

RWIS

by Butch Leel, Technical Support Assistant

Winter operations largely impact municipal budgets. To reduce highway maintenance budgets, agencies use Road Weather Information Systems (RWIS) for weather and road conditions information. RWIS uses meteorological and pavement sensors. Data from these devices enable crews to provide a higher level of service, thru efficiently planned maintenance routes, reduced materials usage, and reduced vehicle wear and tear.

RWIS sensors are embedded in and below the road surface and on nearby towers. They collect real-time data for crews to use. The data enables managers to determine if road treatment is necessary, when to treat, what material to use and the quantity of material to spread.

RWIS is useful at locations prone to ice or frost: a low spot on the road, valleys, elevated roadways or bridges, predominantly shaded areas, or at locations susceptible to blowing/drifting snow.

The NHDOT has 12 RWIS sites and plans to install an additional 11 sites. [http:// vortex.plymouth.edu/nh_rwis.html](http://vortex.plymouth.edu/nh_rwis.html). The sites record observations refresh every five minutes. Each site provides: date, time, temperature, dew point, relative humidity, wind direction and speed, peak wind gusts, sea level pressure, precipitation type, intensity and rate, visibility, and ozone (ppbv).

RWIS is on-line for municipalities to use.



Pavement Marking Materials

Pavement marking increase safety. Almost a dozen materials are available. This article provides information about some materials. See the spring calendar (page 12) for pavement marking workshops.

Oil-based Paints

The Environmental Protection Agency (EPA) recommends against most oil-based paints. Only one type of oil paint is environmentally friendly: it is acetone-based. The level of volatile organic compound is 150 grams or less per liter.

Oil based paints can last up to six months, depending upon traffic. One benefit is that they can be installed in cooler weather (up to 35° F). However, oil-based paints are difficult to clean up. Solvents work best but are discouraged by the EPA. Low solvent paints are more environmentally friendly but don't work as well.

Water-borne Paints

Water-borne paint is a favorable material because it is durable, reasonably priced, and easy to clean-up. It is resin-based and may last two years. A gallon yields 240-300 feet for a four-inch line, or about 17 gallons per mile.

High build paint, a type of water-borne paint, uses a different resin. It goes on thicker and takes about 22 to 25 gallons per mile.

Thermoplastic

Thermoplastic is created by melting solid material that hardens when it is installed. Thermoplastic lasts five to seven years. It goes on thickly. It works well on new asphalt.

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