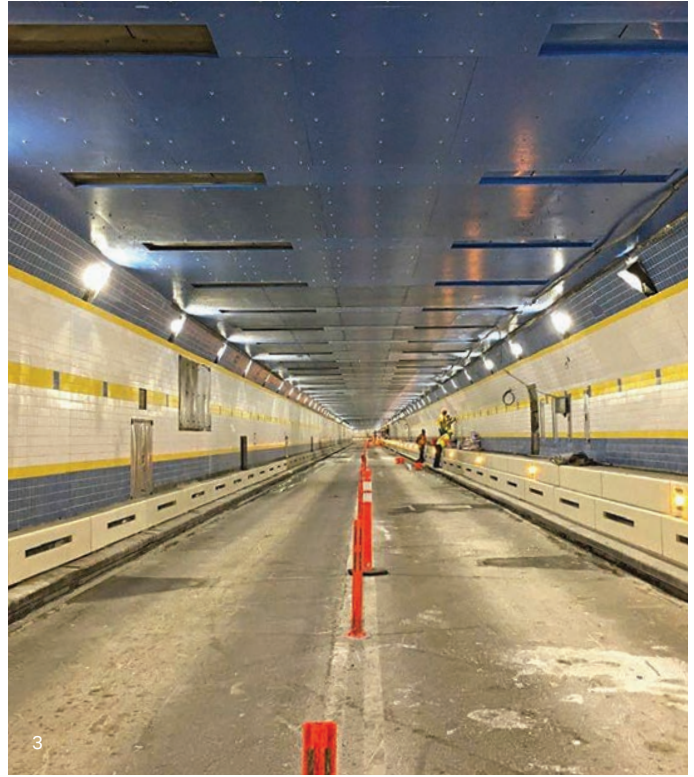
Our team stands ready to provide support and guidance during emergency situations. We can mobilize our resources within hours of an incident and remain on scene until the tunnel is deemed safe for the traveling public. We conduct emergency inspections on all tunnel elements including the concrete liner, wall panels, lighting fixtures and manholes. In addition to performing emergency inspections, we can also oversee material sampling and testing to determine the extent of damage and provide repair recommendations.

Below and inset:

East River Mountain Tunnel, Virginia and West Virginia – Virginia Department of Transportation (VDOT)

When a tractor trailer caught fire in the East River Mountain Tunnel, we reached out to VDOT to offer support and guidance. Before the fire was extinguished, we had mobilized an inspection team to perform a damage assessment. We documented the extent of the damage and oversaw the extraction of several cores as well as petrographic analysis and compressive strength testing on the cores. Our team prepared a detailed report containing necessary repair recommendations.





- 1. College Hill Tunnel, Providence, Rhode Island** – Rhode Island Department of Transportation

Initial NTIS inspection of the College Hill Tunnel, which consists of a single bore that was mechanically excavated and supported by an unreinforced concrete liner.
- 2. Holland Tunnel, Jersey City, New Jersey and New York City, New York** – Port Authority of New York & New Jersey

In-depth inspection of portions to determine deterioration due to water intrusion and develop repair options.

- 3. Queens-Midtown Tunnel, New York City, New York** – Triborough Bridge and Tunnel Authority (Metropolitan Transportation Authority Bridges and Tunnels)

Comprehensive rehabilitation level inspection and developed tunnel facility asset management database for tracking deficiencies.
- 4. Prudential Tunnel, Boston, Massachusetts** – MassDOT

Inspected nearly all of MassDOT's 18.69 mile tunnel system comprised of eight complex tunnels. We also developed preliminary repair details and cost estimates, reviewed inspection handbooks and conducted inspections during construction.



5. Lehigh Tunnel, Lehigh County, Pennsylvania – Pennsylvania Turnpike Commission

Biennial structural inspections of the Lehigh, Blue Mountain and Kittatinny Tunnels for the Pennsylvania Turnpike Commission.

6. East River Mountain Tunnel, Rocky Gap, Virginia – VDOT

As part of a VDOT tunnel engineering contract, we performed the initial NTIS inspection of eight tunnels and the load rating analysis of the Downtown Tunnel. Developed detailed inspection manuals for entire tunnel system and completed related tunnel services task orders including structural repairs, fire life safety upgrades, ventilation analysis and design of traffic control systems.

7. Justus C. Martin Jr. Tunnel, Atlanta, Georgia – Georgia Department of Transportation

Initial NTIS inspection of this air rights tunnel carrying Route 400 under the Atlanta Financial Center East Tower.



About AECOM

AECOM is the global infrastructure leader, committed to delivering a better world. As a trusted professional services firm powered by deep technical abilities, we solve our clients' complex challenges in water, environment, energy, transportation and buildings. Our teams partner with public- and private-sector clients to create innovative, sustainable and resilient solutions throughout the project lifecycle — from advisory, planning, design and engineering to program and construction management. AECOM is a Fortune 500 firm that had revenue of \$16.1 billion in fiscal year 2025. Learn more at [aecom.com](https://www.aecom.com).

