

DRISI

CALTRANS DIVISION OF RESEARCH,
INNOVATION AND SYSTEM INFORMATION

Research Results

Rural

MAY 2024

Project Title:

Road Weather Information System (RWIS) Research

Task Number: 2649

Start Date: October 23, 2013

Completion Date: June 30, 2023

Task Manager:

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Aurora Program - Aurora Road Weather Information (ARWI) Systems, TPF-5 (290)

Aurora Road Weather Information System (RWIS) Pooled Fund Study (PFS)

WHAT WAS THE NEED?

California Department of Transportation (Caltrans) has over 100 Road Weather Information System (RWIS) installations statewide that were deployed for many purposes, such as automated fog, ice, and wind warnings; for traveler info online (on QuickMap); and for planning winter maintenance and other roadwork. The Aurora Program was a technical-focused Pooled Fund Study (PFS) that worked on RWIS issues.

WHAT WAS OUR GOAL?

The program's mission was to support cooperative research, evaluation, and deployment of innovative technologies that advanced road weather monitoring and forecasting in highway design, construction, maintenance, and operations and to serve as an international advocate for expanded uses of these technologies.

Six primary goals were:

1. To improve dissemination of road weather information to transportation providers and end users, ultimately increasing safety by reducing potential weather-related incidents and improving transportation safety, reliability, and mobility in both urban and rural areas.
2. To improve the efficiency of maintenance operations.
3. To aid in the development of technologies that seamlessly integrate to facilitate the formation of partnerships between maintenance and operations and facilitate the dissemination of road weather information.
4. To develop initiatives that assist public agencies in deploying RWIS technologies and methodologies.
5. To encourage greater cooperation and information



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



exchange between transportation agencies and the other agencies and groups.

6. To support development of expanded uses of RWIS technologies.

WHAT DID WE DO?

The Aurora Program was a consortium of public agencies focused on collaborative research, evaluation, and deployment of advanced RWIS that fully integrated state-of-the-art roadway and weather forecasting technologies with coordinated, multi-agency weather monitoring infrastructures.

Aurora's research projects were designed to improve the efficiency of highway maintenance operations and distribute effective real-time information to travelers. Its initiatives were expected to result in technological advancement and improvement of the existing RWIS, significantly reducing the adverse impacts of inclement weather on mobility. Caltrans Division of Traffic Operations and the Rural Program Steering Committee supported this effort.

Pooled Fund Information:

1. Iowa Department of Transportation (DOT) – Lead State for Pooled Fund Study PFS.
2. 20 Participant State Department of Transportations.
3. DOT Members: Alaska, Arizona, California, Colorado, Delaware, Illinois, Iowa, Kansas, Michigan, Minnesota, Missouri, New York State, North Dakota, Ohio, Ontario Ministry of Transportation, Pennsylvania, Utah T, Virginia, Washington State, Wisconsin. Maine became a member in late 2019

WHAT WAS THE OUTCOME?

The project ended on June 30, 2022, and all the deliverables have been received. The continued pooled fund effort was approved, and all funding and future works were transferred to the new

pooled fund study TPF-5(435).

The ongoing project can be found here: <https://www.aurora-program.org/>

WHAT IS THE BENEFIT?

1. Caltrans involvement allows input on national standards, development, and implementation (device and communication)
2. Caltrans learns best-practices from other states
3. Caltrans can influence which studies are conducted, making California's priorities known.

LEARN MORE

TBD-Final report link.

IMAGES



Image 1: Aurora logo