Appendix B- Active Artificial Intelligence Use Cases and Status

January 2026 AI Strategic Plan Update

Table 1 – Use Case Group, Title, and Status

Use Case Group and Title	Status
A. Using AI to Analyze TxDOT's Infrastructure	
1. Intelligent Utility Mapping and Conflict Detection	In Progress
3. AI-Driven Sign Inventory and Compliance	In Progress
7. AI-Assisted ITS Device Monitoring and Troubleshooting	In Progress
C. AI in Plans, Specifications, and Estimates (PS&E) Review	
9. Statewide Best Practices and Design Standardization	In Progress
D. Objective Bid Item Estimation: Optimizing TxDOT Project Analysis with AI Insights	
1. AI-Powered Bid Prediction and Estimation	In Progress
4. Predictive Models for Accurate Bid Pricing and Estimation:	In Progress
E. TxDOT's AI-Powered Approach to Traffic Flow Management	N/A
1. AI-Powered Signal Timing Optimization	In Progress
10. AI-Optimized Communication Strategies for Traffic Management	In Progress
F. AI for Data-Driven Crash Hotspot Mitigation	
1. AI-Driven Hot Spot Detection	In Progress
4. Crash Data Screening and Anomaly Detection	In Progress
I. AI-Optimized Route Suggestions	N/A
3. Real-Time Traffic Alerts and Routing	In Progress
J. Optimized Road Safety with AI-Powered Incident Analysis and Response	N/A
5. AI-Assisted Incident Response Coordination	In Progress
L. Leverage AI for Strategic Speed Limit Evaluation	N/A
2. Automated Speed Study Analysis	In Progress
3. Data-Driven Speed Limit Safety Analysis	In Progress
4. AI-Assisted Complaint Validation and Prioritization	In Progress

Use Case Group and Title	Status
M. Prioritize Roadway Health with AI-Enabled Maintenance	N/A
1. Predictive Road Health Monitoring	In Progress
N. Streamlining Reimbursements: AI-Powered TxDOT Travel and Expenses	N/A
2. AI-Powered Expense Report Automation	In Progress
O. AI-Enabled Process Automation at TxDOT	N/A
5. Automated Advanced Funding Agreement (AFA) Management	In Progress
P. GenAI Enabled Document Generation	N/A
6. AI-Assisted Storyboard and Script Generation	In Progress
T. TxDOT's AI-Powered Virtual Assistant	N/A
7. Virtual HR Assistant	In Progress
Y. AI-Driven Fraud and Threat Detection	N/A
2. Intelligent Collusion and Anti-Trust Detection	In Progress
DD. AI-Powered Vehicle Management	N/A
2. Predictive Equipment Failure Detection	In Progress
B. Strategic Project Prioritization at TxDOT with AI Insights	N/A
5. Automated Workflows and Documentation	Completed
Q. AI-Powered Contract Management	N/A
2. Automated Invoice Processing and Compliance Checking	Completed
R. TxDOT's AI Upskilling and Knowledge-Sharing Initiative	N/A
1. AI Literacy Training Program	Completed
5. AI Champion Network	Completed
S. GenAI for Efficient Document Summarization	
6. Intelligent Meeting Idea Capture	Completed
9. Intelligent Email and Chat Summarization	Completed
T. TxDOT's AI-Powered Virtual Assistant	N/A
1. TxDOT Secure AI Assistant	Completed
U. Leverage AI for Strategic Talent Management	N/A
4. Automated Onboarding and Offboarding Processes	Completed
V. Leverage AI for Personal Productivity	N/A

Use Case Group and Title	Status
3. AI-Assisted Email and Deadline Management	Completed
X. Streamlining TxDOT's Tool Selection Process with AI	N/A
6. Low-Code/No-Code AI Development Platform	Completed
Y. AI-Driven Fraud and Threat Detection	N/A
1. AI-Powered Fraud Detection for Financial Transactions	Completed
3. Automated P-Card Audit and Compliance Monitoring	Completed