

Western States Rural Transportation Consortium Meeting

August 31, 2011

Overview/Agenda

- Welcome / Introductions / Recent ITS Activities
- Clarus One Stop Shop Update
- One Stop Shop Phase 2
- Incubator Concept Paper
- Task Order 1 (travel and website) Update
- Task Order 3 (untitled) Discussion
- Western States Forum Wrapup
- Western States safety device survey discussion
- Other discussions (as needed)

Roundtable of Recent ITS Activities

Clarus One Stop Shop

Broad Agency Announcement No. DTFH61-10-R-00015

- Posted by FHWA on March 15, 2010
- Proposals Due April 14, 2010
- *The goal of this Broad Agency Announcement (BAA) is to support research and scientific study on the use of Clarus System data to improve surface transportation weather management/operations, create innovative interfaces, and/or develop new applications including weather-responsive traffic management tools. The FHWA anticipates making up to seven (7) awards, but reserves the right to make more or fewer than seven (7) awards.*

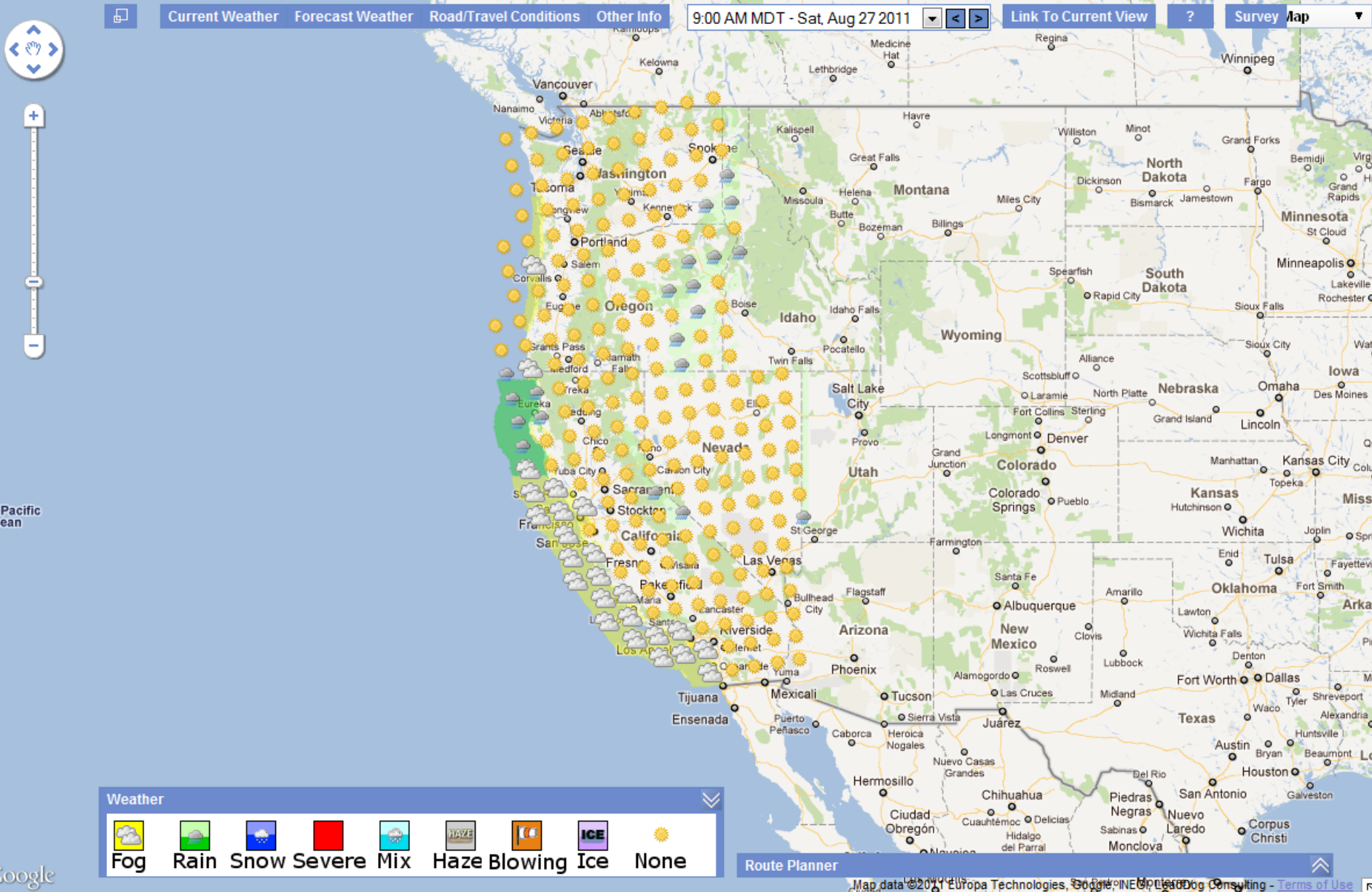
WTI Proposal

- Proposal Submitted on Time
- Included signed letters of support from WSRTC member states: California, Oregon, Washington and Nevada
- GOAL: Expand the One-Stop-Shop Prototype to cover all of California, Oregon, Washington and Nevada
 - ... to address the shortcomings of current (multi-state) web-based weather information sources for travelers (and DOT personnel) ...
- Project awarded on 9/24/2010

Progress


- FHWA and Consortium members were invited to review the site and comment on it via an evaluation survey. We have compiled results to date.
- In general, we have included all of the anticipated data sets, including coverage of Washington with nearly all layers. (Additional layers have been identified.)
- We're working on the final report ...

An Overview ...

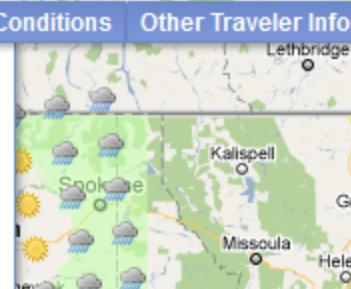


The Layers


Current Weather	Forecast Weather	Road/Travel Conditions	Other Traveler Info
Air Temperature			
Relative Humidity			
1 Hour Precipitation			
24 Hour Precipitation			
AHPS 24 hr Precip.			
Wind			
Clarus Stations			



Current Weather	Forecast Weather	Road/Travel Conditions	Other Traveler Info
	Air Temperature		
	Wind Speed		
	Wind Gust Speed		
	Humidity		
	Sky Cover		
	12-Hour Chance of Precipitation		
	6-Hour Precipitation		
	Snow		
	Weather		



