Improved Pavement Planning & Maintenance Operations

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

As one of the largest transportation agencies in the United States, Texas Department of Transportation (TxDOT) manages the nation's largest state-owned road network: 200,000 lane miles of roadways supporting more than 500,000,000 daily vehicle miles traveled across 254 counties.

Texas Department of Transportation ®
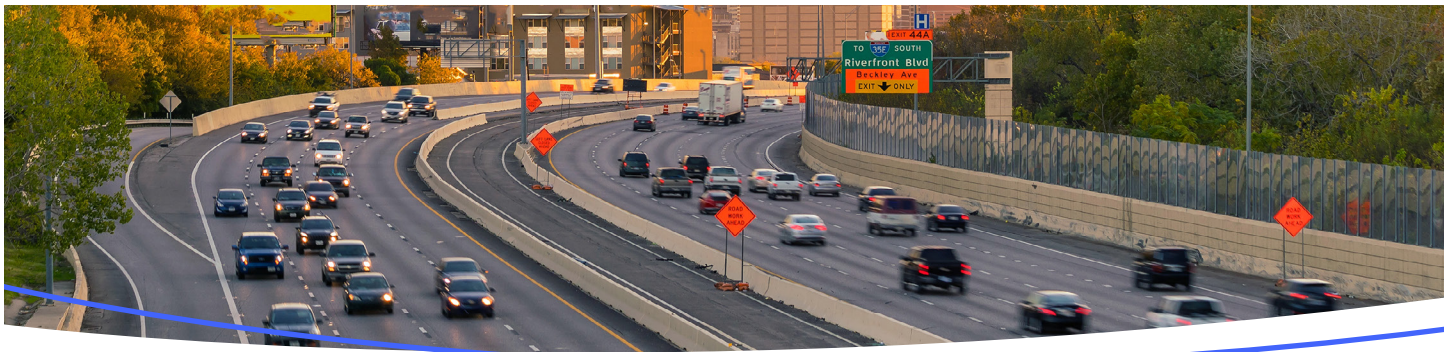
Number of employees
12,000

Geographical districts
25

Products Used
Pavement Analyst™
Maintenance Manager™

200K
lane miles of roadways

500M
daily vehicle miles traveled

254
counties

In 2011, TxDOT began using **AgileAssets® Maintenance Manager™** as its maintenance management system of record. Five years later, the agency moved to advance its asset management practices even further by deploying a state-of-the-art PMS, **AgileAssets® Pavement Analyst™**. For agency-specific reasons, TxDOT chose to implement these two solutions as separate systems.

Challenge

Although TxDOT was using two industry-leading solutions to manage and maintain their pavement assets, agency teams did not initially share data between pavement management and maintenance management functions. The pavement management staff often lacked up-to-date information about pavement work history and work type. If the road condition improved, pavement managers could often not determine whether the change was due to inaccuracies in the new ratings or whether maintenance work had been done on the roadway. Efficiency lagged due to a lack of coordination between PMS-recommended work plans and actual maintenance projects.

Siloed systems

Pavement Management

Maintenance Operations

Disconnected information
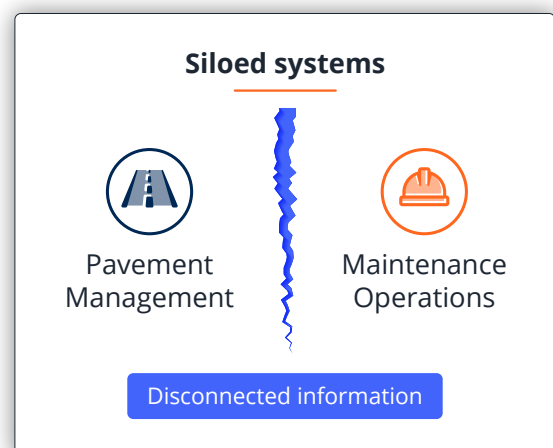
Goals

TxDOT defined the following goals to help improve operations and outcomes:

1. Capture all pavement-related activities from the MMS into the PMS

2. Increase data accuracy and eliminate redundancies

3. Streamline resource allocation for pavement maintenance and repairs

4. Simplify coordination of work activities across the pavement and maintenance business units and working groups

5. Improve the development of 4-year pavement management plans

Solution

Tapping the enterprise capabilities of AgileAssets solutions, TxDOT integrated their separately deployed AgileAssets applications, **Pavement Analyst™** and **Maintenance Manager™**. For TxDOT, this integration enables the PMS to import the MMS data directly— tracking pavement maintenance activities and delivering ongoing visibility to both the pavement and maintenance teams.

