

PennDOT Road Weather Information System (RWIS)

Bureau Of Maintenance and Operation

Method/Process/Product to Resolve Challenge

Problem/Challenge Addressed

Not knowing when a severe weather condition will occur, and what will be the best methods to deal with any weather incident.

Results/Key Takeaways

Snow and other weather-related concerns can be predicted and well managed before it escalates

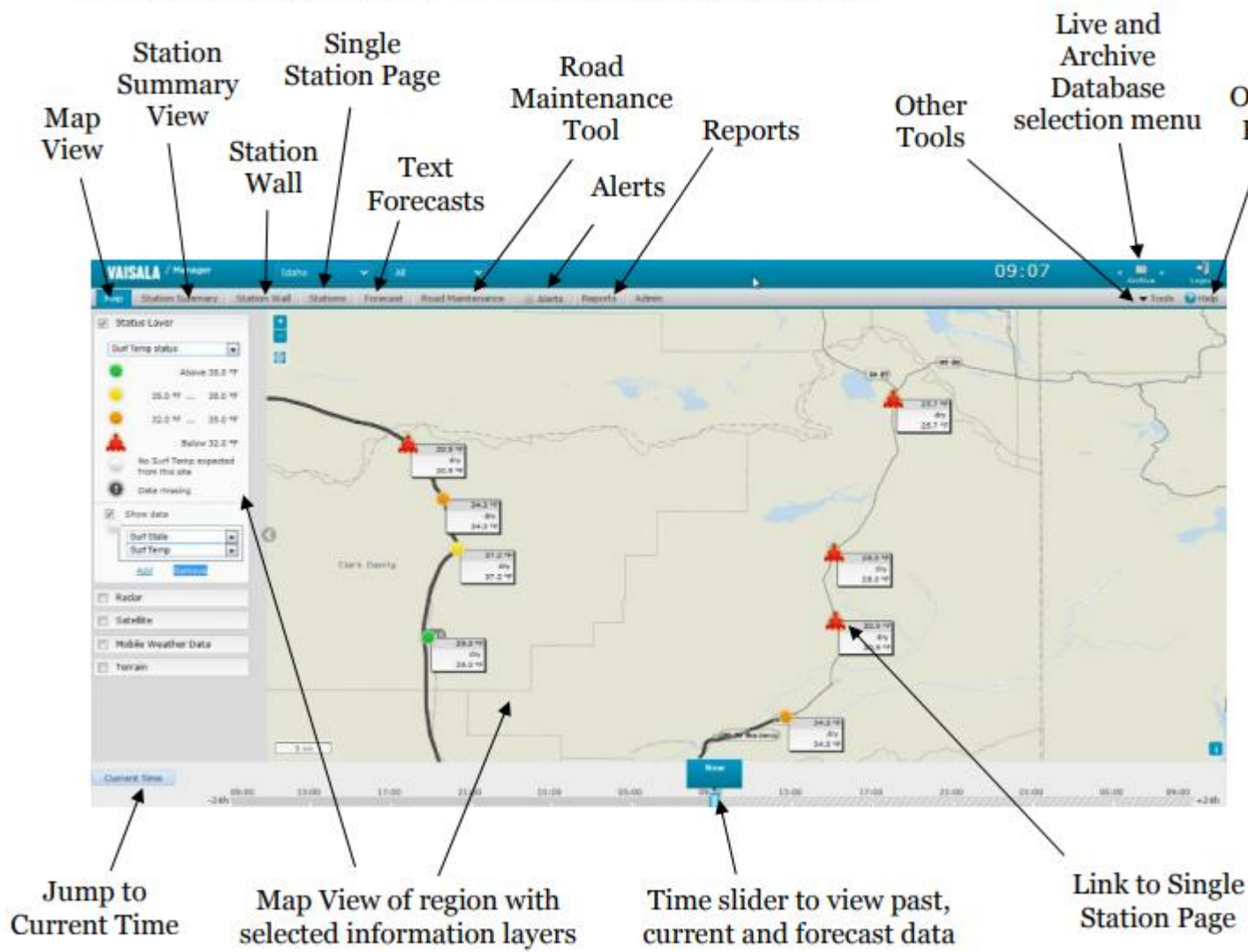
Road Weather information- knowing exactly what is going on with the roadway, now and in the future- is the key to successful decision making. Combine intelligently designed road weather station, with sophisticated algorithms and smart power management and hosted RoadSS software solution Giving you a resilient method display and storage, ensuring access to your information anytime, anywhere.

