

The Western States Rural Transportation Consortium— An Implementers Pooled-Fund to Tackle the Challenges of Rural ITS

Sean Campbell
Caltrans Division of Research and
Innovation

Ted Bailey
Washington State DOT

Ian Turnbull
Caltrans District 2

Galen McGill
Oregon Department of Transportation

Doug Galarus
Western Transportation Institute
Montana State University

Leann Koon
Western Transportation Institute
Montana State University

David Veneziano
Western Transportation Institute
Montana State University

NRITS 2012

***Session A1: Multi-Agency Collaboration: Leveraging Resources
and Improving Services for the Traveling Public***

Monday, September 17, 2012

1:00 PM

Overview

- What the WSRTC is and what it does
- Origins and history of WSRTC
- Challenges it addresses
- Benefits it provides
- Incubator and spinoff projects
- Technology Transfer

WSRTC – What it is and does

- Facilitates and enhances safe, seamless travel throughout the western United States
- Promotes innovative partnerships, technologies and educational opportunities to meet these objectives
- Provides collaborative mechanism to leverage research activities in a coordinated manner to respond to rural transportation issues
- Focuses on technology transfer/education and incubator projects centered on the pillars of **technology, operations and safety**

Origins

- 1991- California Department of Transportation (Caltrans) inquired into rural concerns dealing with advanced transportation technologies
- 1995 - Program for Advancing Rural Transportation Technologies (PARTT), a rural ITS scoping study
 - Reviewed advanced transportation technologies, identified issues concerning them, and developed conceptual ideas for future activities
 - Geographic area in Northern California designated a study area to refine the need and application of rural ITS
 - Caltrans and the Oregon Department of Transportation (ODOT) expanded the study area into Southern Oregon to maximize resources, foster cooperation, and investigate feasibility of ITS in a bi-state study area
 - Result was California Oregon Advanced Transportation Systems (COATS)

Origins

- COATS (1998-2000) - Identified several regional needs that ITS could address
- COATS Showcase (2001 – 2006) - Focused on demonstration and evaluation activities
- COATS Phase 3 (2005 – 2009) – Promote technology transfer and coordination
- COATS Phase 4 (2008 – 2011) – Continue technology transfer, initiate incubator project concept
 - Investigate expansion of COATS to include additional states

WSRTC History

- June 2009 - Informal discussions occur regarding Consortium establishment/expansion of the COATS project/region
- August 2009 - Formal discussions between COATS members of expansion/consortium development result in agreement to pursue development of WSRTC
- August 2009 – October 2009 - Development of Consortium charter and mission/vision/goals documents undertaken
- November 2009 - Formal discussion between potential consortium members regarding charter and mission/vision/goals documents, intended roles and responsibilities, etc. occurs. All parties agree to move forward in formalizing Consortium
- February 2010 - Follow-up discussions on Consortium documents occur; Year 1 incubator projects are discussed,
- April, 2010 - Scopes of Work completed for incubator projects

Challenges Addressed

- Tighter agency and research budgets reducing opportunities to conduct technology, safety and operational research aimed at rural transportation
- Projects must be justified, often requiring an initial proof-of-concept
- Research involving multiple agencies likely to be of interest and transferable to others
 - Mechanism to promote results and share developed products does not exist
- Need existed for agencies to partner and leverage research funding, share technical findings and products, and promote educational opportunities
- The WSRTC addresses these challenges through collaboration

Mission and Vision

- Mission: The WSRTC shall provide a collaborative mechanism to leverage research activities in a coordinated manner to respond to rural transportation issues among western states related to Technology, Operations and Safety.
- Vision: The WSRTC shall promote innovative partnerships, technologies and educational opportunities to facilitate and enhance safe, seamless rural travel throughout the western United States.

