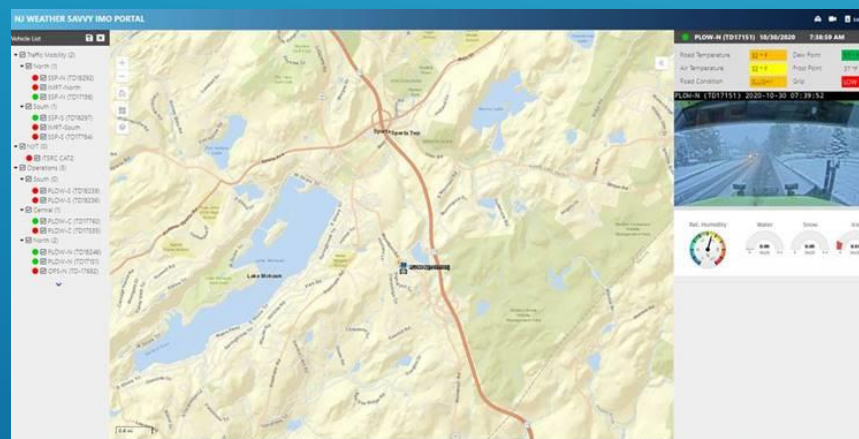




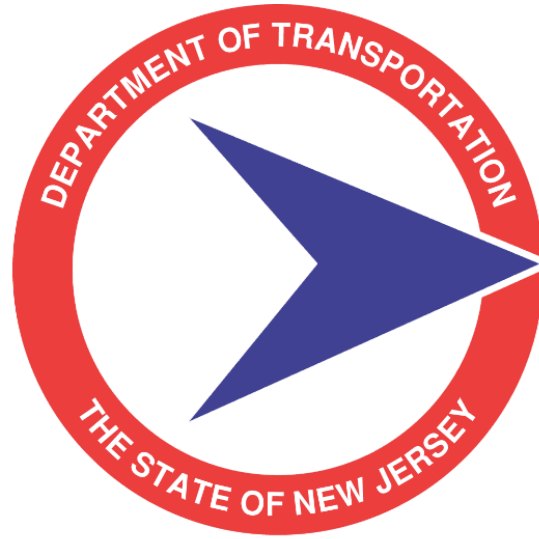
FEATURE PRESENTATION:

WEATHER SAVVY ROADS INSTRUMENTATION

ACCELERATED IMPLEMENTATION DEMONSTRATION (AID) GRANT

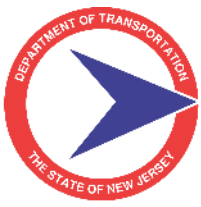


Sal Cowan, Senior Director,
Transportation Mobility, NJDOT



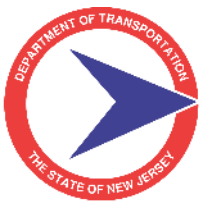
Weather Savvy Roads Pilot Project

October 2020



Weather Savvy Roads - Pilot Project

1. What is the pilot?
2. Why is NJDOT doing this?
3. Are any other DOTs doing this?
4. What equipment will be installed?
5. What will the equipment do?
6. What won't the equipment do?



Weather Savvy Roads - Pilot Project

What is the pilot?

An FHWA pilot program, valued at \$322,462, under the “Weather Savvy Roads Integrating Mobile Observations (IMO)” innovation.