RWIS Data

- Air temperature
- Surface temperature
- Precipitation type
- Precipitation amount
- Surface state
- Grip level*

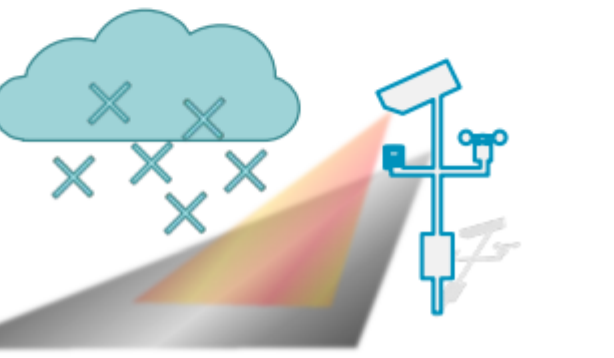
Overview of the Application

The Navigator application consists of the following main parts.

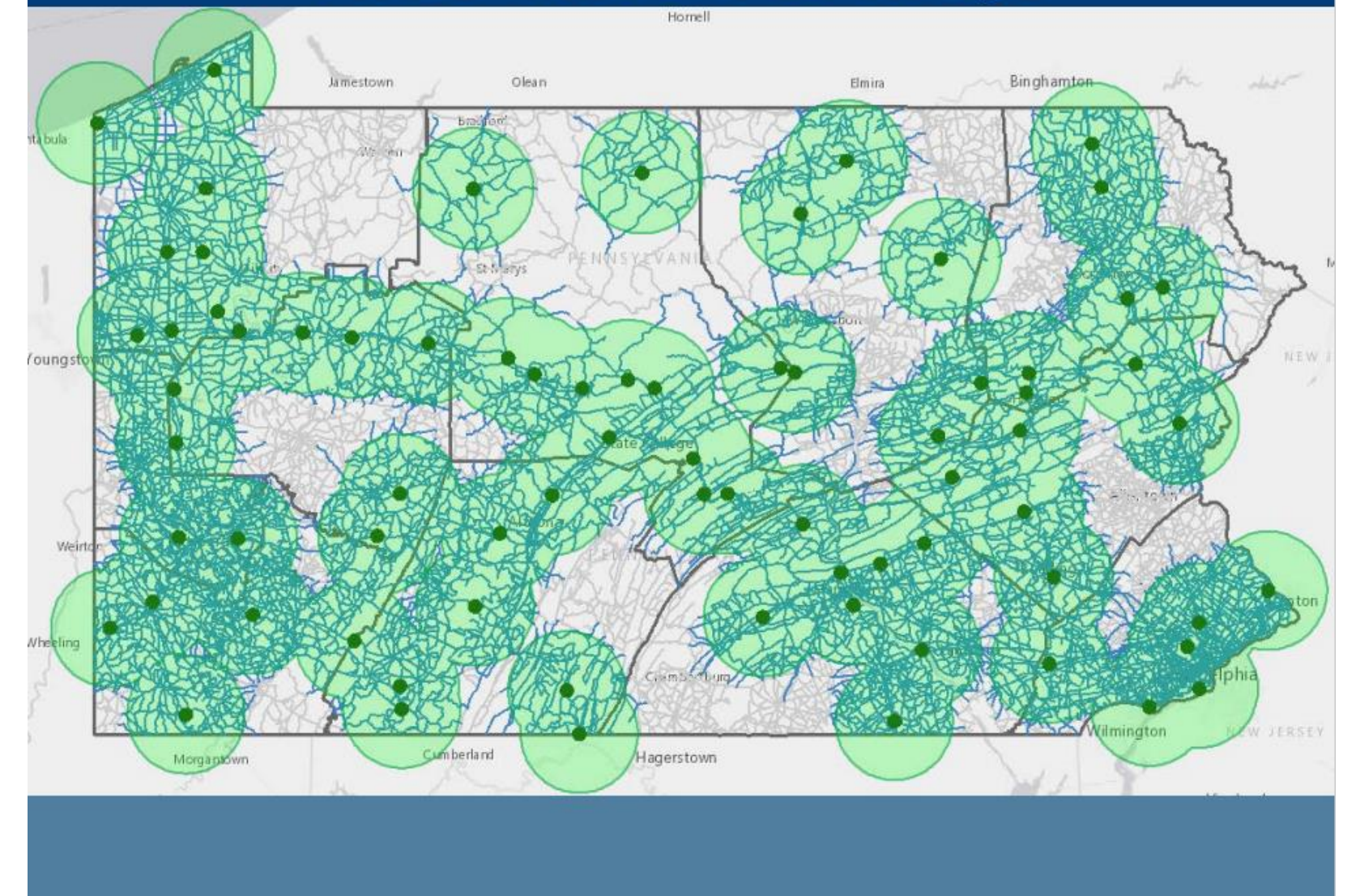


Station Overview

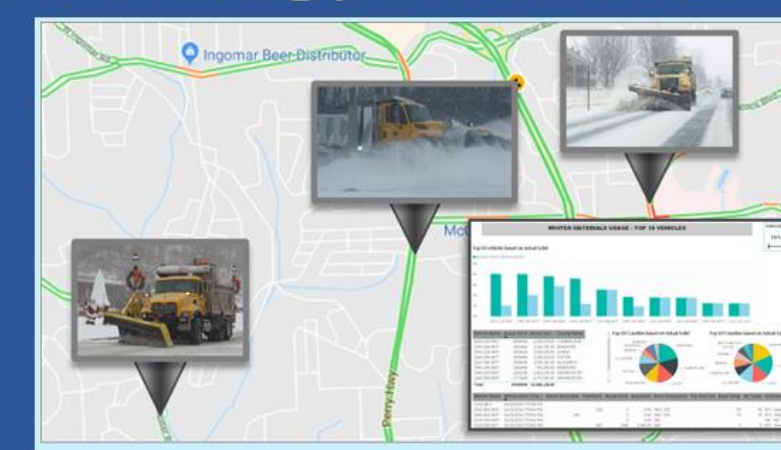
The Station Overview module will display present weather observations, including wind data from the sensors and camera image(s) from the station will also be when installed. If traffic counting data is available then this will be displayed on this view.



