

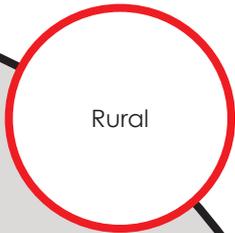


Caltrans Division of Research,
Innovation and System Information

Research



Results



Rural

SEPTEMBER 2021

Project Title:

WeatherShare - Phase V : Caltrans Enterprise Implementation

Task Number: 3266

Start Date: June 2019

Completion Date: June 2021

Task Manager:

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Deploying a Roadside Weather Information System (RWIS) User Interface

Technology transfer and continued development of the WeatherShare application

WHAT WAS THE NEED?

California Department of Transportation (Caltrans) used proprietary commercial-off-the-shelf applications to aggregate and present weather information from Road Weather Information System (RWIS) sites and provide services such as weather-based alert to maintenance and operations personnel. Unfortunately, these applications have been designated a shelf life by their creators and will no longer be supported.

The WeatherShare system is developed as an open-source project which can be utilized by other state transportation departments. WeatherShare will streamline and integrate essential road weather information from Caltrans RWIS sites. This data is combined with weather data from other sources, such as Meteorological Assimilation Data Ingest System, MesoWest, and National Weather Service forecasts, into one unified source.

This information is displayed on an interactive map and detailed tabular and graph displays, allowing maintenance personnel and incident responders to visualize road conditions of an entire region or a specific location quickly and easily. The system will allow Caltrans personnel to make a more informed and efficient assessment of current weather conditions in the region for different purposes, such as incident management and highway maintenance.

WHAT WAS OUR GOAL?

WeatherShare was to become the central repository for Caltrans RWIS data and weather information. Caltrans maintenance and operations personnel now have access to real-time and historical weather information that will help them manage roadways, apply treatments, and handle weather-related incidents more effectively.



DRISI provides solutions and knowledge that improves California's transportation system



WHAT DID WE DO?

- Provided consulting services, including knowledge transfer to Caltrans Information Technology (IT) staff who will be responsible for ongoing support and maintenance of the WeatherShare system so that IT can successfully install, run, and maintain the site
- Ensured that Caltrans has the final code, images and files necessary to generate the layers used in the WeatherShare system
- Ensured that Caltrans has the scripts necessary to retrieve and process data, and generate the files used on the WeatherShare system
- Prepared complete documentation detailing system implementation procedures

WHAT WAS THE OUTCOME?

The deliverables on this effort were completed and delivered to the customer. The customer, in concordance with Caltrans Information Technology, has decided to keep the WeatherShare application as an external application. The Department continues to rely on the WeatherShare application as the principal RWIS user interface and data archival system. The customer is pursuing a maintenance contract with the researcher to continue the project.

WHAT IS THE BENEFIT?

This platform of weather observations and forecasts with near real-time road sensor data allows Caltrans crews to make the best-possible decisions for both maintenance operations and incident response.

LEARN MORE

The WeatherShare application is available at <http://www.weathershare.org/>

IMAGES



Image 1: WeatherShare System