A.I.I. | AASHTO Innovation Initiative

FAST FACTS:

PLANS ON DEMAND

STATE:	Vermont
AGENCY:	Vermont AOT (VTrans)
AFFILIATIONS:	VTrans ROW Section; VTrans IT team; Applied Geographics, Inc. (AppGeo); Pro-West and Associates, Inc.
URL:	aii.transportation.org, select Plans on Demand
PROJECT NAME:	ROW Spatial Viewer
PROJECT DESCRIPTION:	An online interactive map of highway right-of-way (ROW) plans overlaid with relevant data layers.
PROJECT DATES:	September 2012 to August 2014
PRIMARY BENEFITS:	Increased efficiency; less burden on internal staff; accessibility via mobile device in the field; data published as a web service; time savings; increased transparency; enhanced visualization of information; connection to other data layers available in the ROW Spatial Viewer (e.g. roads, aerial imagery, tax maps, project details, town boundaries and precision of data)

PROJECT PURPOSE/NEED: VTrans has a long history of managing the state road network going back to the late 1800s. Over time, the State has acquired a lot of property as part of its right-of-way (ROW) portfolio, and managing this information has always been challenging. Until recently, ROW information could be found in historic surveys, blueprints, and more recently, in CADD drawings. The ROW section receives hundreds of data requests annually from other business functions, external organizations and the public. Unfortunately, finding information about any given site took a lot of research and time. The ROW Spatial Viewer makes highway record plans easily accessible.

OVERALL COST: Cost of $600,000 for primary effort of 2 years included bulk of development and implementation.

Deliverables included a Return on Investment report; a ROW data conversion pilot project; identification of best available project source data, drawing georeferencing and digitization or -CADD conversion of ROW accounting for 2000 miles of highway; data loading; implementation

UNIQUE PROJECT FEATURE: Spatial functionality, which allows for advanced querying and visualization of data. The ROW Spatial Viewer makes the data far more accessible than traditional document management systems.

TRADITIONAL APPROACH: With traditional (non-spatial) document management system, ROW information is challenging to access, visualize and analyze with other relevant data.

NEW APPROACH: The ROW Spatial Viewer is public-facing and allows users to easily access available plans by geographic location (all the data is in the same geospatial format).

DETAILS: In 2012, VTrans started to consolidate existing information—historic surveys, hand drawn construction designs, and CADD drawing files—to create a statewide ROW GIS document management system. Simultaneously, a pilot project for data inventory and transformation was undertaken and a Return on Investment (ROI) study was completed.

As of 2015, VTrans has compiled geospatial ROW data covering close to 90% of Vermont's 2700+ state highway miles. VTrans has defined a workflow that includes identification of best available project source data, drawing georeferencing and digitization or CADD conversion, and aggregation into route-based ROW polygons. Through this process, VTrans has created an highly valuable resource and learned many valuable lessons about managing the ROW data lifecycle (research, identify, catalog, collect, update, convert, and publish)

OTHER BENEFITS REALIZED:
ECONOMICAL
• Frees up time for other work
• Reduces liability
• Simplifies workflow
• Provides public service

ACCESSIBILITY
• Improves efficiency–easy and quick
• Improves accessibility via mobile device
• Increases transparency/public access

TECHNICAL
• Measurable and quantifiable
• Conflict and gap analysis
• Extractable data
• Data ownership
• Good model for document management and record preservation

CONNECTIVITY
- See connections with other data
- Makes research and analysis easier
- Supports regional planning (alternative energy, stormwater management, vegetation/wildlife management)
- Enhanced visualization of information
- Identify surplus property (property management)

SATISFACTION
- Reduces frustration
- Reflects well on us
- Builds confidence
- User-friendly
- Empowerment tool for end user
- Appeals to a newer generation of workers (millennials)

PROJECT KEY CONTACTS:

Nina Safavi, VT Agency of Transportation
A.I.I. Lead States Team
nina.safavi@vermont.gov

Ryan R. Cloutier, VT Agency of Transportation
ryan.cloutier@vermont.gov

Visit
aii.transportation.org
and click on
PLANS ON DEMAND

AASHTO
Innovation Initiative

12/2015