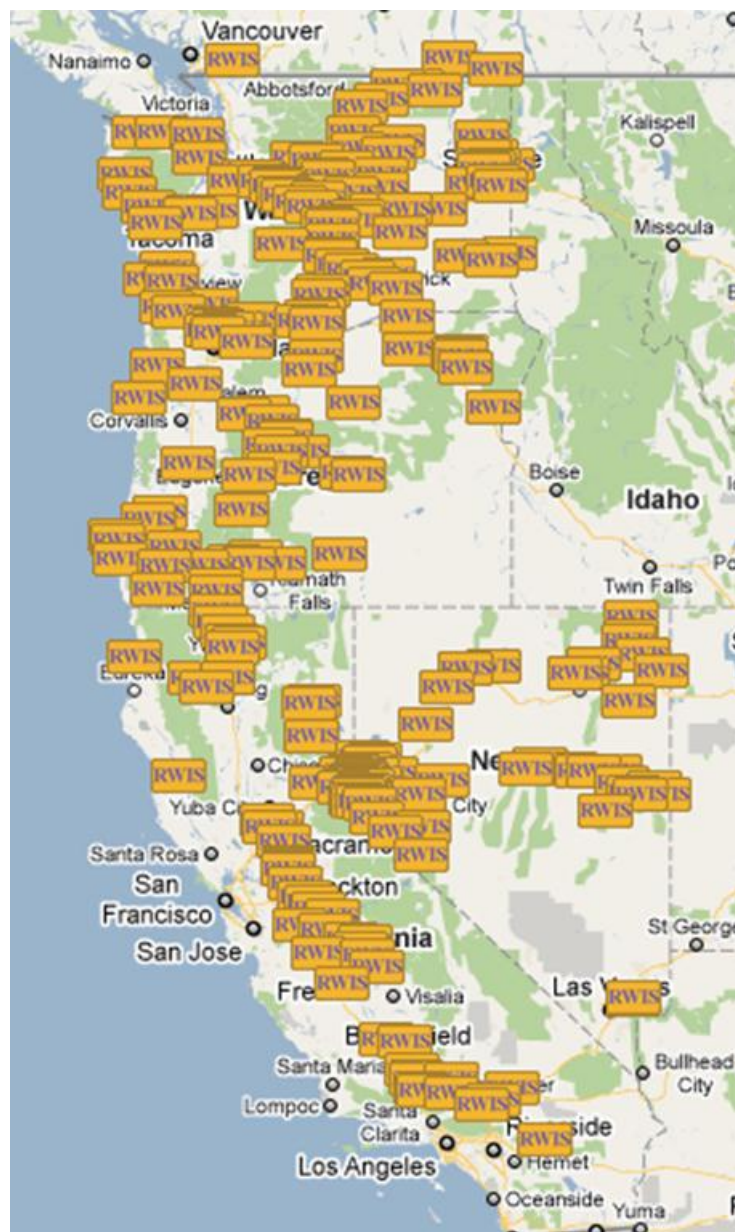
Current Weather	Forecast Weather	Road/Travel Conditions	Other Traveler Info
			Chain Requirements
			Road Information
			Incidents
			CMS
			CCTV



Current Weather	Forecast Weather	Road/Travel Conditions	Other Traveler Info
			Rest Areas
			Features of Interest
			Truck Scales
			Summit Locations

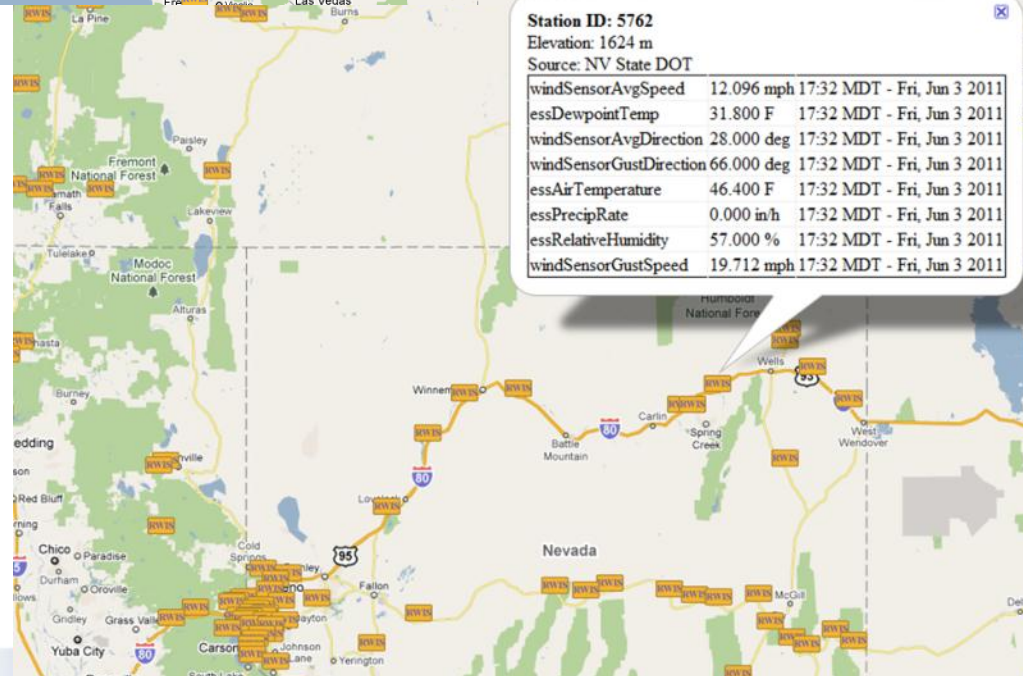


Clarus Data



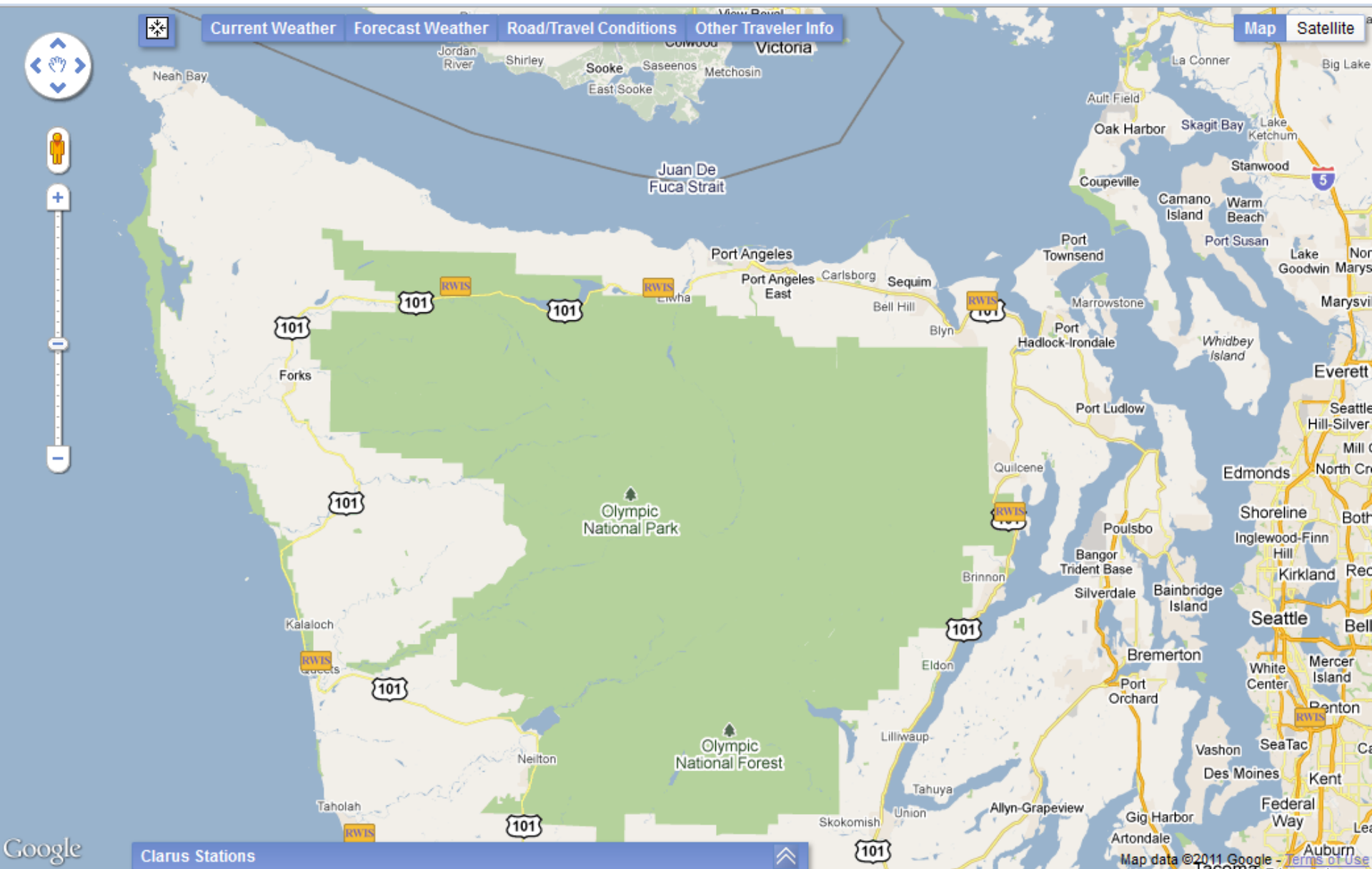
Station ID: 3048
Elevation: 1611 m
Source: CA State DOT