Goals and Benefits

- Provide a framework to leverage research and promote collaboration in solving rural transportation issues.
- To leverage research resources related to rural issues concerning technology, operations and safety.
- Provide technology solutions in the form of technology transfer to rural areas and training on a regular basis.
- Recycle and reuse existing research, applying its results to rural issues.
- Development of a rural western states integrated corridor management system to improve seamless, coordinated and safe transportation to the public.
- Continued fostering of tech transfer activities through venues such as the Western States Forum

WSRTC Incubator Projects

- Radar Speed Signs deployment guidance
- Evaluation of the Fredonyer Pass icy curve warning system
- Analysis and recommendations for optimization and deployment of web-based projects
- Survey of western states safety warning devices (ongoing)
- Regional Integrated Corridor Management planning (ongoing)
- Bluetooth and other passive ID technologies for weather-related rural travel times (upcoming)

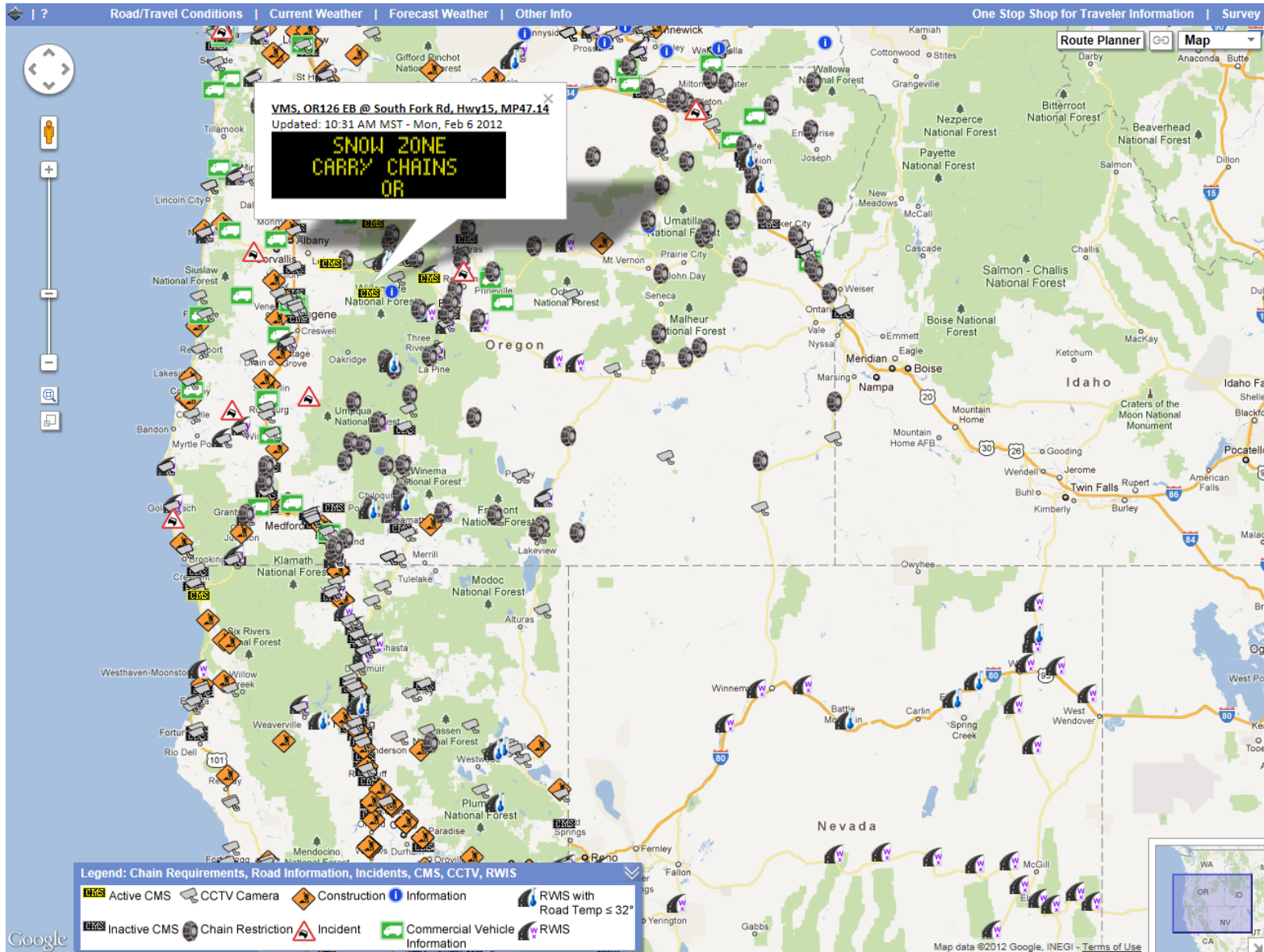
Safety Warning Device Survey

- Focused on western states – CA, OR, WA, ID, NV, UT, AZ, NM, CO, WY, MT, AK
- Ex. Intersection or curve warning systems, work zone safety systems, etc.
 - Identify location, function/purpose, components, effectiveness, and other info