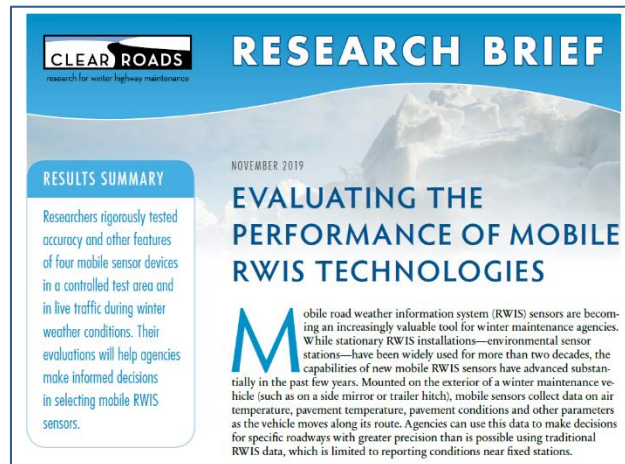


Weather Savvy Roads - Pilot Project

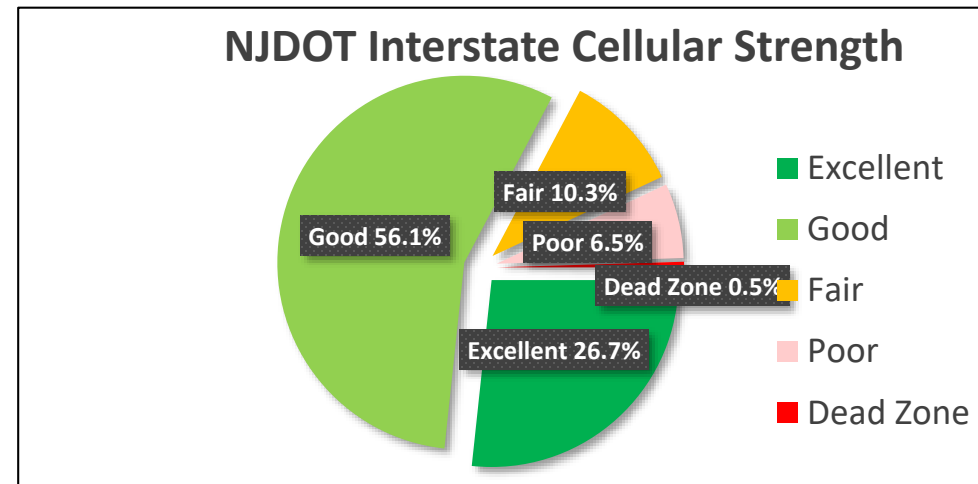
Why is NJDOT Doing This?

To do our own research ...

...to compare the value of mobile RWIS vs fixed RWIS



...to test FirstNet signal strength vs commercial cellular strength on NJDOT's road network





Weather Savvy Roads - Pilot Project



Locations

Maintenance Operations

- Sussex – 1 Plow Truck
- Rockaway – 1 Plow Truck
- Flemington – 1 Plow Truck
- West Amwell – 1 Plow Truck
- Cherry Hill – 1 Plow Truck
- Mays Landing – 1 Plow Truck

Mobility

- Harding – 2 x SSP trucks and 1 IMRT truck
- Cherry Hill – 2 SSP trucks
- Deptford – 1 IMRT truck

Expanding with additional 8 vehicles*



Weather Savvy Roads - Pilot Project

Cab Setup – IMRT Truck



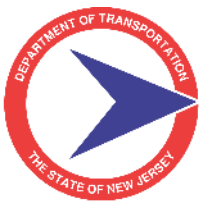


Weather Savvy Roads - Pilot Project

Cab Setup – SSP / IMRT Trucks

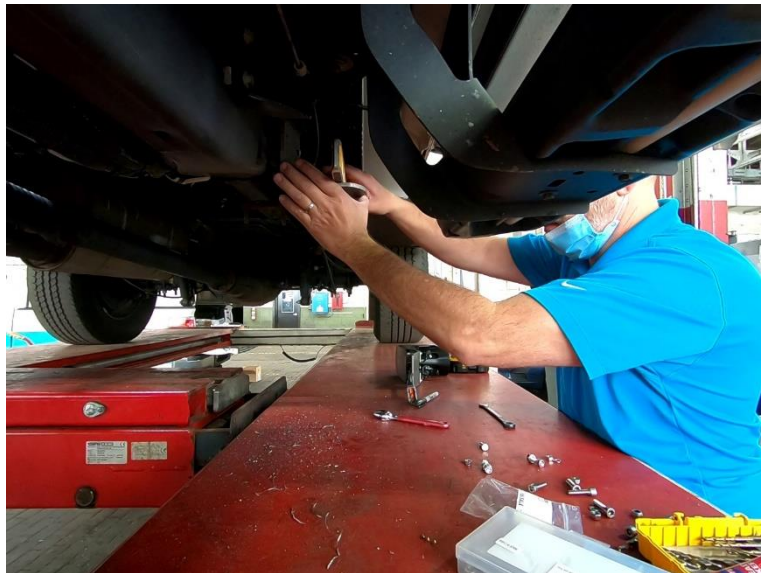
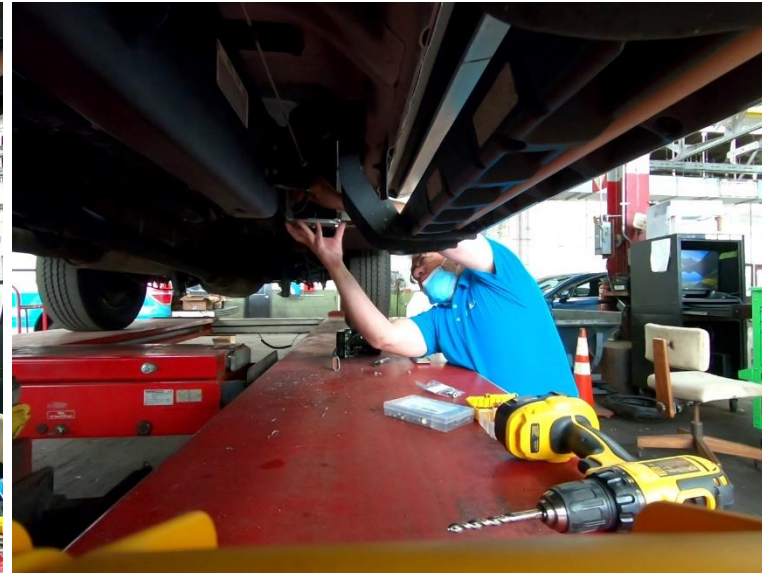