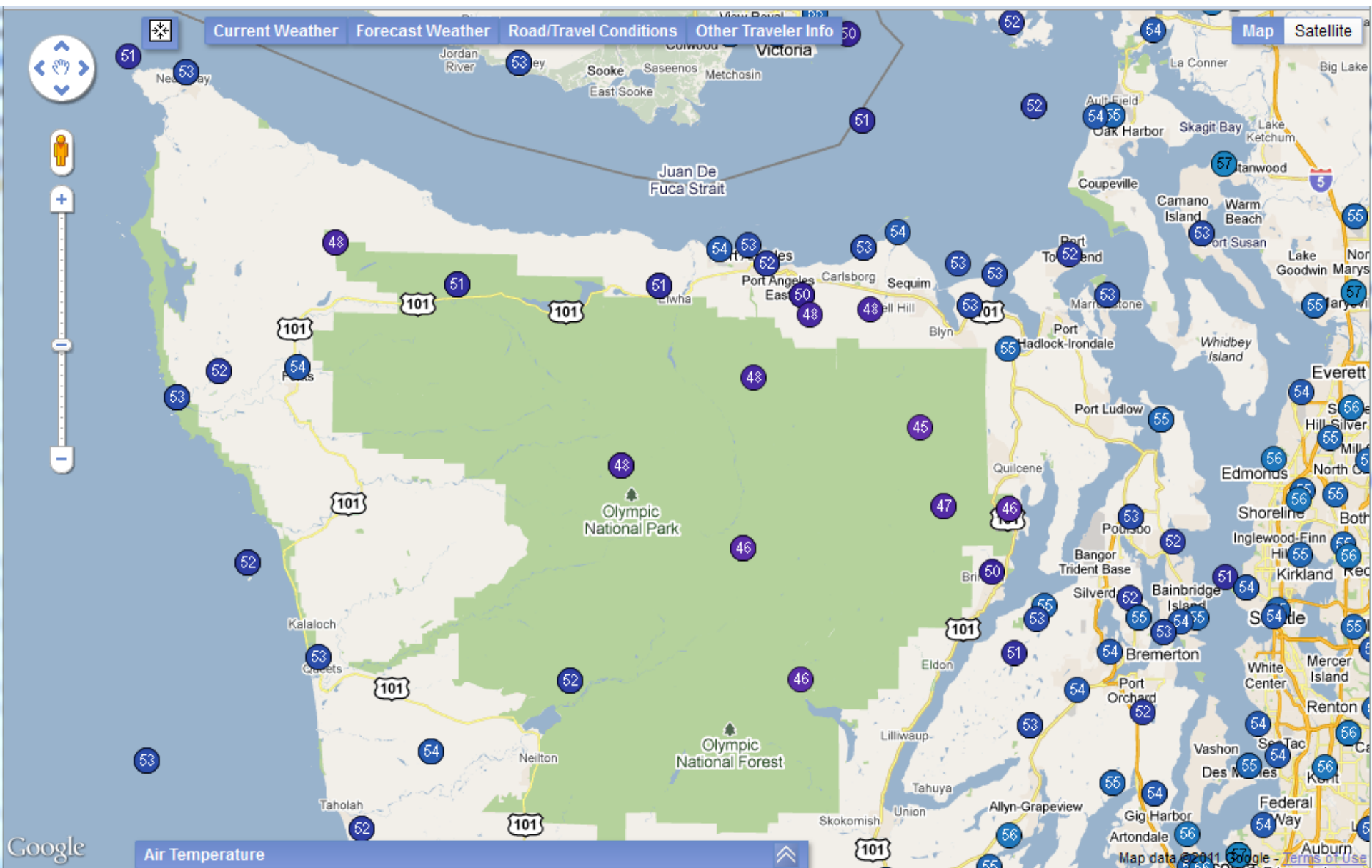
essRelativeHumidity	45.000 %	8:26 AM MDT - Thu, Jun 9 2011
essDewpointTemp	26.600 F	8:26 AM MDT - Thu, Jun 9 2011
precipType	1.000	8:26 AM MDT - Thu, Jun 9 2011
windSensorAvgSpeed	1.243 mph	8:26 AM MDT - Thu, Jun 9 2011
essSubSurfaceTemperature	61.160 F	8:26 AM MDT - Thu, Jun 9 2011
windSensorAvgDirection	75.000 deg	8:26 AM MDT - Thu, Jun 9 2011
windSensorGustDirection	68.000 deg	8:26 AM MDT - Thu, Jun 9 2011
essAirTemperature	46.400 F	8:26 AM MDT - Thu, Jun 9 2011
essSurfaceStatus	3.000	8:26 AM MDT - Thu, Jun 9 2011
essSurfaceTemperature	56.300 F	8:26 AM MDT - Thu, Jun 9 2011
precipIntensity	1.000	8:26 AM MDT - Thu, Jun 9 2011
windSensorGustSpeed	1.243 mph	8:26 AM MDT - Thu, Jun 9 2011