- Seeking contacts from above states to interview and obtain information
 - Please see us after the session or send contact information to david.veneziano@coe.montana.edu

Spinoff Projects

- One Stop Shop for Rural Traveler Information
- WeatherShare
- Integration of Aviation AWOS with RWIS
- Automated Safety Warning Controller
- Redding Responder
- Professional Capacity Building (PCB) for Communication Systems

One Stop Shop: <http://oss.weathershare.org/>



2 - Pine Grove N/B - Shasta Lake City

Updated: 10:58 AM MST - Wed, Jan 18 2012

**I-5 CLOSED
AT FAWNDALE
DUE TO ACCIDENT**

7:43AM : 37-56 REDUCING SPD DUE TO RDWY CONDITIONS
7:42AM : 1039 CODE 20
7:41AM : ADV
RESPONDING UNIT JNO ANTLERS THE RDWY IS REALLY SLICK
7:40AM : 1039 CORNING TA

7:40AM : 1039 SHASCOM REF FRWY CLOSURE
7:32AM : 1039 SHAS CDF
7:31AM : STATES
SHE IS INJURED
7:30AM : 1039 37-51 // ERNT
7:30AM : 1039 CT

7:30AM : NUMEROUS VEH INVOLVED // 90-C116 GOT HIT FROM THE BACK
7:30AM : 1039 SHASCOM

7:29AM : A TOUR BUS CLIPPED THE BACK OF A BIG RIG CAUSING IT TO TC INTO OTHERS
7:29AM : 3-4
BIG RIGS INVOLVED
7:29AM : RP ADVS HE WAS CHANGING UP & WAS HIS BIG RIG TANKER WAS HIT

7:29AM : BIG RIG , MAIL TRK , A BUS & OTHER TRKS INVD
7:28AM : APPROX 4 VEHs INVD

Responding
Officer Status:
7:37AM : CHP Unit Enroute
7:47AM : CHP Unit On Scene

7:50AM : CHP Unit On Scene
7:51AM : CHP Unit On Scene
8:01AM : CHP Unit On
Scene
8:50AM : CHP Unit On Scene
9:12AM : CHP Unit On Scene

