



Vermont, New Hampshire, and Maine Asset Management: Tristate Data Sharing Improves Efficiency

Quick Information

Organization(s): Vermont Department of Transportation (VTrans); New Hampshire DOT (NH DOT); and Maine DOT (MaineDOT)

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Cooperation Topic(s): Asset Management; Multi-State Planning

Cooperation Practice(s): Data Sharing and Developing Common Modeling and Forecasting Tools

Cost Information: Partners are developing an MOU as a tool to allocate funding.

Developing new software to manage transportation assets within a State can be a daunting task. Recognizing the potential for saving costs and benefiting from peer experiences, the Operations Divisions of the Vermont Department of Transportation (VTrans); New Hampshire Department of Transportation (NH DOT); and Maine DOT (MaineDOT), respectively came together to develop Managing Assets for Transportation System (MATS), a customized software system for maintenance operations tracking and reporting. The States' collaboration in the development and maintenance of MATS has resulted in significant improvements in asset performance monitoring, as well as cost efficiencies from being able to access shared software without having to duplicate software development efforts. Additionally, the group has collaborated to develop common performance measures and develops annual reports on each State's performance.

Motivation for Establishing the Collaboration

VTrans, NH DOT, and MaineDOT have collaborated since the early 1990s as members of the Tristate Partnership. This consortium meets quarterly to improve each agency's maintenance and asset management through such strategies as sharing contracts to maximize purchasing power, purchasing bulk materials together, and utilizing common resources. Because of their close proximity, common location in New England, and relatively small sizes, the States often face similar maintenance challenges.

In the late 1990s, staff from VTrans presented a pilot version of an asset management tool to improve its operations reporting process at an American Association

Annual Tristate Partnership Performance Measures

- **Asset Performance Measures**
 - Bridge and Pavement Condition
 - Safety
 - Traffic Signs
- **Business Process Performance Measures**
 - Annual bid advertisement percent on time
 - Annual dollar amount advertised vs. planned
 - Engineers' estimate vs. low-bid result

of State Highway and Transportation Officials (AASHTO) conference. Representatives from NHDOT and MaineDOT saw the presentation and quickly recognized the potential benefits of sharing costs to develop a tool that all three States could use. By jointly adopting and improving a new MATS tool designed for all three States, the partners more efficiently monitor labor and equipment, costs, operation activities, and reporting deadlines.

Collaboration Structure

VTrans, NHDOT, and MaineDOT agreed to maintain three individual databases to allow each State to meet its own budget and management requirements, but nonetheless aimed to leverage MATS for tristate asset performance monitoring in the future. The partners use the same application interface, with identical data fields that can be turned on and off depending on an individual State's reporting requirements. These data fields include daily work reporting, equipment use, materials and stockpile management, expenditure reporting, budgeting, and planning.

While VTrans technically leads the collaboration because it holds the contract with the vendor, the three State agencies are equal partners in consultation and decisionmaking. The MATS group conducts bi-weekly conference calls to discuss contractor-related issues. It also convenes staff quarterly to discuss and resolve technical issues without paying the contractor to solve them, a strategy which has significantly reduced costs for all three agencies. The MATS partners are also developing a memorandum of understanding (MOU) to formalize their organization, a document they are adapting from the [Tristate Partnership MOU](#). This MOU will serve as a tool to help the agencies allocate necessary funding to developing and updating the system.

To document meetings and facilitate data sharing and communication, the States use a SharePoint site with issue-tracking and version control software to document the problems with and development of the MATS interface. To further aid in collaboration, the MOU documents that the agencies will rotate lead responsibility for rolling out future generations of the tool.

Collaboration Accomplishment

The biggest benefit the agencies have been able to realize from jointly developing MATS is cost savings. In order to have this type of tool without the collaborative structure, each State would have had to spend the total cost of developing it. Because of the MATS collaboration, they are able to share what's common—such as tools to address similar maintenance activities—and customize what's not. For example, because the States have different approaches to planning and budgeting, they plan and input them into MATS

Takeaways

- VTrans, NHDOT, and MaineDOT had collaborated since the 1990s as members of the Tristate Partnership.
- Joint use and development of MATS allows the agencies to more efficiently monitor labor and equipment, cost, operation activities, and reporting deadlines.
- The three agencies are equal partners in consultation and decisionmaking; the MATS group conducts bi-weekly conference calls to discuss contractor-related issues.
- The cost savings realized from developing MATS are a huge benefit.
- Working out the legal fine lines in a shared contract has proven a challenge for the agencies.

in unique ways. Each State can independently add enhancements to the tool as desired, and once complete the other States can also access these enhancement at no extra cost. Because the agencies used Federal funds to develop the tool initially, MATS makes the tool available to other States free of charge; any State DOT can use it and only pay the cost of entering its own asset information.

The Tristate Partnership is currently refining multi-state asset management by finalizing shared objectives for the agencies' Operations Divisions. After the partners adopt common asset management objectives, the shared interface developed by the MATS group will enable the agencies to track progress individually and then easily compare across the three States. By developing common asset management objectives and strategies, the States can build upon and improve common core performance metrics.

By providing information for future measures, MATS is set to support the significant progress the three DOTs have already made in their goal to implement tristate asset performance monitoring. In 2010, the Tristate Partnership entered into an MOU to develop Standard Performance Measures for asset conditions, business processes, and safety (see Appendix). The Tristate Partnership also developed its own asset performance measure, which documents the percentage of structurally deficient bridges by deck area. The Partnership also worked with the AASHTO Subcommittee on Bridges and Structures (SCOBS) to test a new asset performance measure on bridge condition. Rather than the traditional good-to-critical rating, SCOBS wanted to try measuring bridge condition by maintenance requirement, from routine to major rehabilitation. The Partnership reported on these measures in the [2014 Annual Report on Tristate Performance Measures](#).

Challenges and Lessons Learned

Developing a shared contract for MATS presented the most significant challenge for the group because VTrans, NHDOT, and MaineDOT each have different contracting procedures. For two years, the partners have been working with each agency's attorneys to reach an agreement on a new contract, and they've found the issue of intellectual property rights to be more challenging than anticipated. The code used in MATS was originally developed by a vendor hired by VTrans, so the Tristate Partnership maintains ownership of the source code. However, the current MATS vendor has greatly enhanced the code, so the agencies are working to determine where to draw the legal lines regarding the intellectual property rights of components that have been developed recently. The partners learned that it was wise to clarify each State's requirements and seek legal review early on in the process.

Because the agencies worked together to develop MATS, they are also able to help each other deal with challenges. When one State encounters a problem with the interface, the others brainstorm solutions or provide tips based on their experience with a similar problem in the past. This process not only helps the partners solve problems more quickly, but often yields more effective and efficient solutions than the agencies would have identified on

their own, thereby saving each agency time and money. The partners are currently working to update MATS to run on a web-based platform to improve its flexibility of use. Additionally, to keep up with current legislative requirements, the partners are developing a means to enter real-time data on construction projects electronically, which will allow for more precise tracking of future project expenditures.

Overall, the MATS agencies not only improved their individual operations tracking procedures, they also achieved cost efficiencies, facilitated collaboration on maintaining shared assets, and laid the groundwork for cooperative goal-setting and performance management. For VTrans, NHDOT, and MaineDOT, MATS data-sharing helped leverage existing collaboration on contract agreements into cutting-edge coordination to strengthen the infrastructure and economy of the entire region.

Additional Resources

- [Tristate Partnership Memorandum of Understanding](#)
- [2014 Annual Report on Tristate Performance Measures](#)