



METEOROLOGICAL STANDARDS REFERENCE SHEET

This reference sheet contains information on existing standards and guidelines for deploying Environmental Sensor Stations (ESS). These guidelines were not specifically developed to serve the surface transportation community, but there are areas of applicability to road weather information systems. These references can give general guidance to agencies wanting to deploy ESS.

1. Boselly, E. S., E.J. Thornes, and C. Ulburg. *Road Weather Information Systems Volume 1: Research Report*. Strategic Highway Research Program Publication - SHRP-H-350, National Research Council, Washington, D.C., 1993.

Chapter 4 of the SHRP report on Road Weather Information Systems Volume 1 contains general guidelines on the siting of environmental sensor stations (referred to as RWIS sensors in the report) including pavement sensors, weather sensors, and the roadside processing units to support the sensors.

2. Boselly, E. S., and D.D. Ernst. *Road Weather Information Systems Volume 2: Implementation Guide*. Strategic Highway Research Program Publication - SHRP-H-351, National Research Council, Washington, D.C., 1993.

The Road Weather Information Systems Implementation Guide, developed as part of the Strategic Highway Research Program, also addresses criteria for siting environmental sensor stations. The sensors covered in the report are meteorological and roadway surface sensors and roadside processing units needed to support them.

3. Office of the Federal Coordinator for Meteorological Services and Supporting Research (OFCM). *Federal Standard for Siting Meteorological Sensors at Airports*. FCM-S4-1994. Available online at <http://www.ofcm.gov/siting/text/a-cover.htm>, August 1994.

This document establishes the Federal standard for siting meteorological sensors of automated weather observing systems at airports/heliports. The sensors collect meteorological data in support of aircraft operations as well as aviation and other weather forecasting. Although these standards were not written specifically for the surface transportation community, they provide information that is applicable to siting sensors for surface transportation use. Specifically, Chapter 2 provides criteria for proper and representative exposure of sensors to assure that data are meteorologically sound.

4. Office of the Federal Coordinator for Meteorological Services and Supporting Research (OFCM). *Federal Meteorological Handbook No. 1: Surface Weather Observations and Reports*. FCM-H1-1995. Available online at <http://www.ofcm.gov/fmh-1/cover.htm>, 1995.

Federal Meteorological Handbook No.1, *Surface Weather Observations and Reports* (FMH-1) defines the observing, reporting, and coding standards for surface-based meteorological reports. These standards are applicable to all Federal agency programs. Although written primarily with aviation in mind, the Handbook can offer guidance to agencies wanting to employ environmental sensor stations to support road weather information systems and can assist in the development of the reports to be generated from these stations.