9:45AM : CHP Unit On Scene

Vollmers

10:31 AM MST - Wed, Jan 18 2012



Fawndale

10:59 AM MST - Wed, Jan 18 2012



Hilt Sandhouse

10:33 AM MST - Wed, Jan 18 2012



Siskiyou I-5 NB at Exit 1

Updated: Jan 18 2012 10:20 AM Looking North



ODOT
Elevation 3530 TripCheck.com Milepost 1.00

Central Dunsmuir

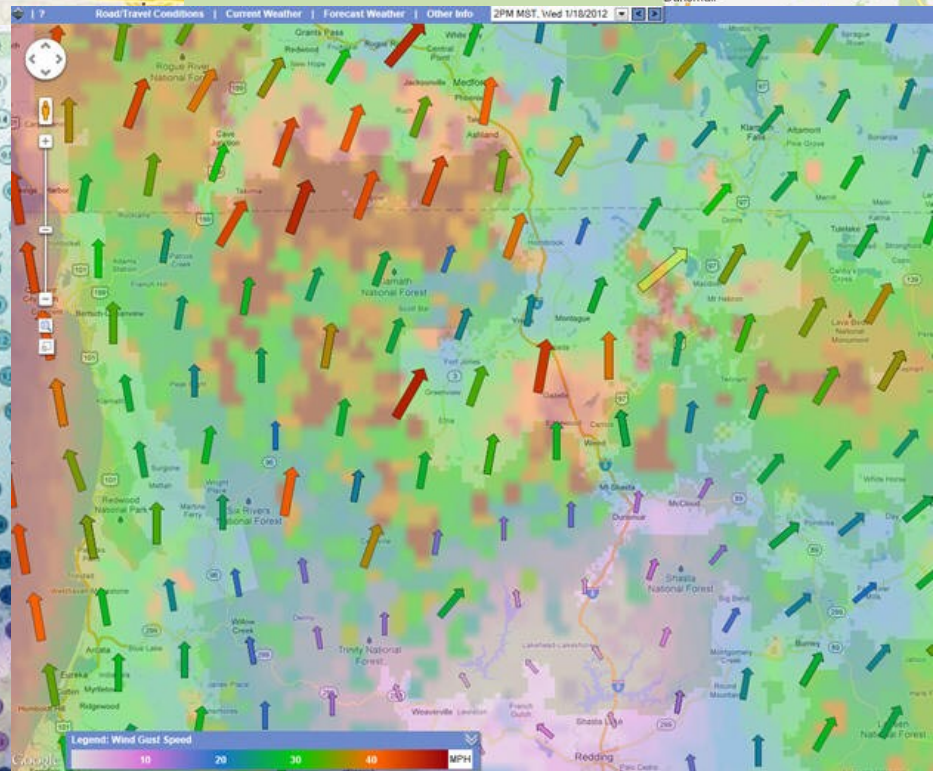
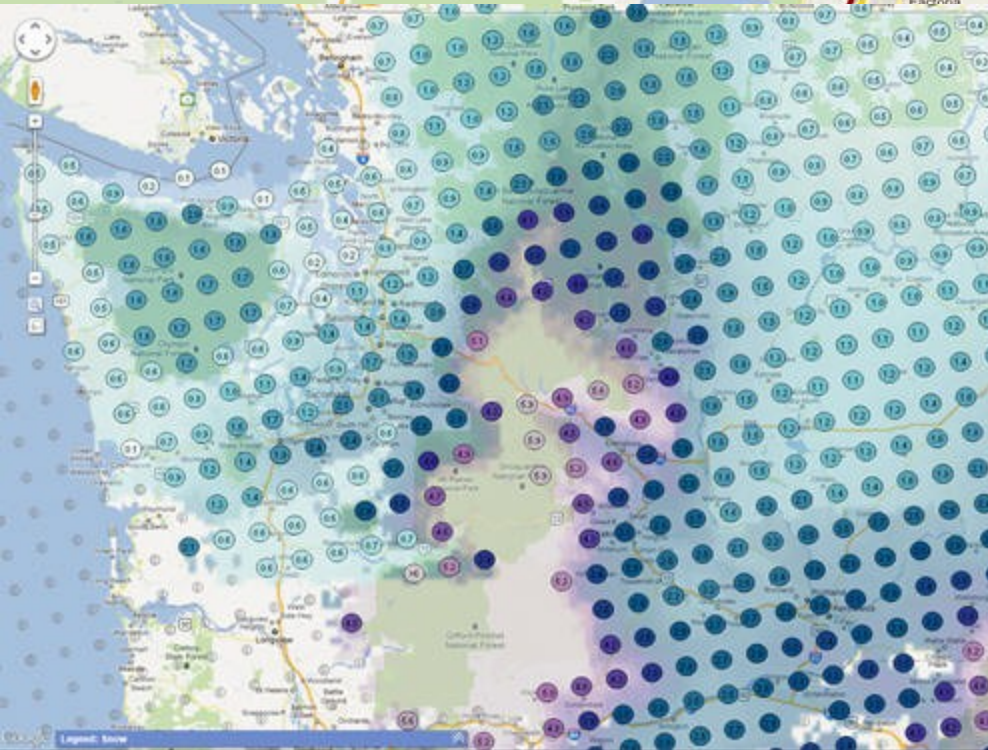
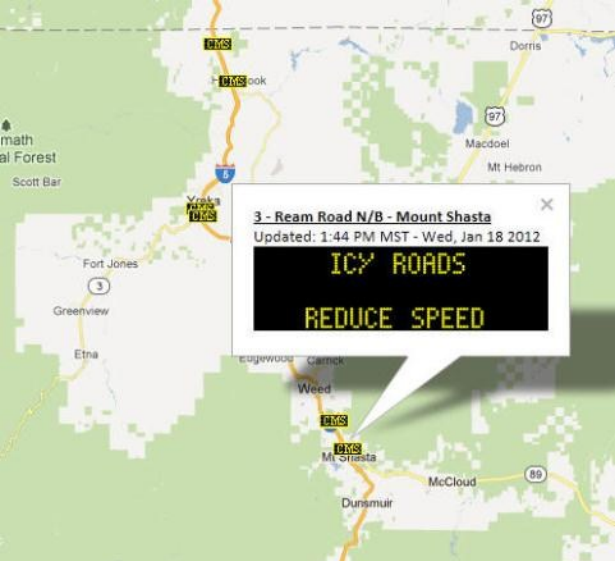
10:19 AM MST - Wed, Jan 18 2012