- Cellular Router (with GPS) -- FirstNet
- Video Camera Transcoder and Power Unit
- Power distribution unit



Weather Savvy Roads - Pilot Project

Road Weather Sensor Installation – SSP / IMRT Trucks





Weather Savvy Roads - Pilot Project

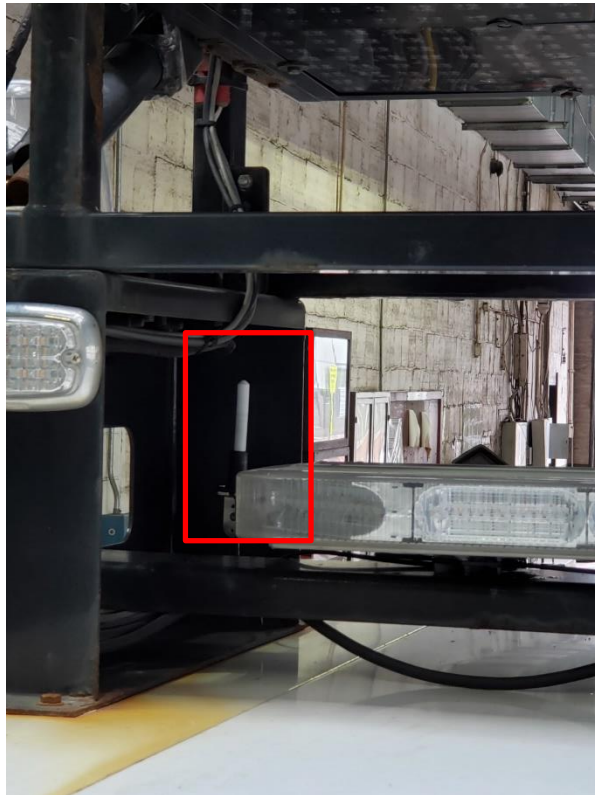
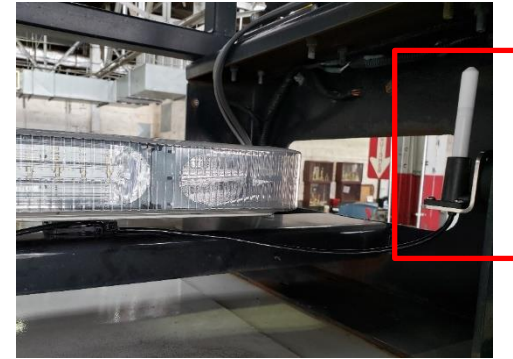
Road Weather Sensor Installed – SSP /IMRT Trucks

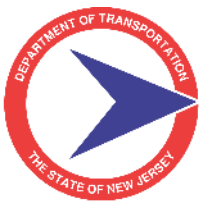




Weather Savvy Roads - Pilot Project

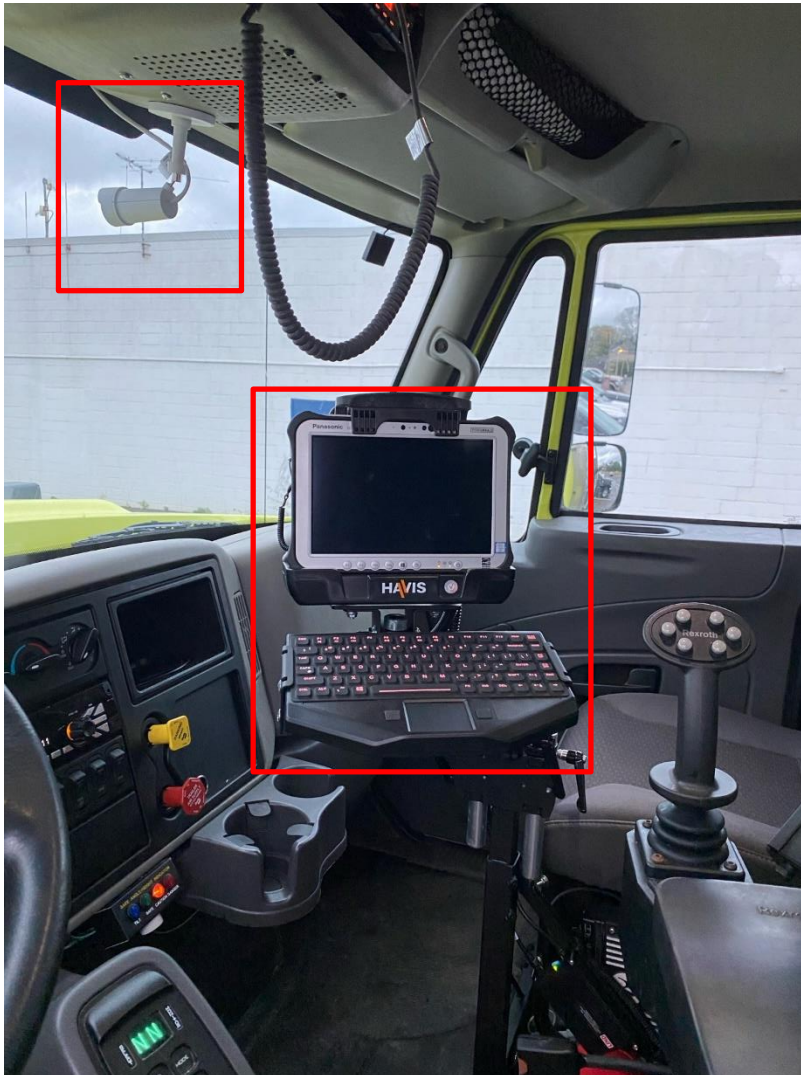
Ambient Weather Sensor Installation – SSP /IMRT Trucks