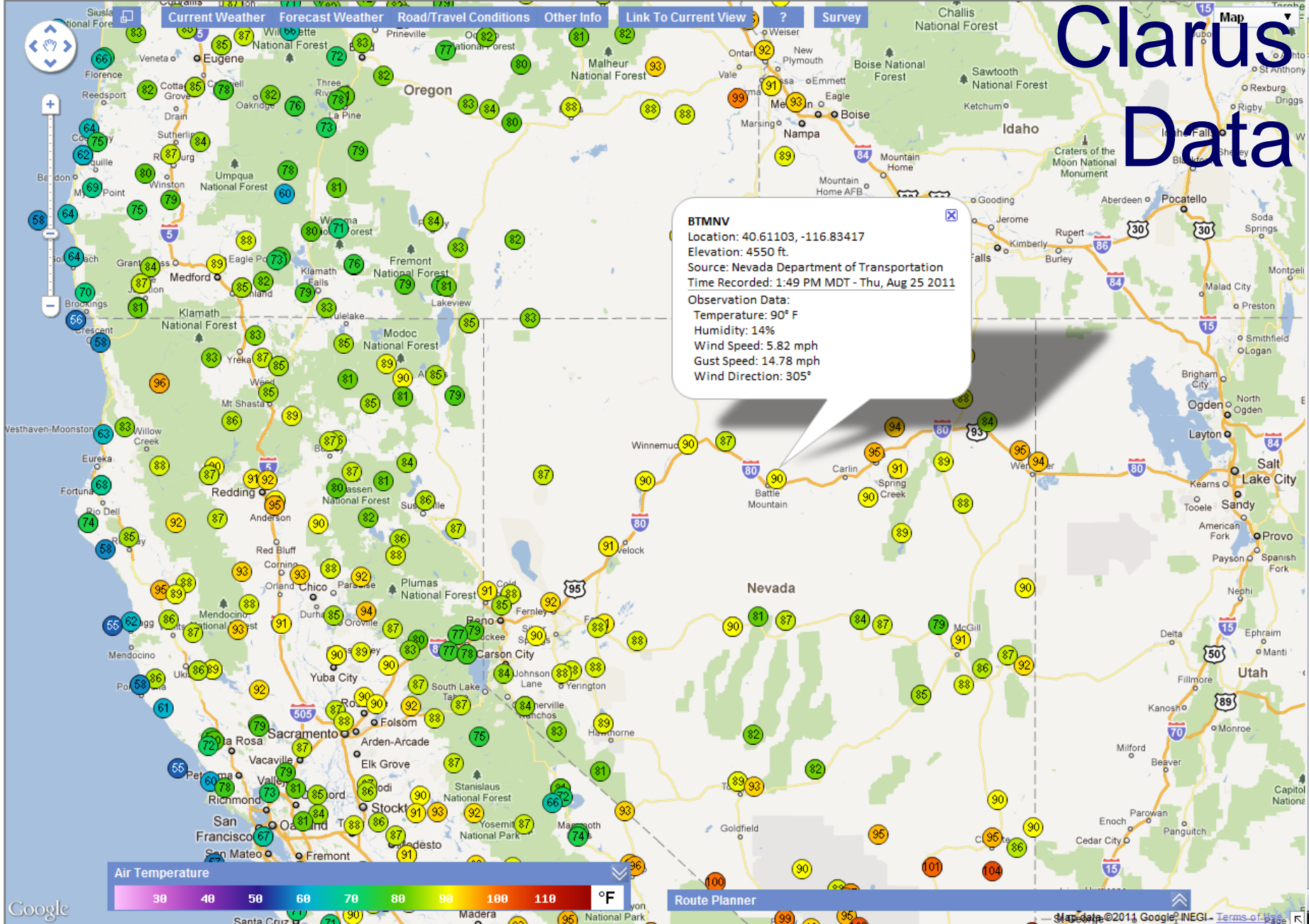
Station ID: 5762
Elevation: 1624 m
Source: NV State DOT

windSensorAvgSpeed	12.096 mph	17:32 MDT - Fri, Jun 3 2011
essDewpointTemp	31.800 F	17:32 MDT - Fri, Jun 3 2011
windSensorAvgDirection	28.000 deg	17:32 MDT - Fri, Jun 3 2011
windSensorGustDirection	66.000 deg	17:32 MDT - Fri, Jun 3 2011
essAirTemperature	46.400 F	17:32 MDT - Fri, Jun 3 2011
essPrecipRate	0.000 in/h	17:32 MDT - Fri, Jun 3 2011
essRelativeHumidity	57.000 %	17:32 MDT - Fri, Jun 3 2011
windSensorGustSpeed	19.712 mph	17:32 MDT - Fri, Jun 3 2011





Clarus Data



CCTV Images



Central Yreka



I-5 at Exit 6 Near Siskiyou Summit

I-5 at Exit 6 Near Siskiyou Summit

Updated: Jun 09 2011 8:05 AM

Looking North



Elevation 4100

TripCheck.com

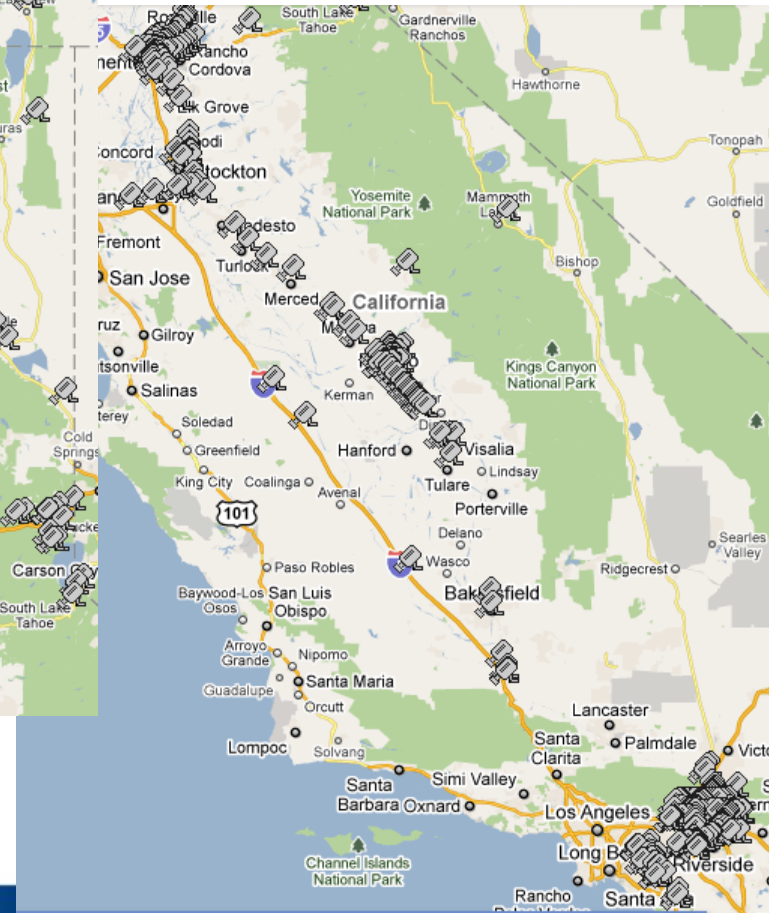
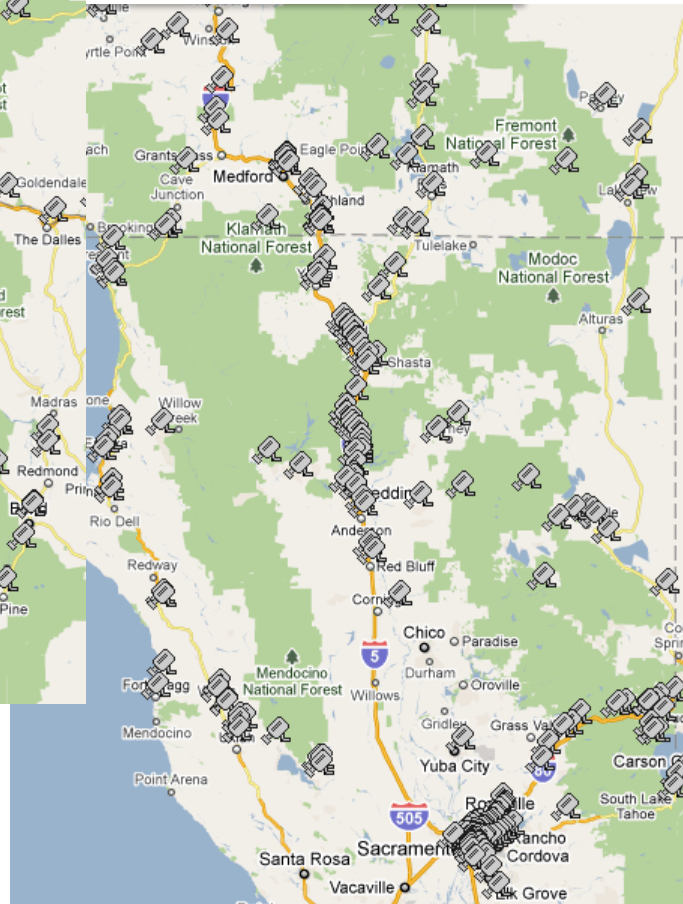
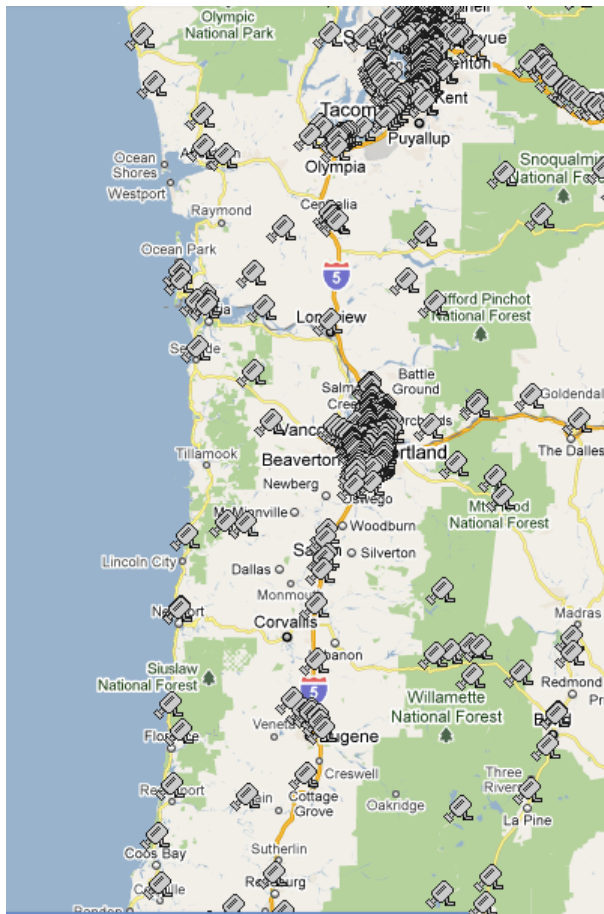
Milepost 5.00