Weed Airport

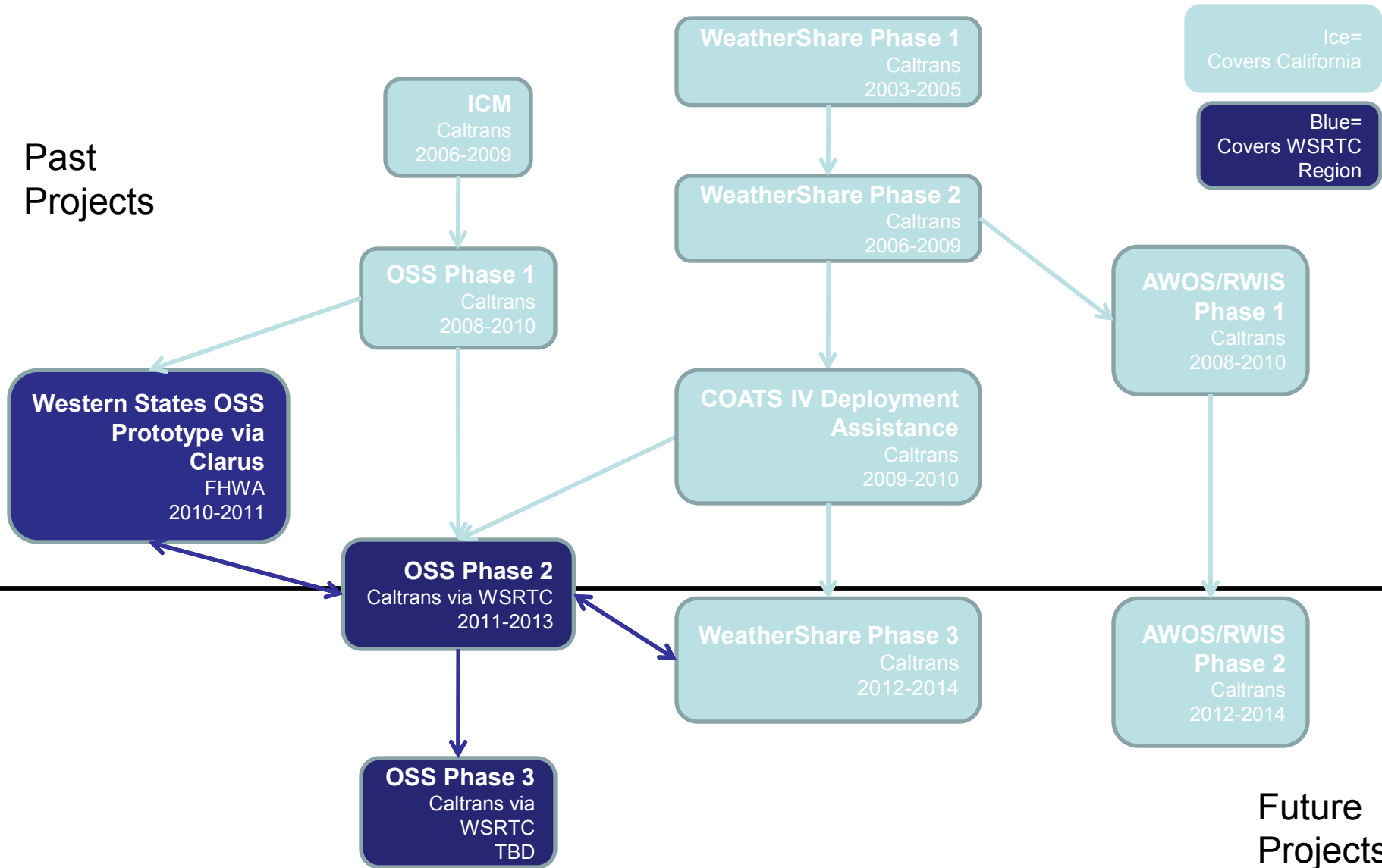
10:43 AM MST - Wed, Jan 18 2012





Prior and On-Going Investment in OSS

Past Projects



WeatherShare: <http://www.weathershare.org/>

WeatherShare Phase 2 Demonstration [About](#) || [Key Features](#) || [Help](#) [Link to this page](#)

Stations - All Stations Status - 1:40PM Mon Feb 6 PST

Recent Conditions Forecast **Stations** Alerts

Stations:

All

Source	Total	Up to date	Outdated
RWIS	107	52	55
Madis	690	441	249
Mesowest	2474	941	1533
Total	3271	1434	1837

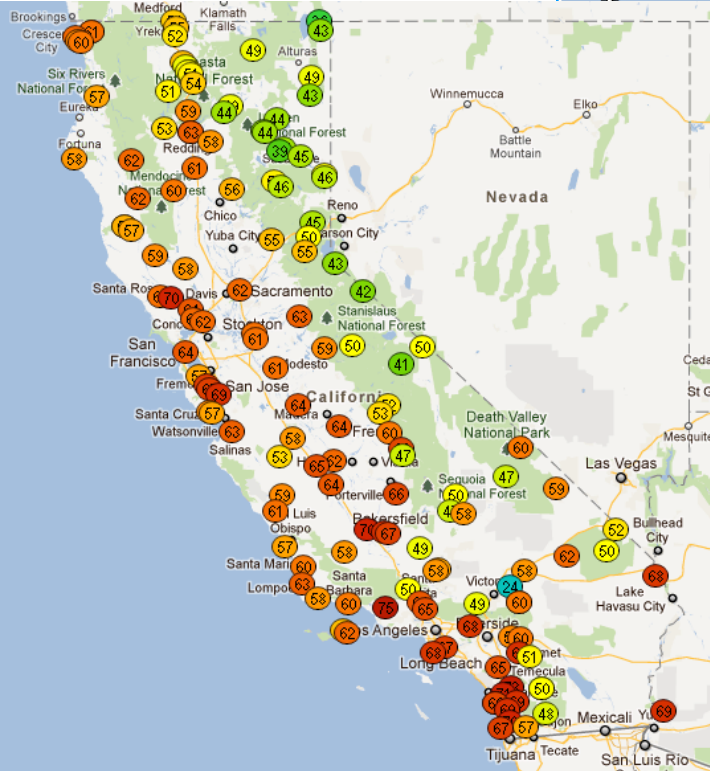
Note that the overall total includes some redundancy, with redundant station data provided by both MADIS and MesoWest. The redundant storage of data is intentional, for the purpose of continued service in the event of an outage from either provider.

Map Satellite Hybrid Terrain

Map data ©2012 Europa Technologies, Google, INEGI

RWIS ■ Mesowest ● Madis updated ≤ 90 mins ▲ ■ ● > 90mins ▲ ■ ● updated ≤ 90 mins, but failed at least 1 QC

© Copyright 2008 [Western Transportation Institute](#), Montana State University - Bozeman

