



## Transportation Vanguard Award 2020 Nomination Form

### *Who is being nominated?*

Last Name: Tillberg	First Name: David	Date: September 1, 2020	
Email: David.Tillberg@vermont.gov		Position Title: GIS Professional III	
Department: Rail & Aviation Bureau		Phone: (802) 917-8878	
Street Address: Barre City Place, 219 N. Main Street	City: Barre	State: Vermont	Zip code: 05641
AASHTO Committee Membership (optional): N/A			

### *Who is nominating this person?*

Last Name: Boomhower	First Name: Michele	Date: September 1, 2020	
Email: michele.boomhower@vermont.gov		Position Title: Division Director	
Department: Policy, Planning and Intermodal Development Bureau		Phone: (802) 505-3480	
Street Address: Barre City Place, 219 N. Main Street	City: Barre	State: Vermont	Zip code: 05641
Endorsement of Member Department Secretary/Director (signature):  Joe Flynn, Secretary Vermont Agency of Transportation			

### ***Instructions:***

Using a maximum of 2 additional single-sided pages, please explain why this individual should be selected as the 2020 Transportation Vanguard Award recipient. Please include as much specific information about the candidate as possible, including special projects, personal attributes, dedication, etc.

Send nominations by **September 30, 2020**, via e-mail to [jdawkins@aaashto.org](mailto:jdawkins@aaashto.org). Nominations must be submitted **as a single file** in Microsoft Word format using **TVA2020\_LastName\_FirstName.doc** as the file name.

## **2020 AASHTO Transportation Vanguard Award Nomination**

### **Supplemental Documentation for David Tillberg, Vermont Agency of Transportation (VTrans)**

David Tillberg has worked for VTrans since May of 2002 and has served as a GIS Professional in the VTrans Rail and Aviation Bureau since April of 2018 in the fourth highest level, of five, in the GIS Professional series. Within his role, David provides advanced-level transportation GIS services to multiple programs and business units including administering GIS databases within the context of managing a multi-user editing environment; designing topology and spatial relationship database rules; and providing user support and training to other GIS staff. David is accountable for ensuring and reviewing GIS data integrity, data documentation, and data quality across the Rail and Aviation Bureau and helps to define needs, requirements, and specifications for projects that leverage spatial data or GIS technology across the agency.

VTrans established an Unmanned Aerial Systems (UAS) program in 2018. David has been influential in the development of data management, processing, and analysis for the VTrans UAS program. Early on it was apparent that sharing the GIS related UAS products internally across the VTrans enterprise, as well as externally with other agencies of state government and our consulting partners, was going to be a challenge. UAS imagery creates very large files, which can be difficult to share. Staff faced IT barriers that made the sharing of data a difficult task; David developed a way to streamline this process through the creation of a [cached tile image service](#) through ArcGIS Online. This tool serves VTrans UAS imagery to all users through a publicly available interactive map. High-end GIS users may also consume the source imagery for use in their own applications.

Within the past two years, David has elevated the UAS program into an advanced technological resource. Innovations he has led include:

- Development of an automated [UAS Flight Request Form](#), for use by any Vermont state agency. This form includes status tracking for the requestor, and a hazard analysis identification for the UAS Manager and Operations Director.
- Development of imagery/data storage methods for consistent flight documentation.
- Assistance with creating secure livestreaming capability that allows our UAS pilots to stream in *near* real time to the State Emergency Operations Center or the Transportation Incident Command Center.
- Creation of valuable GIS products, such as geo-referenced orthophotos, Digital Surface Models, and 3D point clouds, using UAS imagery processing software.

Recently, David served an instrumental role in advancing the Agency's Common Operating Picture (COP) for Incident Command System (ICS) engaged events. The COP is essential because it presents road damage and closure information to decision makers real time during an emergency.

This spatial data management involves synchronizing and validating information that flows from field personnel monitoring emergencies on the ground into the 4 regional command centers, as well as integrating information from the Transportation Management Center (TMC). David was instrumental in bringing this novel information architecture to fruition. He has independently analyzed, troubleshot, and remedied critical problems with the script which enable the road conditions COP to be generated by reconciling Advanced Traffic Management System (ATMS) data formats and those of ArcGIS.

David has been responsible for standing up a variety of internal/external accessibility tools through the Rail App Portal on the Agency website: <http://apps.rail.vermont.gov/map-portal/>.



**Crossing Inspection Reviewer App**

Use this powerful app to review the 2019 grade crossing inspection results. Search for a specific crossing, view related photos, and see all attribute data in an easy-to-read form format.



**Rail Asset Inventory**

This map includes the best available data regarding rail lines, crossings, bridges, culverts, and switches. It is continually updated as more information becomes available.



**Valuation Sheet Reference**

These historic valuation sheets roughly depict the location of the ROW at the time they were prepared (1915-1920). Please note important disclaimers.



**Clearance Restrictions**

This map depicts all detected obstructions within 24' horizontally and vertically from the railroad center line from a 1997 inspection.



**Bridge Inspection Report**

This map includes basic bridge inspection results from the current and previous inspection years.

Additionally, David has aided in the advancement of GIS applications for the VTrans Mapping Program as well. His skillset in IT and programming expertise has provided solutions to issues that have surfaced as well as guidance to Mapping staff regarding programming issues.

When staff share an idea with David his standard response is, "Yeah, it's possible." It is not unusual for him to respond within a few hours with a solution. He takes the initiative to listen, learn, and solve any issue at hand. Staff admire his work ethic, creativity, and his ability to understand the bigger picture. David always takes the time to train staff who are interested in GIS, as well as other technical applications. While David exhibits a quiet exterior, he is routinely thinking about efficiency and possesses the technical savvy to implement initiatives which benefit staff across the agency. Above all, David is an emerging leader and role model for staff.