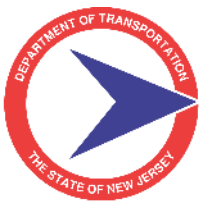




Weather Savvy Roads - Pilot Project

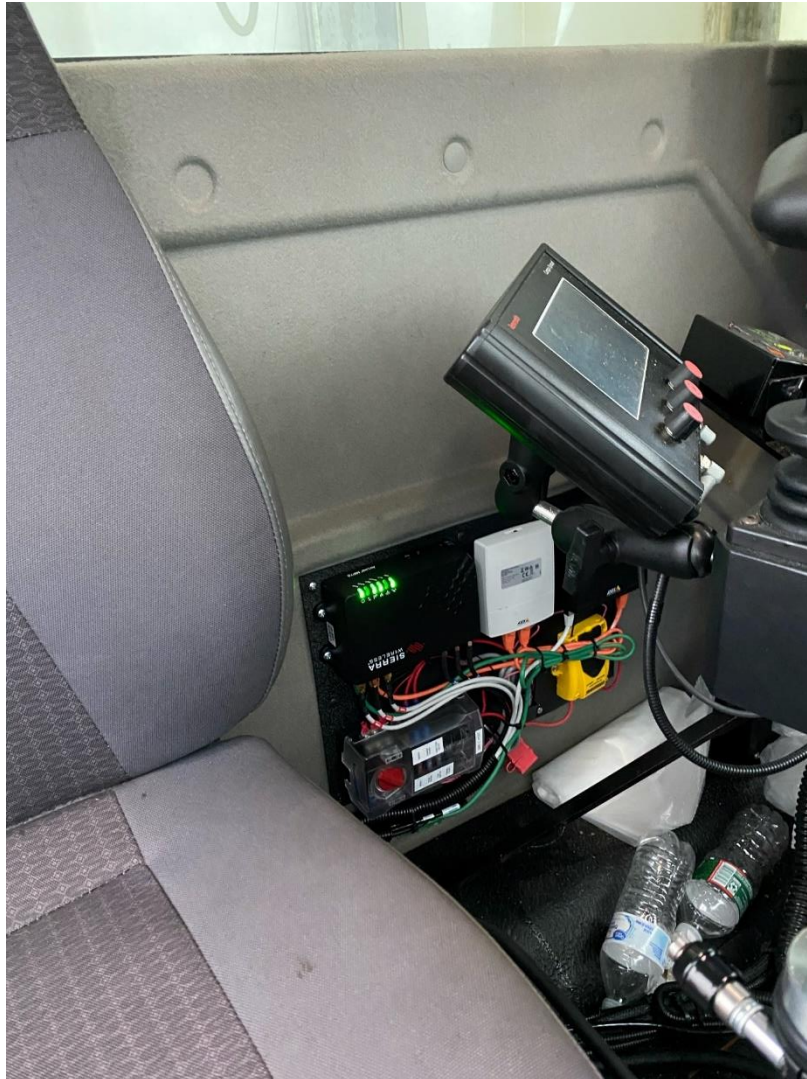
Cab Setup - Dump/Plow Trucks





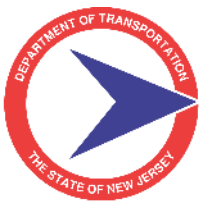
Weather Savvy Roads - Pilot Project

Cab Setup - Dump/Plow Trucks



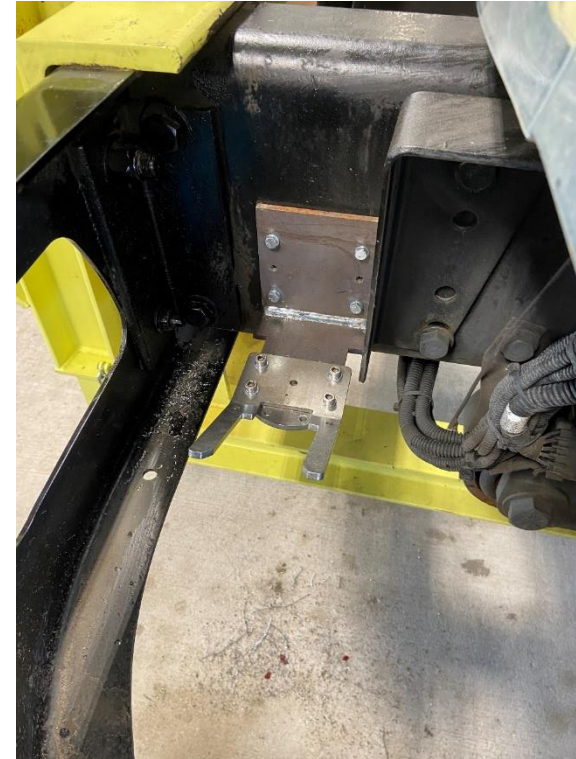
- Cellular Router (with GPS) -- FirstNet
- Video Camera Transcoder and Power Unit
- Power distribution unit