The pavement team can now import preselected roadway maintenance projects into their 4-year pavement management plans. The team can then prioritize other roads for treatment, or delay treatment on the roads where maintenance has been scheduled and will be sufficient to extend service life.

The maintenance team can proceed confidently on the projects in the 4-year plan, knowing that preventive maintenance activities will not be superseded by rehabilitation projects on the same areas. The maintenance team can use the PMS to inform the planning of future maintenance work in areas not already covered by the 4-year plan.

With the same AgileAssets team delivering and supporting both the PMS and the MMS, TxDOT benefits from additional advantages:

- The same AgileAssets user interface for both applications, making them easier to learn and use
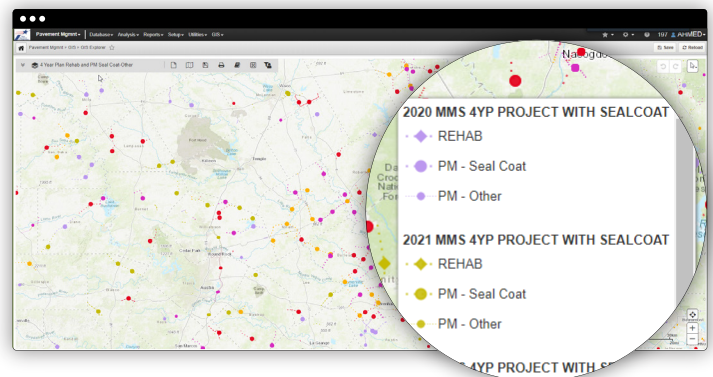
Integrating MMS 4-year plan data into AgileAssets® Pavement Analyst™ allows TxDOT pavement managers to review maintenance activities planned for the future.

- Familiar subject matter experts with knowledge of TxDOT practices, policies, and procedures, ensuring a successful integration effort and long-term project success

- Consistent application support for both AgileAssets products, enabling a simpler, smoother customer experience day-to-day

- Streamlined contracting processes for quicker, easier, and more affordable access to AgileAssets products and services through **Texas Department of Information Resources** (Texas DIR), a cooperative contracting organization that makes preferred pricing available to qualified purchasing agencies in the United States

With an integrated PMS and MMS, TxDOT has improved its strategic planning because the pavement management team has a thorough record of work history and maintenance activities—a level of data access and visibility that is rare at U.S. state DOTs.

Results

TxDOT achieved many positive results from integrating their AgileAssets PMS and MMS. The integration improves day-to-day operations through better data quality and accessibility. Data now flows smoothly from the MMS to the PMS and back again, continuously updating the relevant teams. **Pavement Analyst™** displays all maintenance activities in tables or maps, and easily generates maps for pavement surface age based on previous maintenance and construction records.

Using MMS data, **Pavement Analyst™** can, for example, differentiate between sealed and unsealed cracks, then generate work requests for the recommended treatments. The maintenance team can access the work requests and generate work orders in the MMS for crews to perform the needed repairs.

TxDOT's integrated solution also supports **better strategic planning**. When the pavement team develops 4-year pavement management plans, these plans are coordinated with maintenance activities, projects, and related costs. Both teams avoid planning duplicate or competing projects on the same roadway segment, because the PMS will not recommend treatments when maintenance work is already planned for that part of the roadway.

Likewise, when making detailed maintenance plans for the short term (1 to 2 years), the maintenance team can get critical input from the PMS to help determine where resources and funds might be used more effectively. In short, integration helps both teams determine the most efficient and cost-effective ways to carry out their plans.

With a PMS and MMS that communicate with each other, TxDOT has simplified workflows through automated data entry, processing, and reporting. All this helps eliminate time-wasting manual tasks, so TxDOT benefits from **increased efficiency**.

Decision-making has also improved because the pavement management team has a thorough record of work history and maintenance activities—a level of data access and visibility that is rare at U.S. state DOTs. In addition, the ease of using two similar systems from the same solutions provider has encouraged pavement and maintenance management teams to become more knowledgeable about their joint functions, learning each other's processes and communicating more effectively. As a result, **old silos that might have hindered joint decision-making have broken down**.

For more TxDOT case studies, view **Optimized Pavement Maintenance and Rehabilitation** and **Creating a 4-Year Pavement Management Plan**.

Better data quality & accessibility

Improved decision making

Better strategic planning

Results

Increased efficiency