



NEXCO-West USA, Inc. is an engineering consulting firm specializing in pavement and infrastructure condition assessment. As a subsidiary of NEXCO-West Japan, we bring decades of highway operation experience and cutting-edge imaging technologies to U.S. transportation networks. Our mission is to provide accurate, data-driven, and actionable insights for better pavement management and maintenance decision-making.

Pavement Services



Database Development/Review

Database leverage is key. We make it easy for you.

A robust pavement management system begins with a reliable database. We ensure your data foundation is accurate, comprehensive, and usable.

- Scope Review: Confirm coverage of all maintained roadways and assets.
- GIS Database Development: Deliver geospatially linked datasets (Shapefile, KMZ, or Geodatabase).
- Historical Data Integration: Incorporate previous inspections and maintenance history.



Data Collection Methods

All methods have pros and cons. We choose the best one for you.

We employ the right combination of technologies based on your goals, budget, and network characteristics.

- 3D Laser Roadway Profiler / Inertial Profiler - High-precision roughness and distress measurement.
- Windshield Survey - Cost-effective, segment-based surface evaluation.
- FWD (Falling Weight Deflectometer) – Structural capacity and layer stiffness evaluation.
- Friction Testing – Skid resistance and safety assessment.
- GPR (Grand Penetrating Radar) – Layer thickness measurement and subsurface feature detection for deeper insight.



3D Laser Profiler - Smart Eagle



Condition Metrics

What metrics are you looking for?

We evaluate all essential performance indicators for holistic pavement management.

- Surface Distress:
 - Pavement Condition Index (PCI)
 - Crack-by-crack & Rutting Analysis (1-by-1 evaluation)
- Ride Quality: International Roughness Index (IRI)
- Structural Capacity: FWD-based analysis
- Skid Resistance: Friction testing



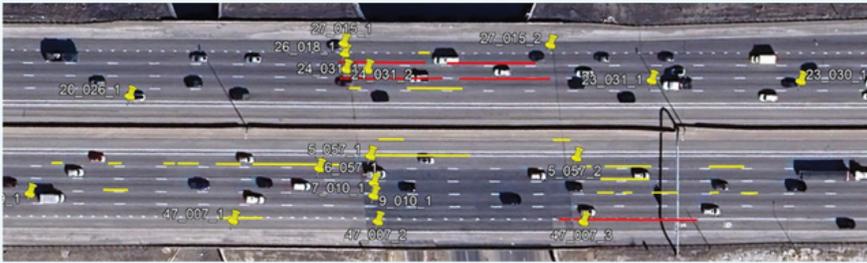


Mapping Visualization Options

Mapping helps you better understand your network.

We transform data into visuals that enable faster, smarter decisions.

- Google Earth Lane-by-Lane Visualization – Intuitive mapping for all users.
- Color-Coded Network Mapping – PCI, IRI, Rutting, and repair priority maps.
- GIS Deliverables: Shapefiles, or KMZ/KML.

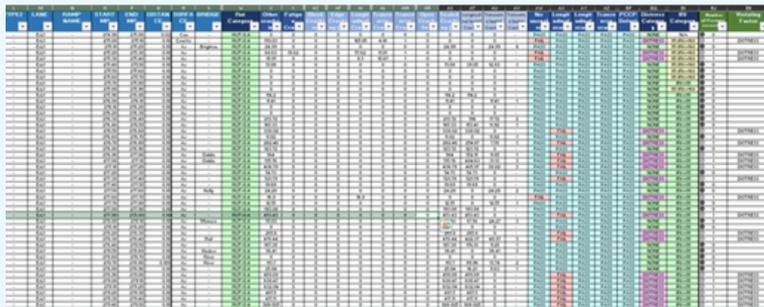


Strategic Pavement Maintenance Planning

Pavement management isn't easy. We listen and develop the best strategy with you.

We help agencies optimize maintenance by balancing condition, cost, and constructability.

- Prioritization Models: Ranking based on performance, safety, and user impact.
- Decision Trees: Automated treatment selection for consistency and transparency.
- Lane Closure Optimization: Minimizing traffic disruption while maximizing efficiency.



Severity	Treatment	Example
Low: 	This is a candidate for either crack filling, sand seal, or chip seal treatment.	 Crack Filling Chip Seal
Moderate: 	Treatments for a moderate severity level could be either Nova Chip, HMA Overlay or a Surface Milling with a HMA Overlay.	 HMA Overlay Milling
High: 	The high severity level condition is beyond a preservation treatment. Do nothing under the Pavement Preservation Program; handle under either as a rehab or reconstruction project.	 Rehab

Treatment Selection Recommendation



Budget Scenario Analysis

Limited budget? We'll find the best strategy to minimize lifecycle cost.

We simulate multiple maintenance strategies to visualize future conditions and costs.

- Safety Repairs Only Scenario: Focus on immediate safety and compliance needs.
- Maintain Current Condition Scenario: Plan to sustain today's performance level.
- Targeted PCI Scenario: Optimize network condition toward specific targets.

Scenario	Safety Repairs Only	Maintain Current Condition	Unconstrained Budget
Total 10-year Budget	\$ XXX,XXX	\$ X,XXX,XXX	\$ X,XXX,XXX
Annual Budget Standard Deviation	\$ XX,XXX	\$ XX,XXX	\$ XXX,XXX
2034 Average Condition	CCI = 73 (PCI = 74)	CCI = 79 (PCI = 80)	CCI = 88 (PCI = 89)
2034 Violation (CCI<70) Area [%]	30 %	15 %	0 %

Budget Scenario Analysis