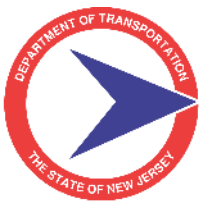




Weather Savvy Roads - Pilot Project

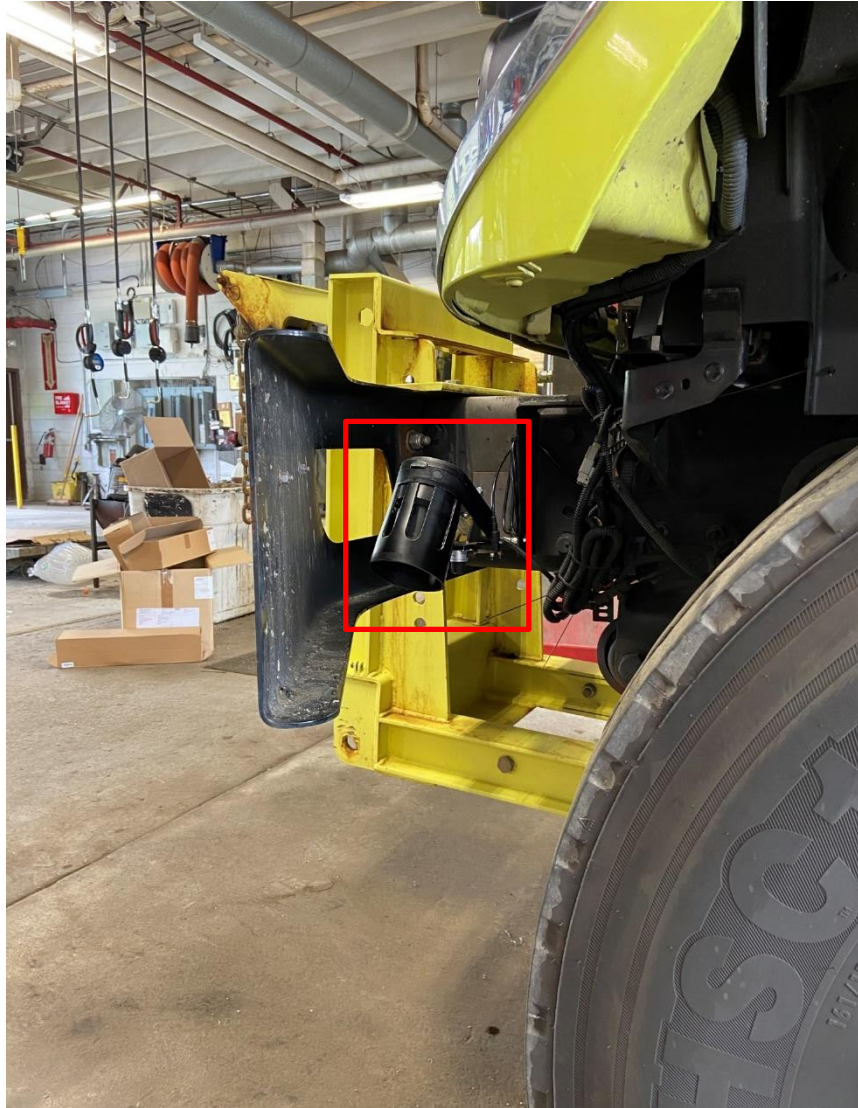
RWIS Installation - Dump/Plow Trucks





Weather Savvy Roads - Pilot Project

RWIS Installed – Dump/Plow Trucks





Weather Savvy Roads - Pilot Project

Ambient Weather Sensor Installation - Dump/Plow Trucks





Weather Savvy Roads - Pilot Project

Weather Savvy Pilot Web Interface (GUI)

NJ WEATHER SAVVY IMO PORTAL

transprod5.nj.gov/njweathersavvy/login

Sign in

Username

Password

[Forgot password?](#)

SIGN IN

State of New Jersey
DEPARTMENT OF TRANSPORTATION

NJIT ITS RESOURCE Center

Ad 2019 Copyright

NJ WEATHER SAVVY IMO PORTAL

Home / Manage Profile

Change Password

Map Settings

Video Wall Settings

Manage Users

Manage Vehicles

NJ WEATHER SAVVY IMO PORTAL

Vehicle List

- ▼ Traffic Operations (2)
 - ▼ North (2)
 - ☒ SSP-N (TD18292)
 - ☒ IMRT-North
 - ☒ SSP-N (TD17138)
 - ▼ South (0)
 - ☒ SSP-S (TD18297)
 - ☒ IMRT-South
 - ☐ SSP-S (TD17784)
 - ▼ NJIT (1)
 - ☒ ITSRC CAT2
 - ☒ NJIT LAB
 - ☒ TRUCK 08
 - ☒ TRUCK 05

