Weather & the Connected Vehicles

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The Federal Highway Administration's (FHWA) Road Weather Management Program (RWMP) continues to support Intelligent Transportation Systems (ITS) applications that focus on roadway safety and mobility and at the same time promote technology deployments that help balance society's need to protect the environment and maintain stable economic conditions. The program collaborates with NOAA, departments of transportation in each state, an important and vigorous private sector, the academic community, and professional societies such as the American Meteorological Society and other nongovernmental organizations, including the American Association of State Highway and Transportation Officials. This presentation will provide an overview of the *Clarus* system, including a review of recent enhancements, and an update on mobile observing of weather and road conditions – including the Connected Vehicle Technology Challenge and the VDT (Vehicle Data Translator). Background *Clarus* is an ITS initiative to develop and demonstrate an integrated surface transportation weather observing, forecasting and data management system. The objective of *Clarus* is to provide quality-checked observations that feed into road weather information systems which enable all transportation managers and users respond to weather events with effective and efficient strategies. The Connected Vehicle Technology Challenge combines advanced wireless communications, on-board computer processing, access to vehicle-sensors, GPS navigation, and smart infrastructure to provide the capability for vehicles to identify threats and hazards on the roadway and communicate this information over wireless networks to provide drivers with alerts and warnings. Scientists at the National Center for Atmospheric Research (NCAR) are testing an innovative ITS system called a Vehicle Data Translator (VDT) that ultimately will help protect drivers from being surprised by black ice, fog, and other hazardous weather conditions. NCAR has developed and demonstrated a VDT, which turns the vehicle-based data into valid road weather observations and information. It will ultimately enable motor vehicles equipped with wireless technology to transmit automated updates about local conditions to alert drivers in the area.