Temperature 51.1F

Wind E

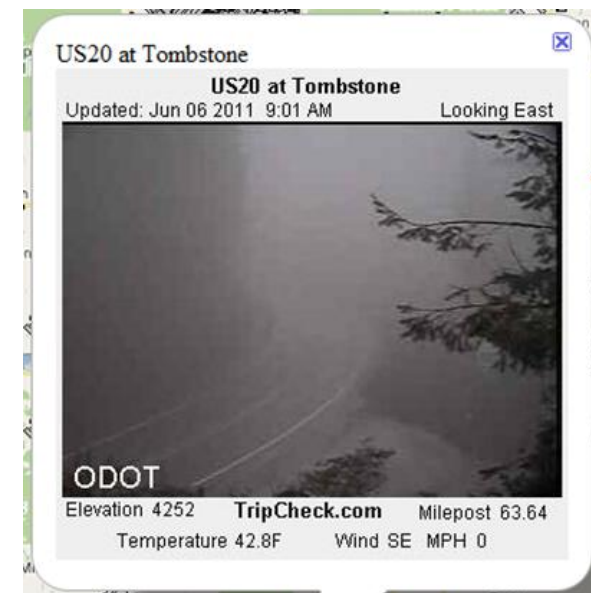
MPH 2

Route Coverage: Los Angeles to Seattle





CCTV Images convey a lot of information ...





Current Weather

Forecast Weather

Road/Travel Conditions

Other Traveler Info

Map

Satellite



CMS

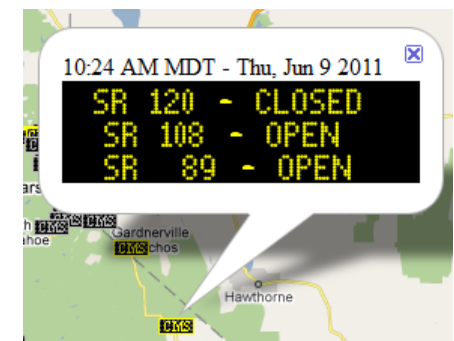
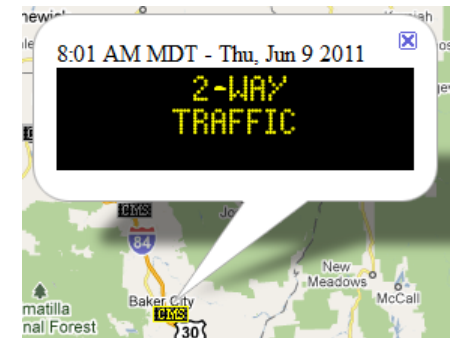
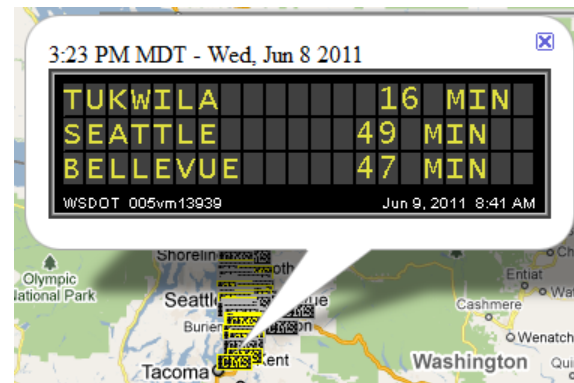
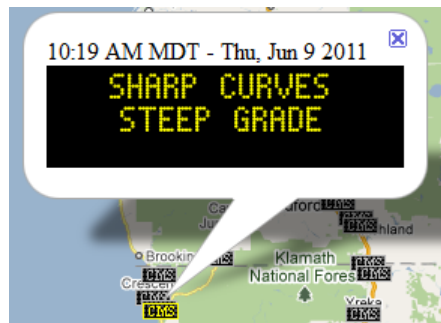
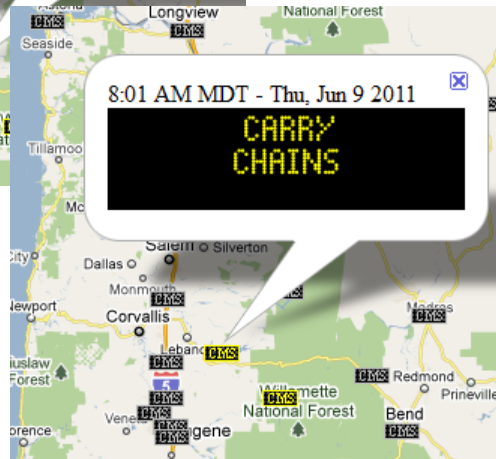
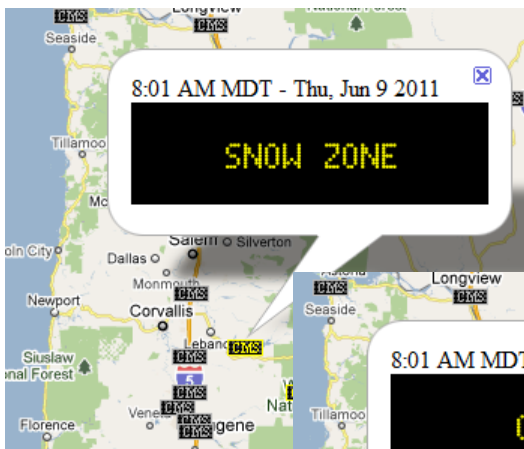
Pacific