● SSP-N (TD18292) 8/4/2020 6:14:21 AM

Road Temperature	73 ° F	Dew Point	71 ° F
Air Temperature	71 ° F	Freeze Point	N/A
Road Condition	WET	Grip	MEDIUM

SSP-N (TD18292) 2020-08-04 06:14:40

Rel. Humidity

Water

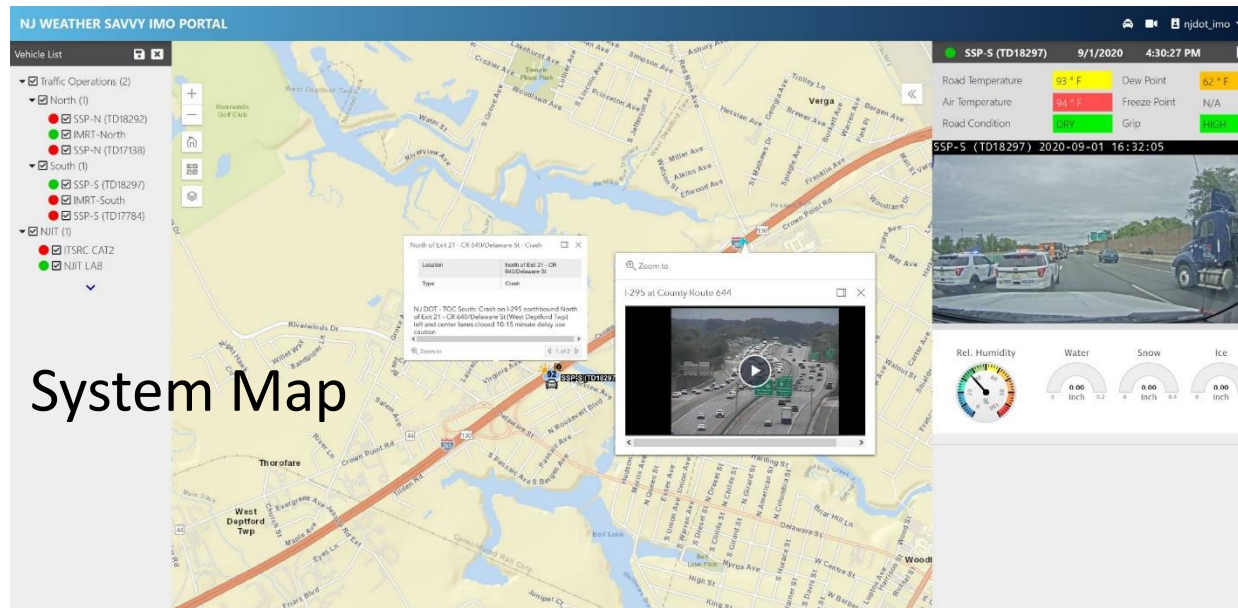
Snow

Ice



Weather Savvy Roads - Pilot Project

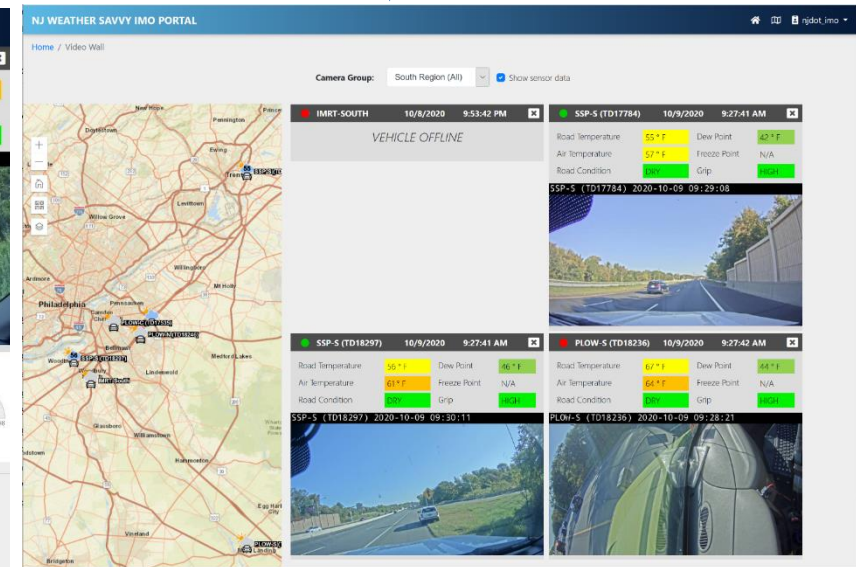
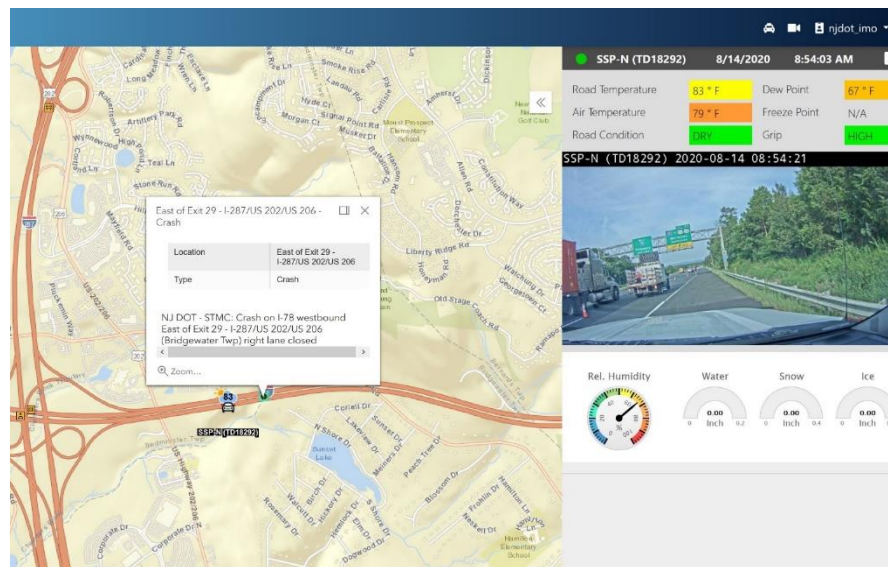
Weather Savvy Pilot Web Interface (GUI)