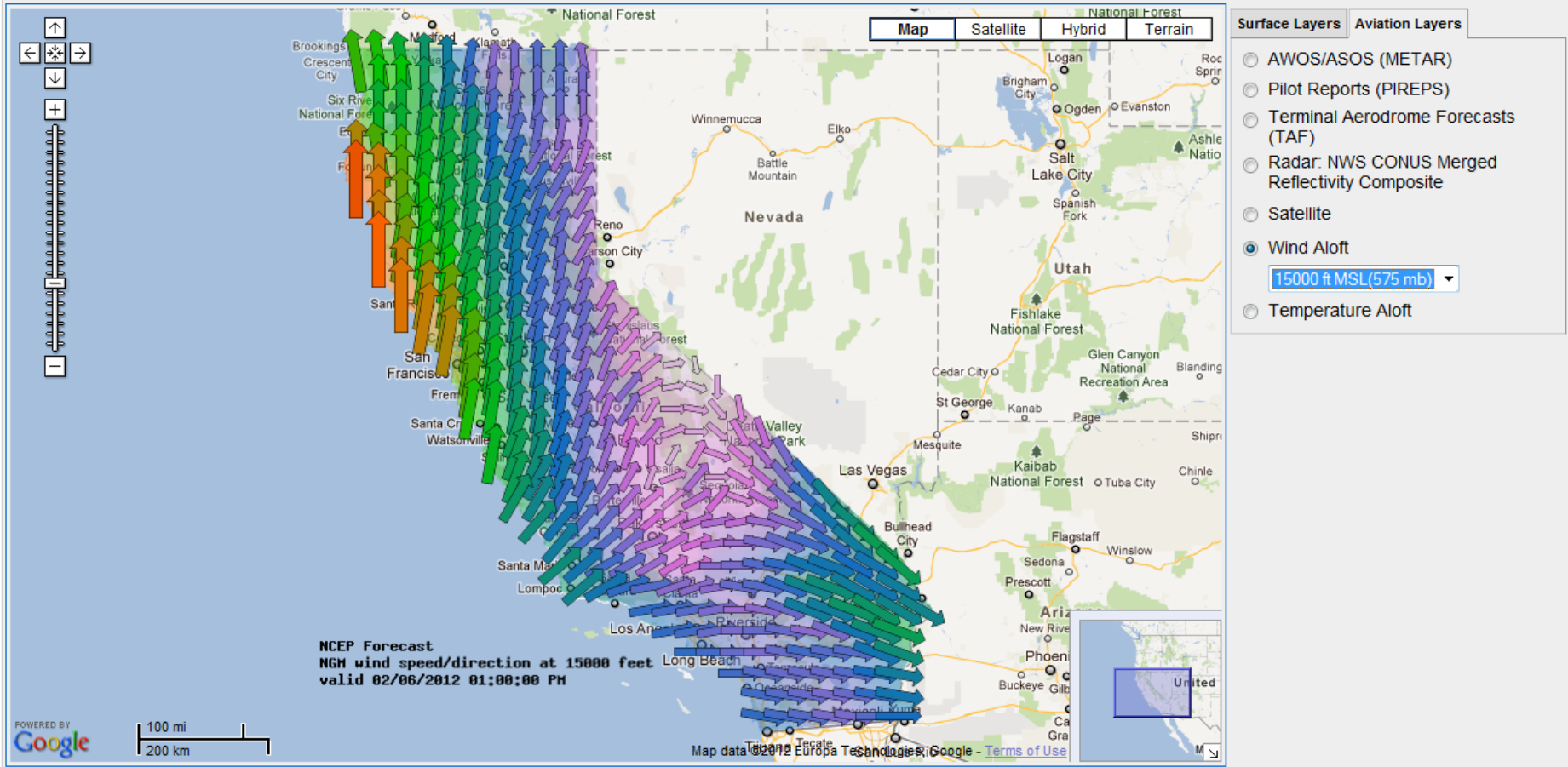


Integration of Aviation AWOS with RWIS

Integration of Aviation Automated Weather Observation Systems(AWOS) with Roadside Weather Information System(RWIS) Demonstration

Map About

Wind Speed/Direction Aloft (15000ft MSL) - 1:00PM Mon Feb 6 PST



© Copyright 2009 [Western Transportation Institute](http://www.westerntransportationinstitute.com), Montana State University - Bozeman

Automated Safety Warning Controller



Redding Responder

Responder Incident Organizer

Summary | Mapping | Photos | Weather | Sketches | Messaging

Incident Closed

Responder Summary:

Organization: Date:

District: Time:

Observer:

Description:

Rockslide 1.5 miles west of Pulga. Includes more than 200 yards of material including some weighing well over 200 tons.