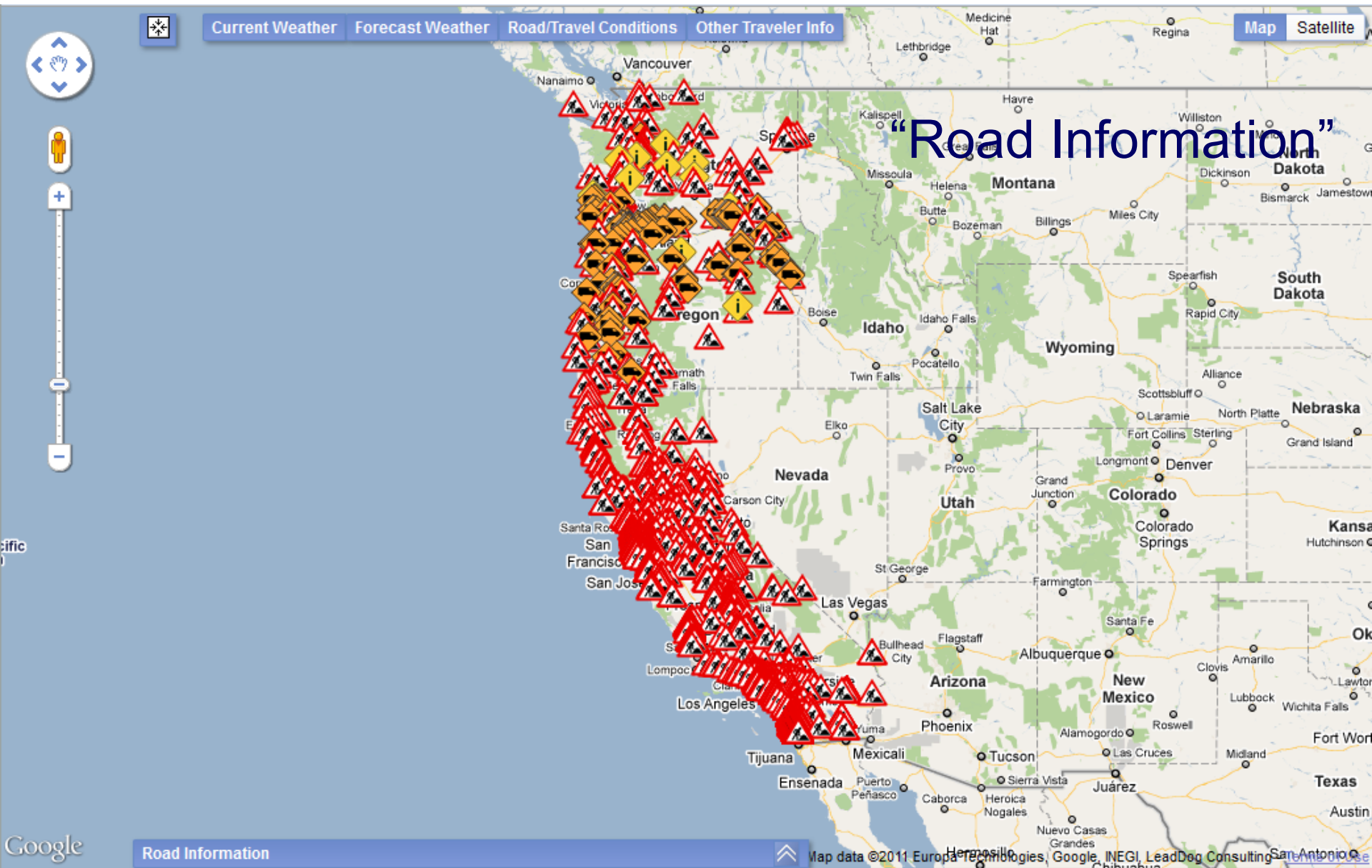
Google

CMS



Map data © 2011 Europa Technologies, Google, INEGI, LeadDog Consulting, San Antonio





HATCHERY CREEK RD

Updated: 5:17 PM MDT - Mon, Jun 6 2011

Type: Construction

Route: 002

Milepost: 91.00

Description: On US 2, west of Leavenworth in Tumwater Canyon Wednesday and Thursday ONLY from 7 a.m. to 4 p.m., on Wednesday and 7 a.m. to noon, on Thursday, expect up to 20 minute delays with single lane flagger controlled traffic while WSDOT Geotech Engineers measure the slope for the steel netting that will be hung when these slopes are stabilized later this summer.

Advice:

UMPQUA

Updated: 8:05 AM MDT - Thu, Jun 9 2011

Type: Maintenance Work

Route: ORE38

Milepost: 18

Severity: Estimated delay under 20 minutes

Description: Traffic control with flaggers for brush cutting crew.

Advice:

Junction w/Route 395 to End of Pavement

Updated: 8:01 AM MDT - Thu, Jun 9 2011

Type: Highway Construction

Route: 270

Milepost: 0

Description: Estimated delay: 20

Advice:

None

Updated: 8:42 AM MDT - Thu, Jun 9 2011

Type: Lane Closure

Route: 090

Milepost: 111.00

Description: Lane Closure for maintenance work on I-90 west bound between milepost 111 to milepost 110 beginning at 7:40 AM on June 09, 2011 until 3:11 AM.

Advice:

PACIFIC

Updated: 8:00 PM MDT - Wed, Jun 8 2011

Type: Commercial Vehicle Information

Route: I-5

Milepost: 0

Severity: Informational only

Description: Effective May 24, 2011, this section of I-5 will be restricted to 16 feet 00 in. in width between the hours of 7:00 AM & 7:00 PM (DAYTIME). Estimated date of completion is June 30, 2011.

Advice:

