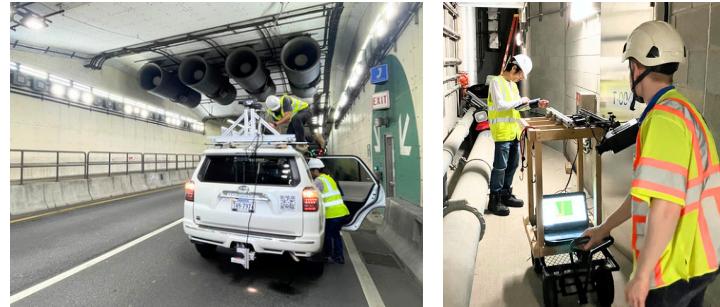


ERC Midtown Tunnel – Westbound Thermographic Analysis

Virginia

NEXCO-West USA conducted a comprehensive **visual and infrared thermographic scanning survey** of the Westbound Midtown Tunnel as part of an advanced condition assessment program. The objective was to identify and quantify **water infiltration, leakage patterns, and subsurface moisture conditions** across tunnel structural components. The project leveraged NEXCO's proprietary tunnel scanning workflows to provide ERC with **objective, data-driven insights** to support maintenance planning and repair prioritization. A pilot **AI-assisted robotic scanning system** was also tested in the utility corridor to evaluate future applications for 3D modeling and automated inspection workflows. This project demonstrates how NEXCO's **Tunnel Scanning System (TSS)** integrates visual, infrared, and analytical workflows to support **modern tunnel asset management**.



Field Data Collection



Thermography Deliverable

Project Details

- Client : Elizabeth River Crossings OpCo, LLC
- Service: Tunnel Scanning / Infrared Thermographic Analysis 
- Project Period: September, 2025
- Tunnel Description:
 - Immersed tube tunnel carrying U.S. Route 58 beneath the Elizabeth River
 - Opened to traffic in 2016
 - Approximate tunnel length: 4,200 ft
 - Structural elements assessed:
 - Traffic corridor (walls, ceiling, slab)
 - Utility corridor and egress corridor
 - Asphalt wearing surface
- Value to the Owner:
 - Non-destructive, full-coverage inspection without extended closures
 - Objective verification of leakage conditions beyond visual inspection alone
 - Data-driven prioritization of repair and preventive maintenance actions
 - Baseline dataset for future seasonal and long-term monitoring