System Map

Weather Savvy Vehicle Dashboard

Virtual Video Wall



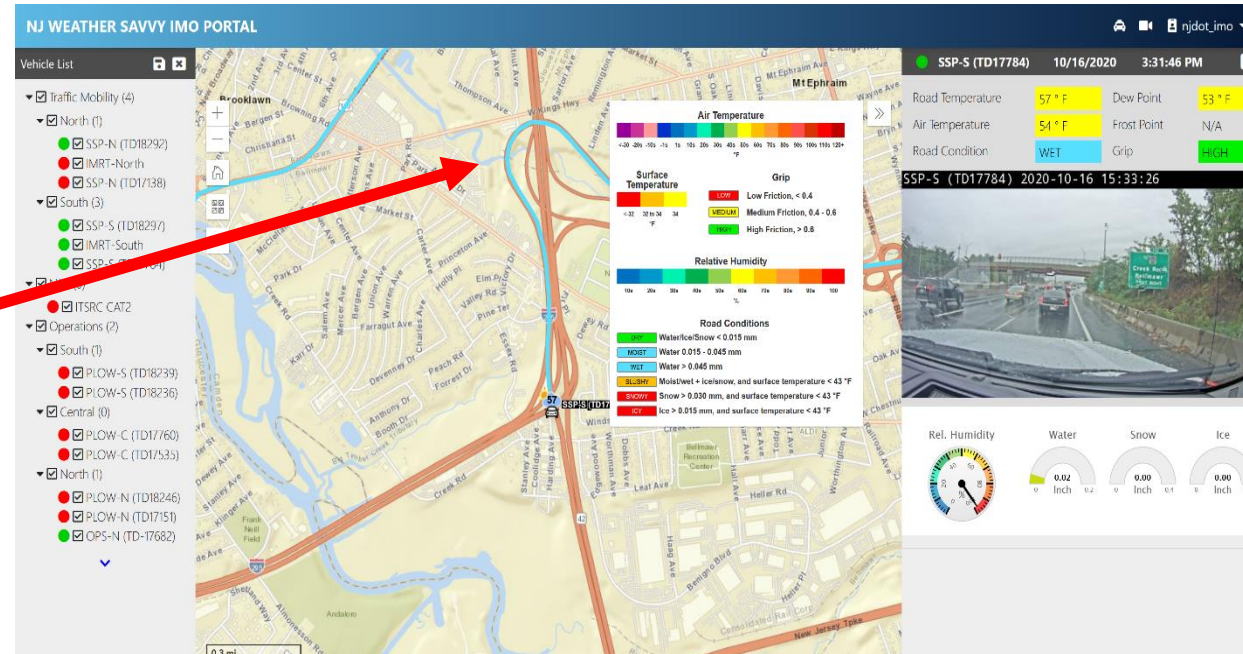


Weather Savvy Roads - Pilot Project

Weather Savvy Pilot Web Interface (GUI)

Vehicle Tracking:

- Shows the trace of vehicles in the past 15 minutes.
- Trace color represents the Road Condition (e.g., BLUE = WET/MOIST)