THE DALLES-CALIFORNIA

Updated: 11:46 AM MDT - Tue, Jun 7 2011

Type: Information

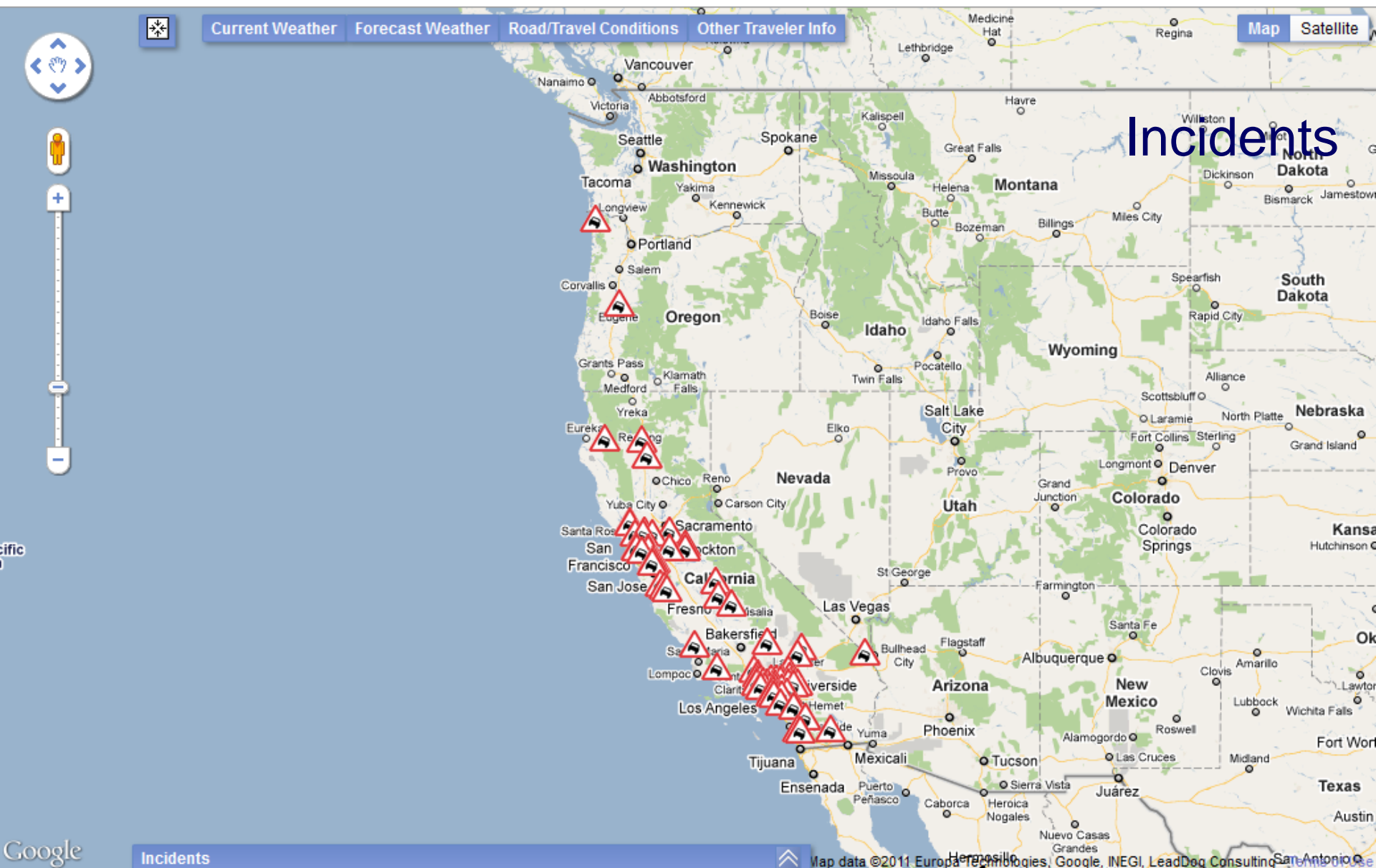
Route: US97

Milepost: 68.9

Severity: Informational only

Description: Cow Canyon Rest Area closed for construction 3/7/11 through 6/25/11.

Advice:



Incidents

Google

Incidents

Map data © 2011 Europa Technologies, Google, INEGI, LeadDog Consulting, Thomas Orsi

NB I5 JSO NORTH ST ON OFF RAMP

Time: 7:29 AM MDT - Thu, Jun 9 2011

Detail:

8:29AM : 1039 PREMIER

7:15AM : VEH ENTERED SVS //FCN/5431116000994 //TC

6:57AM : 1039 CALTRANS

6:57AM : INFO FOR CALTRANS: APX 10 OF GUARDRAIL DAMAGE / END OF GUA

6:54AM : A/C HAS 15 MIN ETA

6:47AM : 1039 SHASCOM / WILL INQ W/ SGT AND ADVISE

6:46AM : PLS ROLL A/C FOR 1 PUPPY/ BOTH OCCUPANTS WILL BE TRANSPORT

6:38AM : 1039 PREMIER TOW

6:38AM : ROLL 1185

6:31AM : VEH IN DITCH ON E/SIDE OF RDWY

6:31AM : 1039 SHA CALFIRE

6:30AM : 1039 SHASCOM

6:30AM : JUST SAW SMOKE AND PEOPLE RUNNING ALSO SAW SKID MARKS

6:29AM : SOLO VEH OFF THE RD

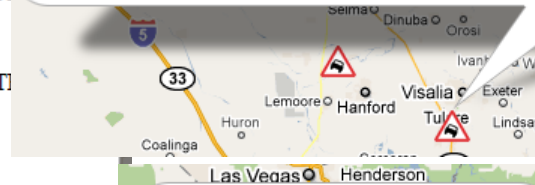
NB SR99 AT PAIGE AV

Time: 10:33 AM MDT - Thu, Jun 9 2011

Detail:

9:33AM : WHI BIG RIG, WITH LG LOAD

9:33AM : BIG RIG HAULING LANDSCAPING ROCK, IS TILTED OVER TO 1 SIDE READY TO FALL

**NECANICUM**

Time: 12:43 PM MDT - Mon, May 23 2011

Route: ORE53

Milepost: 11.25

Type: Crash/Hazard

Severity: Estimated delay under 20 minutes

Detail:

The road surface has collapsed, use caution.

Advice:

WB I10 AT SR177

Time: 11:02 AM MDT - Thu, Jun 9 2011

Detail:

10:02AM : ETA TO OPEN, 1400

10:02AM : AND OFR

10:02AM : CT HAS ONR CLOSED

10:03AM : CHP Unit On Scene

PACIFIC

Time: 5:46 PM MDT - Wed, Jun 8 2011

Route: I-5

Milepost: 175.4

Type: Crash/Hazard

Severity: Estimated delay under 20 minutes

Detail:

A crash has occurred, use caution.

Advice:

SR14 AT CALIFORNIA CITY BLVD

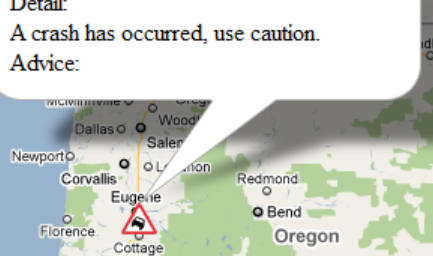
Time: 10:30 AM MDT - Thu, Jun 9 2011

Detail:

9:32AM : 59-1 WILL CHECK LOG 457 FIRST THEN THIS LOG

9:30AM : GOAT OR A SHEEP WALKING IN THE RDWY

9:41AM : CHP Unit Assigned

**SB I5 JNO CAMINO CAPISTRANO**

Time: 9:39 AM MDT - Thu, Jun 9 2011

Detail:

