

**SAVING LIVES**

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**IMPROVING  
TRANSPORTATION  
EFFICIENCY**



**Weather  
Information for  
Surface  
Transportation**

## Accurate Weather Information Is a Critical Element in the Daily Lives of Most Americans

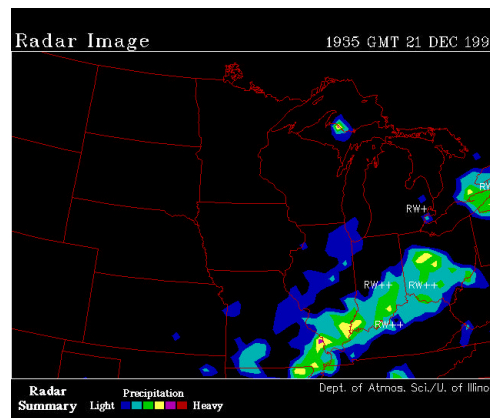
In many cases, weather information helps travelers determine when to take a trip, which route, or whether to go at all. When weather turns severe, it can not only change daily travel habits, it can also be deadly. Over 17 percent of all fatal crashes occur during severe weather conditions. Of those, 60 percent happen in rural areas (most on non-interstate roadways). Many people experienced with weather information systems believe more accurate and accessible weather information is the solution to these issues.

“As part of Washington State’s mountain pass conditions reporting, we put pass road weather information on the Internet to help travelers. After getting 10 million hits on the web site during the 1997–1998 winter season, we discovered the traveling public has a voracious appetite for road and weather condition information. With that knowledge, we joined a consortium of agencies that need weather information and are implementing a plan to use high-resolution modeled output, integrating observations from 400 sites we’ve identified around the state, to create useful products for travelers, highway operations, and surface transportation in general. We are even installing automated weather stations on our state ferries crossing Puget Sound!”  
— Guy Coss, Road and Weather Project Manager, Washington State Department of Transportation, Seattle, Washington

## Many States Are Currently Implementing Intelligent Transportation Systems (ITS) Technologies To Improve Weather Information for Surface Transportation

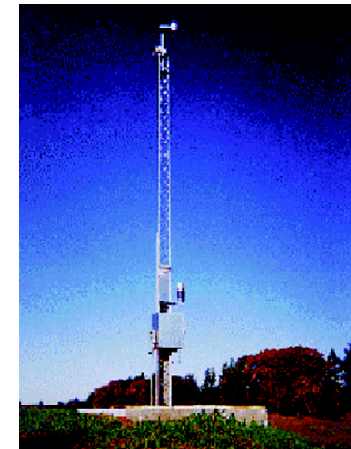
Several multi-state initiatives are bringing ITS together with advanced weather prediction systems to create operational highway management and traveler information systems throughout North America. The programs envision a widely accessible real-time road and weather information system that will support seamless information sharing for travelers and highway maintenance managers. The goals of these information systems are to improve safety (save lives) and improve efficiency of the transportation system.

“We receive satellite broadcast weather information, weather radar data from a Next Generation Weather Radar (NEXRAD) data vendor, forecasts four times per day from a local forecast service, and data from road weather installations. We use the information year-round to manage all of our weather-sensitive operations. We can call out our personnel more efficiently and curtail our operations quicker knowing when the



weather will start and stop. We can even forecast the likelihood of summertime pavement blow-ups. By being proactive we’ve increased our level of service and reduced our costs, especially overtime in the winter.”  
— Norm Ashfeld, Maintenance Area Superintendent, Minnesota Department of Transportation, Minneapolis Metro Area

“Road Weather Information Systems have some definite benefits in reducing manpower and material cost.”  
— Jon Schierman, Maintenance Engineer, Idaho Transportation Department



ROAD WEATHER INFORMATION SYSTEM

One of these initiatives is the Advanced Transportation Weather Information System (ATWIS) in North and South Dakota. The ATWIS is the first rural road condition information and weather forecast in-vehicle system in the U.S. Forecasts are made available to cellular phone users through a computer telephone system that queries users on their location and direction of travel.

“I use the ATWIS system all the time and love the information.”  
— Phillip, a motorist from North Dakota

# Saving Lives and Keeping Traffic Moving



Weather information can also improve the effectiveness of traffic managers, school administrators, transit and paratransit operators, and commercial transportation.

“We operate the St. Louis Light Rail System. This is our third year using weather forecasts from a local provider. The forecasts are invaluable. The forecasts allow us to implement in-place operating plans in order to minimize effects of the weather to our operations, mainly caused by ice coating overhead wires, high winds, lightning damage, and severe thunderstorms with the potential for flooding and tornadoes.”  
— Terry Mulcahy, Director of MetroLink Operations, St. Louis, Missouri

“We broadcast via satellite to our drivers morning summaries of expected Interstate conditions nationwide. We broadcast each evening the ‘hot spots’ of interest. With the combination of weather information and training, we’ve seen a 70 percent reduction in weather-related accidents in the last three years.”  
— Tim Hughes, Team Leader, High Value Products, Fleet Administration, North American Van Lines, Fort Wayne, Indiana

The Federal Highway Administration (FHWA) formed a Weather Team in 1997 to coordinate efforts across the various programs addressing weather information systems, including ITS and winter maintenance.

The goal of the Weather Information for Surface Transportation system is to achieve better outcomes in surface transportation systems. Weather Information is a resource to decision making that can achieve this goal.

“ITS can’t change the weather, but it can change the way we think about the weather. Forecasting at higher resolutions and predicting road surface conditions means that we can better understand how weather will affect the roadways. On top of this, improved decision support systems and expanded information dissemination to the full range of surface transportation users and operators means that we can ultimately save lives, money, and time.”  
— Paul Pisano, FHWA Weather Team

## INTELLIGENT TRANSPORTATION SYSTEMS



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