

VTrans Builds Capacity for User-Friendly Data

In response to recognized internal inefficiencies in data analysis as well as a growing desire to provide publicly-accessible performance data, the Vermont Agency of Transportation (VTrans) has worked to improve and streamline performance data accessibility, usability, and resulting data analysis. These improvements have increased the agency's capacity to align tactical asset management activities with the goals and objectives outlined in its strategic plan, and ensure that the right treatment or right investment level is made on the right asset at the right time. These efforts have also streamlined the agency's customer service function through the implementation of a user-friendly, publicly-accessible web-based tool for frequently requested performance data. VTrans' multi-pronged approach to data management comprises:

- Building organizational structure;
- Ensuring accessible and consumable data;
- Providing a publicly accessible interface; and
- Developing a robust internal data tool.

Building organizational structure

Spending the time and attention up front to assemble the right data management team and organizational structure has prepared VTrans to manage data effectively and adapt to changing needs.

KEY ACCOMPLISHMENTS

- **VTrans has streamlined its data collection and analysis efforts.**
- **VTrans has enhanced the accessibility, usability, transparency and accuracy of its data.**
- **VTrans has built an online public information portal that engages the public with its data to answer frequently asked questions.**

The VTrans Asset Management and Performance (AMP) team includes three sections: Data Management, Budget and Programming, and Performance. This structure allows for performance based, data driven decision making, by first understanding the agency's data needs (via Bureau Leadership), and then understanding how the appropriate data can be turned into information (via the Data Management Section). The information can then be utilized to make credible decisions regarding the Agency's assets (by the Budget and Programming Section), and can be used to monitor system performance (via the Performance Section).

Ensuring accessible and consumable data

Even with teams of the most skilled data experts, questions will continue to go unanswered without accessible (easy to get to) and consumable (easy to use) data. In order to make its data more accessible and consumable, VTrans instituted a new approach: collect one time, store one time, and use multiple times. As part of this approach, VTrans is leveraging increased staff comfort with technology to make use of technological advances in data collection. For example, maintenance staff that previously collected data by hand are now using mobile and desktop GIS applications, which have improved the availability of real-time data and streamlined the data collection process.



Although many agencies and the public are focused on end-user data presentation tools (e.g., dashboards), it is essential to spend the time and effort up front on data cleansing and integration. VTrans has placed emphasis on ensuring that the proper data architecture is in place and properly supported data integrations are easier and more reliable. This way, VTrans has prepared itself to be more nimble down the road, increasing its ability to integrate with a variety of advanced data presentation tools quickly and effectively.

Providing a publicly accessible interface

A team of VTrans employees created the [VTransparency](#) public information portal (Figure 1). The concept evolved from asking VTrans' leadership team and those in regular contact with the public: "Which questions are you asked most often and by whom?" and "What questions do you ask most often and of whom?" The tool was then developed to specifically respond to these questions. For example, in the past, one of the most common requests was for data related to pavement condition on the network. Now, as a self-service tool, VTransparency allows users to see network pavement condition in real time.

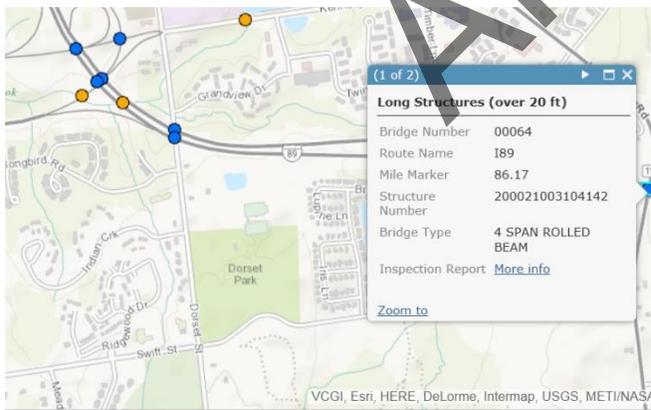


Figure 1 VTransparency Public Information Portal Screenshot

Developing a robust internal data tool

There has been more internal use of the public VTransparency tool than initially anticipated, which indicates the demand for an internally focused tool similar to VTransparency. Based

on the success of the process that was used to develop the publicly facing VTransparency tool, VTrans is following a similar process to create a tool that all internal users, including non-technical staff, can use to access asset data and asset improvement information.

VTrans has used this approach to develop a prototypical Corridor Needs Tool to enhance and accelerate corridor management efforts. The Corridor Needs Tool, although still under development and evaluation, will be an important component of future budget and programming activities. It provides a location for VTrans to identify existing maintenance and operational needs and to identify deteriorating assets that represent risk to the Agency. One of VTrans' long term goals is to ensure that future construction projects and maintenance activities address known maintenance and operational asset needs. The ultimate objective is to use acquired data to determine when is the right time to invest in a corridor to maximize efficiency and effectiveness while minimizing customer impacts.

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June 2016



U.S. Department of Transportation
Federal Highway Administration