RWIS Network Coverage

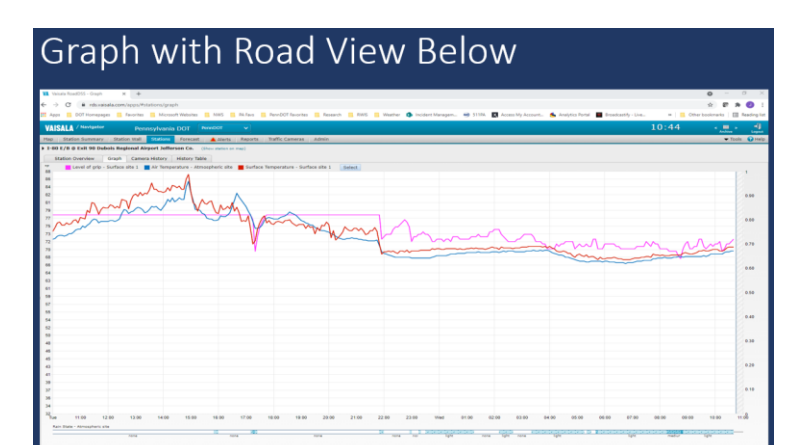
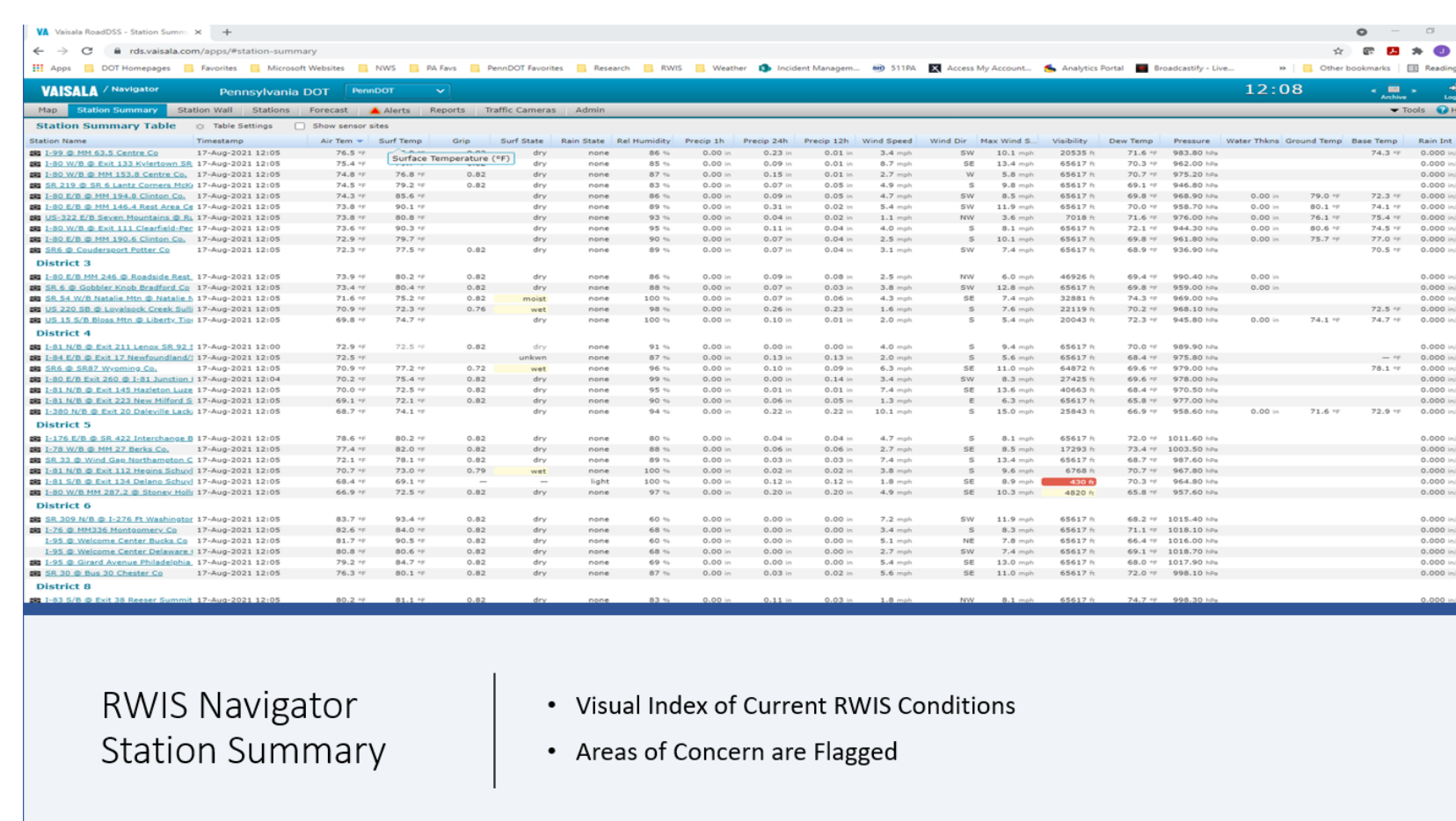
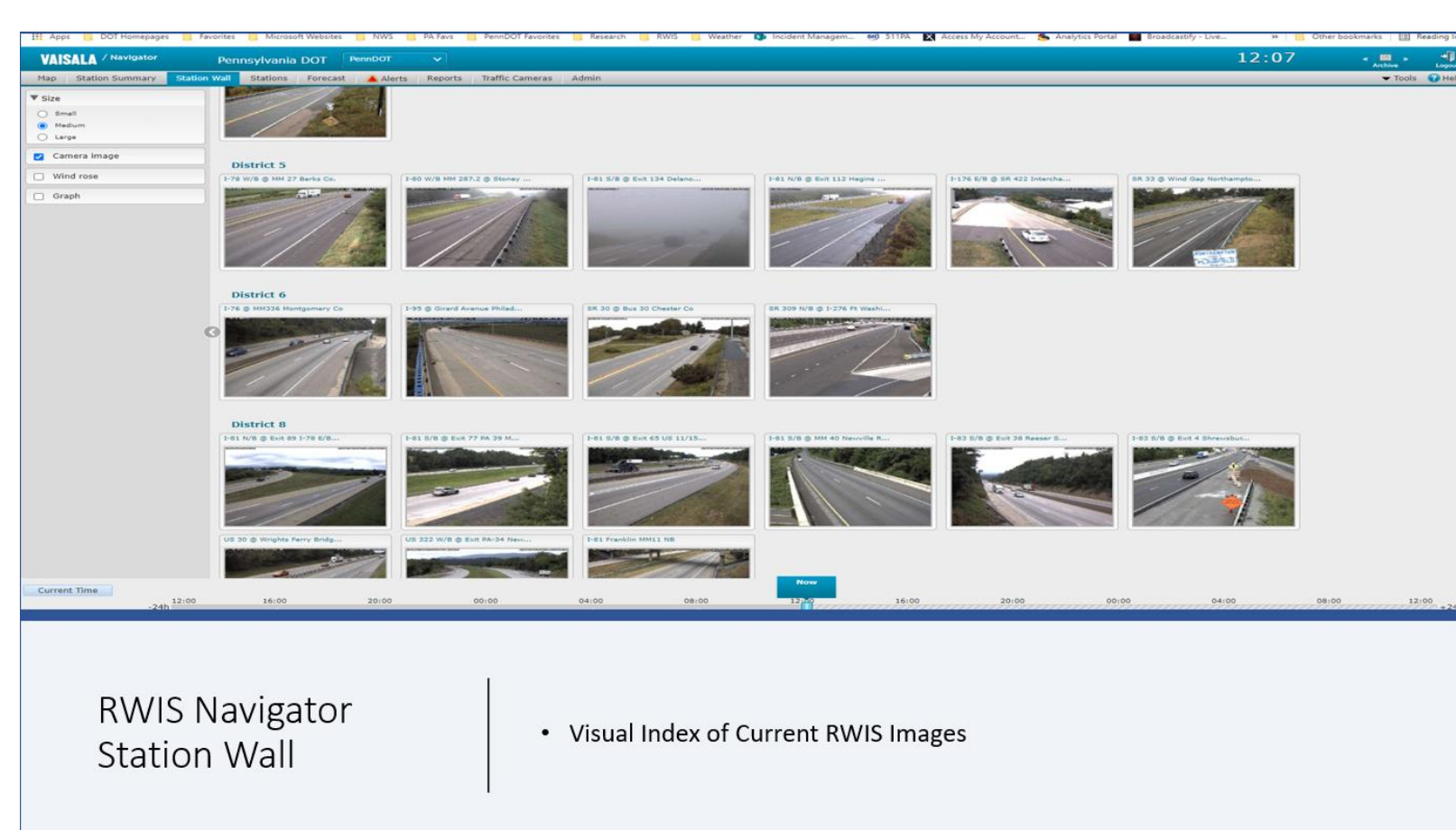