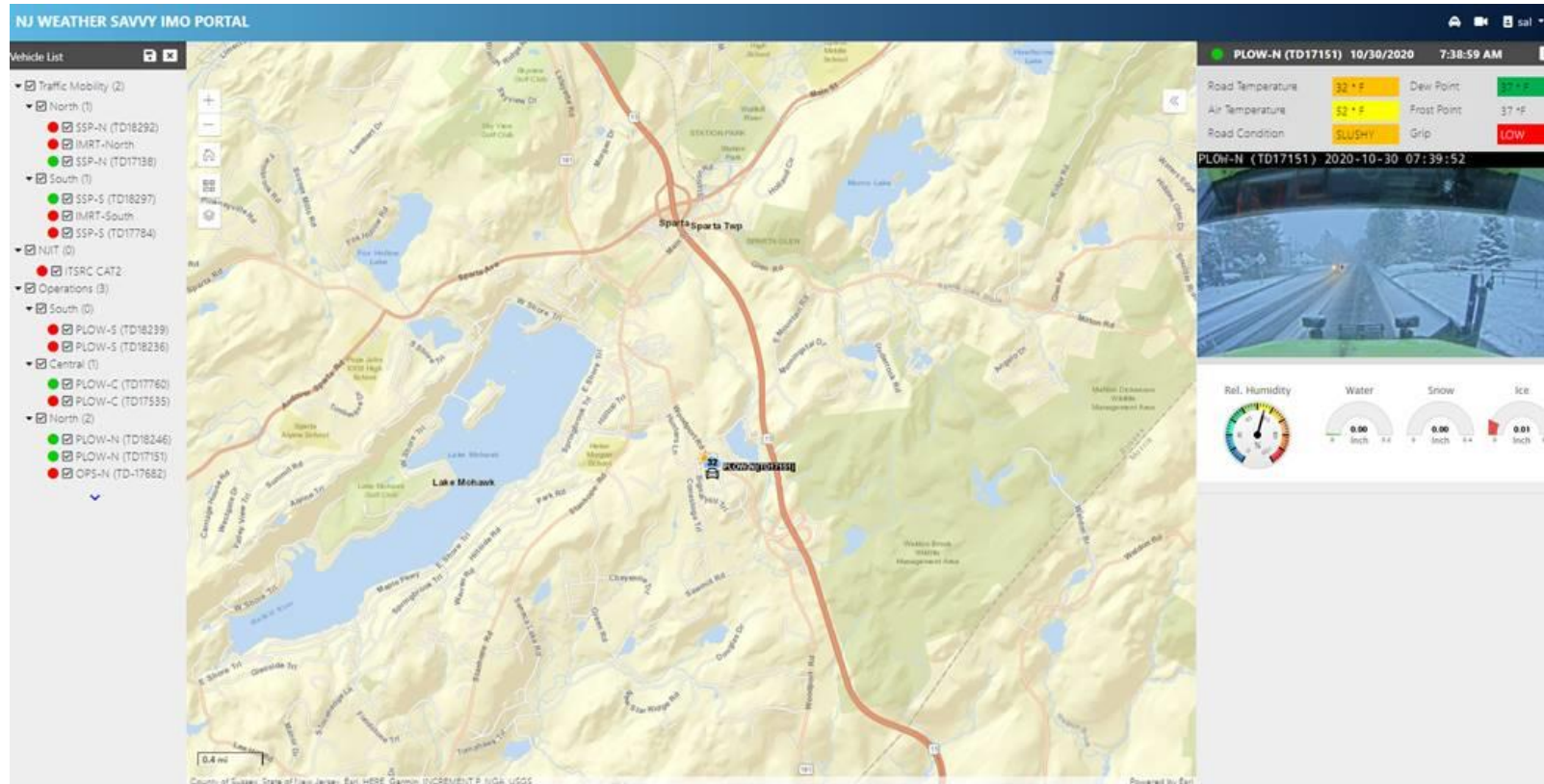
Note: we renamed “Freeze Point” to “Frost Point” in the dashboard to be more consistent with the clarification we received from Vaisala. Explanation in the last slide.



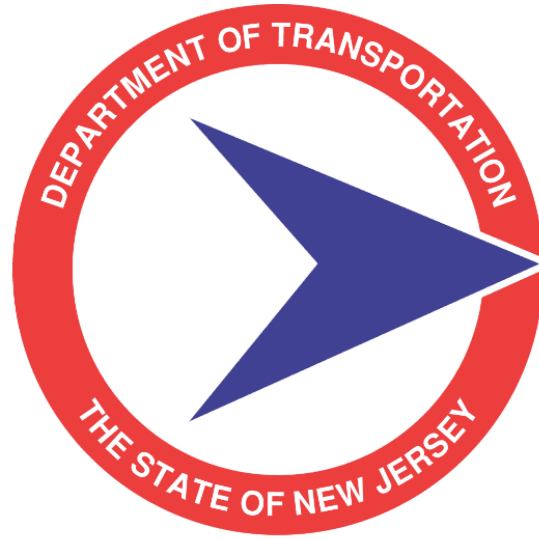
Weather Savvy Roads - Pilot Project

Weather Savvy Pilot Web Interface (GUI)

Friday October 30th – 7:38 am



During the first storm of the 2020-21 Winter Season



Weather Savvy Roads Pilot Project

October 2020