Facility:

Incident Type:

Location:

Latitude: Longitude:

Road / Address:

Mile Marker / Landmark:

City:

County: State:

Responder Incident Organizer

Summary | Mapping | Photos | Weather | Sketches | Messaging

sketch 1 | sketch 2 | **sketch 3** | sketch 4 | sketch 5 | sketch 6 | sketch 7 | sketch 8 | sketch 9

Description:

Pen Color:

email

Maps and Location Data Set to Current Location



sketch 3





Professional Capacity Building (PCB) for Communication Systems



Technology Transfer

- Western States Rural Transportation Technology Implementers Forum (WSRTTIF)
- Consortium Website
- NRITS, etc.

Western States Rural Transportation Technology Implementers Forum (WSRTTIF)



Awards

- ITS America 2007
 - Finalist: Best New Product, Service or Application
 - Redding Responder Project
- National Rural Intelligent Transportation Systems (NRITS) Conference 2010
 - Winner: Best of Rural ITS Awards - Best New Innovative Product, Service or Application
 - Responder System
- National Rural Intelligent Transportation Systems (NRITS) Conference 2012
 - Winner: Best of Rural ITS Awards - Best New Innovative Product, Service or Application
 - Western States Rural Transportation Technology Implementers Forum



Western States
Rural Transportation
Consortium

Home
Projects
RSS

Pooled Fund TPF-5(241)

California Department of Transportation

Nevada Department of Transportation

Oregon Department of Transportation

Washington State Department of Transportation

University of Washington

Western Transportation Institute at Montana State University

Western States Rural Transportation Consortium

Partnership Technology Research Education



Western States Rural Transportation Consortium (WSRTC)

[OVERVIEW](#) | [HISTORY](#) | [CONTACTS](#) | [UPDATES](#) | [PROJECTS](#) | [ARCHIVED UPDATES](#) | [DOCUMENTS](#)

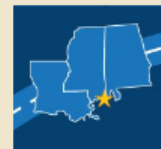
The Western States Rural Transportation Consortium (WSRTC), comprised of California, Oregon, Washington and Nevada, has been established to facilitate and enhance safe, seamless travel throughout the western United States. The Consortium seeks to promote innovative partnerships, technologies and educational opportunities to meet these objectives. Additionally, the Consortium seeks to provide a collaborative mechanism to leverage research activities in a coordinated manner to respond to rural transportation issues among western states related to technology, operations and safety. Consequently, activities of the Consortium are focused on technology transfer/education ([Western States Rural Transportation Technology Implementers Forum](#)) and incubator projects (small scale research projects intended to serve as a "proof of concept" for larger subsequent efforts) centered on the Consortium pillars of technology, operations and safety.

Please visit our project pages and visit this site frequently, as we continue to add content.

Recent Updates:

Thursday
9/8/2012

WSRTC Steering Committee heading to NRITS!



Thursday
7/26/2012

Annual WSRTC Steering Committee meeting held at WSRTTIF.



Wednesday
6/6/2012

WSRTC Steering Committee to meet at the Western States Forum.



Tuesday
3/20/2012

Winter WSRTC Steering Committee meeting held.



Friday
2/3/2012

WSRTC Steering Committee meeting to be held at the NWTC.



Thursday
9/1/2011

WSRTC Steering Committee meeting held.



Check back soon for more Western States Rural Transportation Consortium (WSRTC) updates.

Disclaimer

The contents of this presentation reflect the views of the authors, who are responsible for the facts and the accuracy of the data herein. The contents do not necessarily reflect the official views or policies of the various member States, their respective Departments of Transportation or the Federal Highway Administration. This information does not constitute a standard, specification, or regulation. This information is not intended to replace existing agency mandatory or advisory standards, nor the exercise of engineering judgment by licensed professionals.

Acknowledgements

- California Department of Transportation
- Nevada Department of Transportation
- Oregon Department of Transportation
- Washington Department of Transportation

Questions