Technology in Winter Operations

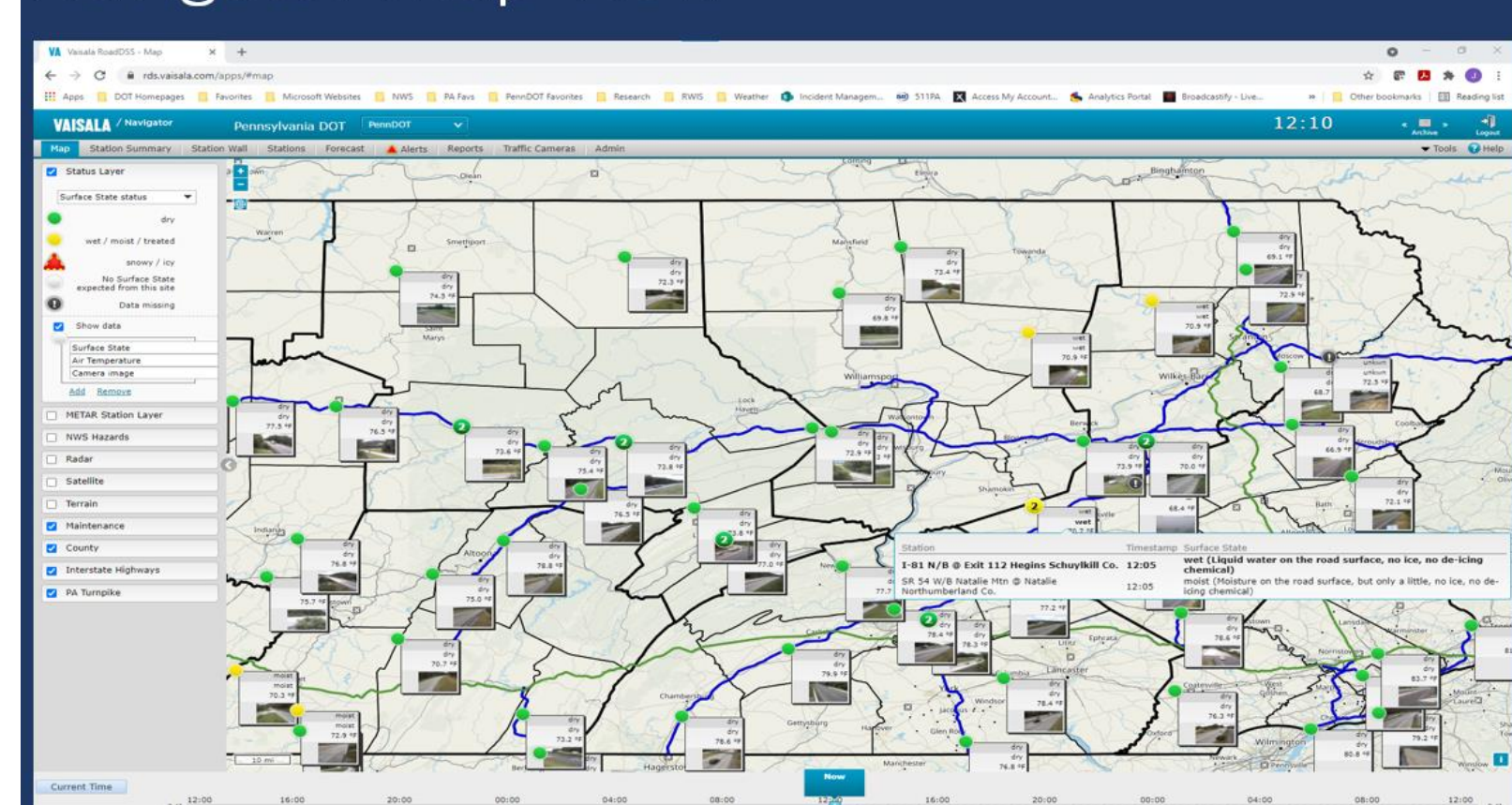


Over 2,500 plow trucks are equipped with Automated Vehicle Locating (AVL) to record location and material usage data

PennDOT's network of 76 Road Weather Information System (RWIS) devices allows for monitoring of surfaces during and reviewing storm conditions after events

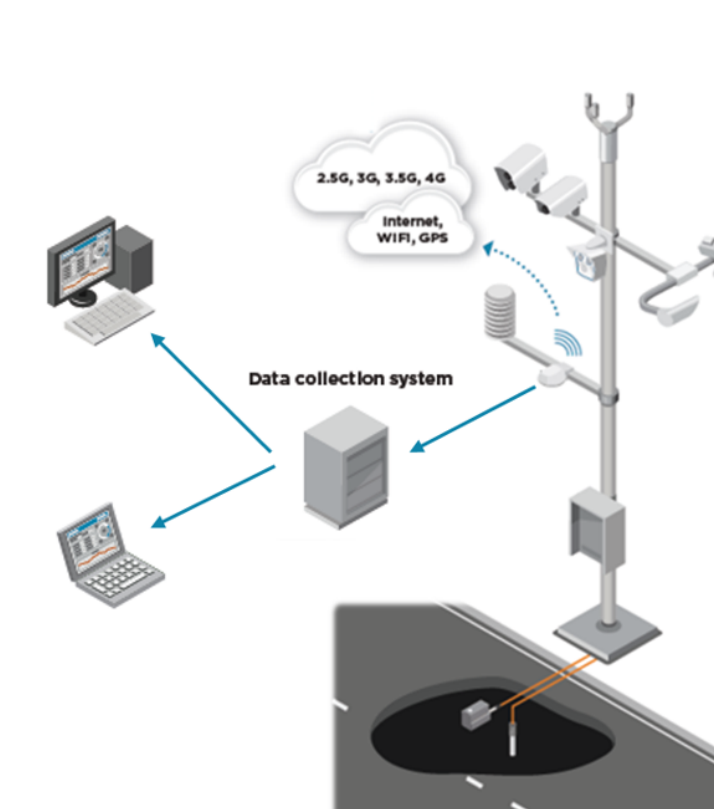


Navigator Map View



Road Weather Information System (RWIS)

- Roadside sites equipped with weather sensors and cameras
- Sites gather and return data over 4G cellular network
- Data is accessible through a web-based program provided by the vendor
- Vendor's program provides road weather data in a dashboard view



Road Weather Information System (RWIS)

- Ability to measure:
 - Air and surface temperatures
 - Precipitation type and amount
 - Wind speed and direction
 - Relative humidity and dew point
 - Visibility
 - Camera shots of conditions
- Surface sensors record moisture thickness on road surface – frozen or liquid
 - Sensors are placed in-pavement, or mounted on poles (non-invasive type)
 - Sensor type is determined by site's proximity to roadway



Contact Information

Name: Jason Norville
Phone Number: 717.787.7004
Email Address: janorville@pa.gov