The Connecticut Department of Transportation (Department) currently has thirteen (13) Roadway Weather Information (RWIS) sites covering the state’s seven (7) weather zones. These RWIS sites communicate with a manufacturer-hosted web-based application to provide real-time and historical weather information to Department staff and the Department’s contracted weather services.

The Department relies on the real-time weather information to inform a variety of winter maintenance and weather management activities. The Department does not have sufficient statewide coverage to properly provide weather related road conditions. The gaps in area coverage leave a risk in delaying weather related responses by the Department’s maintenance crews. **An approximately twenty-three (23) additional priority sites have been identified to expand the geographic coverage of the RWIS sites and offer improved real-time weather information to the Department.**

Central RWIS hardware and software are used to process observations from these environmental sensors to develop nowcasts or forecasts, and display or disseminate road weather information in a format that can be easily interpreted by a maintenance manager. RWIS data are used by road operators and maintainers to support decision making. There are relatively few weather observation locations in Connecticut other than at airports. Given the high variability of weather conditions, even within a single weather zone, additional geographic coverage of RWIS sites will allow for more accurate weather forecasts and predictions, improved storm management decision-making leading to increased road safety during adverse weather conditions.

This project addresses several transportation needs, including:

**Storm Management** – Improved real-time weather information allows Department staff to better predict, monitor, manage, and recover from winter storms and adverse weather conditions.

**Safety** – Improved storm management can help minimize adverse impact of storms and assists the Department in providing safe roadway conditions for the general public.

**Traveler Information** – Real-time weather information can also be used to inform real-time traveler information on road conditions posted to Department Variable Message Signs (VMS), websites, and social media.

**Cost Savings** – Improved real-time weather information can inform decision making on the dispatch of maintenance vehicles and the quantity and timing of application of chemicals to the roadway; offering potential for cost savings.

**Environmental** - Improved real-time weather information can inform decision making to reduce the unnecessary application of chemicals to the roadway; offering potential environmental benefits.
Notes:
1. All items shown may not be included in every installation.
2. Items not shown: Concrete service pad, in-ground power, telephone and sensor cables, structural power supply and conduit for telephone service.

Tower fold over assembly, 20&307 towers only

Notes:
3. Anti-climb panel
4. RPU Enclosure
5. Breaker Box
6. Conduit for AC Power
7. Conduit for pavement sensor cables

Grade

Grade

WS200

(Atmospheric Sensor)

R2S

(Precipitation Sensor)

307 Tower shown
(10&207 available)

NIRS31
(Non-Intrusive
Environmental Sensor)

Air Temp/RH Sensor
WS300

Conduit for pavement sensor cables

TFF 10

(Non-Intrusive
Environmental Sensor)

Subsurface Temperature probe: Off Road

Road

Grade

Grade

NIRS31

Highway Operations
Dec 2014