Creating a 4-Year Pavement Management Plan with AgileAssets® Pavement Analyst™

AgileAssets®
Save Time. Save Money. **Save Lives.**

Texas Department of Transportation

Number of employees
12,000
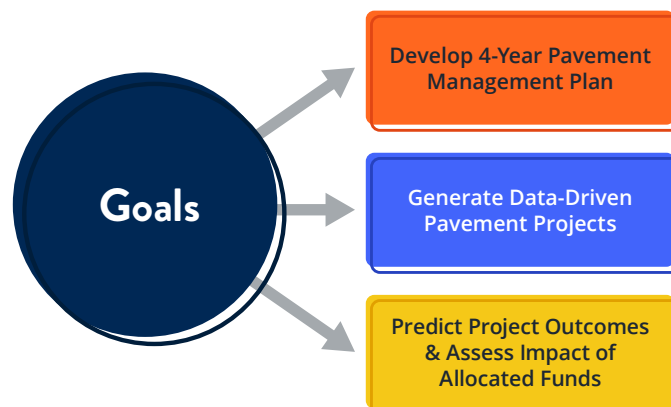
Geographical districts
25

Products Used
Pavement Analyst™
Maintenance Manager™

Goals

Texas Department of Transportation (TxDOT) needed a way to generate a multi-year pavement management plan based on financial facts and engineering data. Ideally, the plan needed to be roadway-specific, budget-constrained, and capable of being used to assess the impact of allocated funding.

TxDOT defined the following goals:

1. Develop a comprehensive, uniform 4-year pavement management plan
2. Generate pavement projects based on roadway-specific data and fiscal constraints
3. Predict project outcomes and assess the impact of allocated funds

Goals

→ **Develop 4-Year Pavement Management Plan**

→ **Generate Data-Driven Pavement Projects**

→ **Predict Project Outcomes & Assess Impact of Allocated Funds**

Challenges

TxDOT manages 80,444 centerline miles of roadway and inspects 54,180 bridges located in its 25 highway districts. The state sees 197.4 billion annual vehicle miles traveled (VMT) on state-owned highways—making it not only the largest, but also one of the most heavily traveled networks in the United States.*

Maintaining statewide transportation assets and providing a high-quality road system are vital for the state's economy and public safety. To contain the costs of managing its road network, TxDOT applies innovative asset lifecycle management strategies to preserve and restore the condition of roadway assets.

Texas legislation requires that TxDOT annually provide the state's Legislative Budget Board and the Governor with a detailed plan for the use of transportation funds. Among other things, the plan must include pavement condition targets and a district-by-district analysis of how proposed maintenance spending will impact pavement scores.
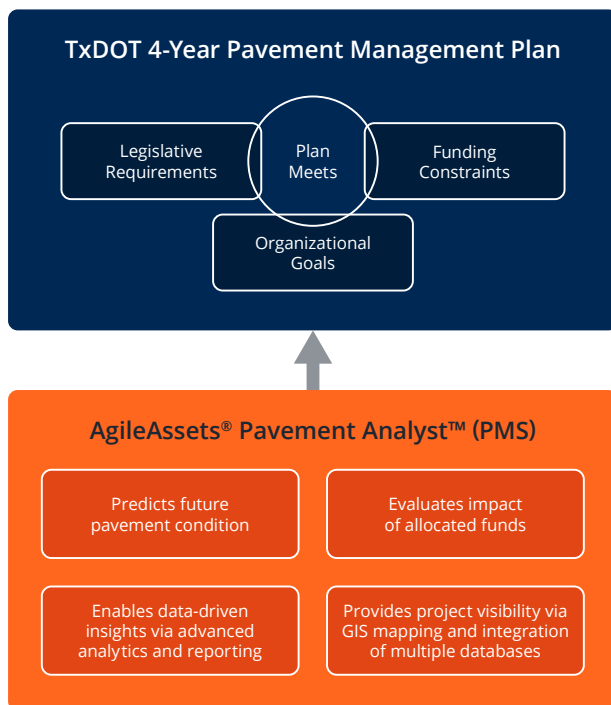
* TxDOT, 2016-2017 Pocket Facts; Texas Comptroller, Highway Districts.

Large, High-Traffic Road Network

Complex Asset Lifecycle Management Strategies

Challenges

Legislative Requirements for Annual Planning

District-Wide, Actionable Data Analysis

TxDOT 4-Year Pavement Management Plan

Legislative Requirements

Plan Meets

Funding Constraints

Organizational Goals

AgileAssets® Pavement Analyst™ (PMS)

Predicts future pavement condition

Evaluates impact of allocated funds

Enables data-driven insights via advanced analytics and reporting

Provides project visibility via GIS mapping and integration of multiple databases

Solutions

TxDOT uses the advanced analytical capabilities of AgileAssets® Pavement Analyst™, the state's pavement management system (PMS) of record, to develop a 4-year pavement management plan and to update the plan during each year of its scope. Using predictive modeling, Pavement Analyst helps to forecast the future condition of pavements and to assess the impact of funds allocated to pavement projects.

Relying on Pavement Analyst's geographic information system (GIS) functionality and integration with multiple databases—including construction, maintenance, and crash data—TxDOT team members can map various combinations of projects, pavement condition scores, and traffic information to obtain comprehensive insights and identify planning options. With Pavement Analyst's advanced analytics and reporting capabilities, TxDOT can generate robust, data-driven 4-year plans that meet legislative requirements, funding constraints, and departmental goals.

Texas Department of Transportation

Benefits

The ability to create a 4-Year Pavement Management Plan provides TxDOT with many benefits. TxDOT can generate cost-effective pavement projects that make optimal use of taxpayer funds—ensuring a higher return on infrastructure investments while delivering a higher-quality road network to constituents.

In addition, with integrated planning and maintenance data in the PMS, TxDOT's strategic and operational teams can more efficiently share information and coordinate activities. As each previous year's plan becomes work history, TxDOT can refine project predictions and improve budget forecasting—saving money and improving operations.

With the complex planning made possible by AgileAssets Pavement Analyst, TxDOT is able to go beyond meeting legislative requirements. The 4-Year Pavement Management Plan helps TxDOT create more value for millions of road users by ensuring safer, more reliable roadways.

Cost-Effective Pavement Projects

Safer, More Reliable Roadways

Optimal Use of Taxpayer Funds

Legislative Compliance

Efficient Coordination of Planning & Operations

Improved Organizational Performance

Higher Return on Infrastructure Investments

More Value for Road Users

BENEFITS AHEAD

As part of the AgileAssets Excellence in Infrastructure Asset Management (AXIAM) Awards, TxDOT received an honorable mention for its 4-Year Pavement Management Plan.

AXIAM AWARD

Learn More

For more information about transportation asset management strategies and solutions, contact us at **+1 800.877.8734** or **AgileAssets.com**.

Texas Department of Transportation