8:55AM : ALL LANES WILL BE OPEN SHORTLY

8:55AM : PER 57, FSP CLEARING EVERYTHING TO THE RS

8:53AM : 1039 S&K

8:51AM : #4 IS BLOCKED

8:50AM : FSP 97 W/ BLK TOYT PK - JNO CAM CAP - FIRE 97

8:44AM : PART BLKG SLOW LN

8:41AM : 1039 STA 91

8:39AM : VEH INTO RS RAILING , BLEW A TIRE

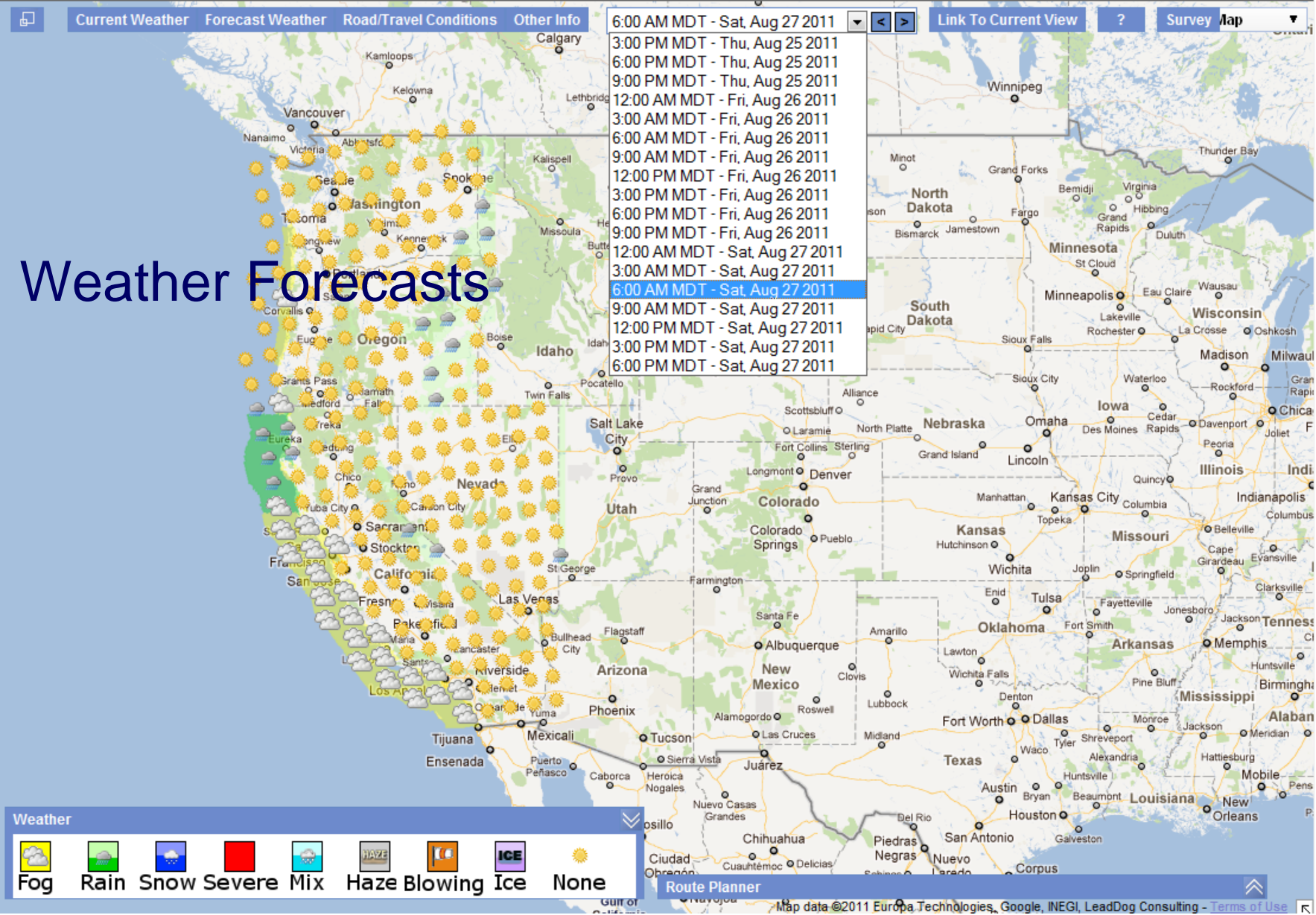
8:50AM : CHP Unit On Scene

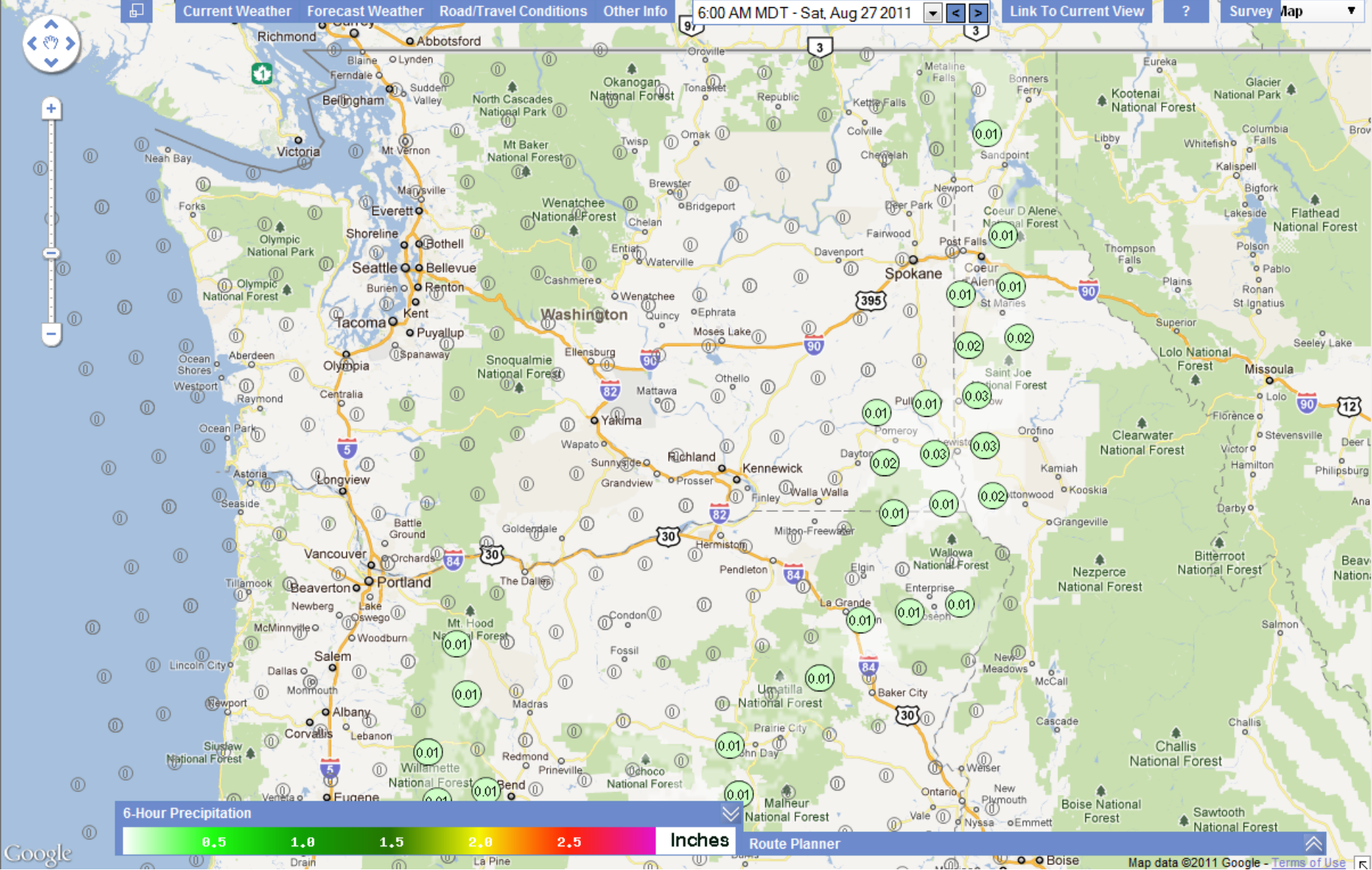
8:56AM : CHP Unit On Scene





Weather Forecasts





Google



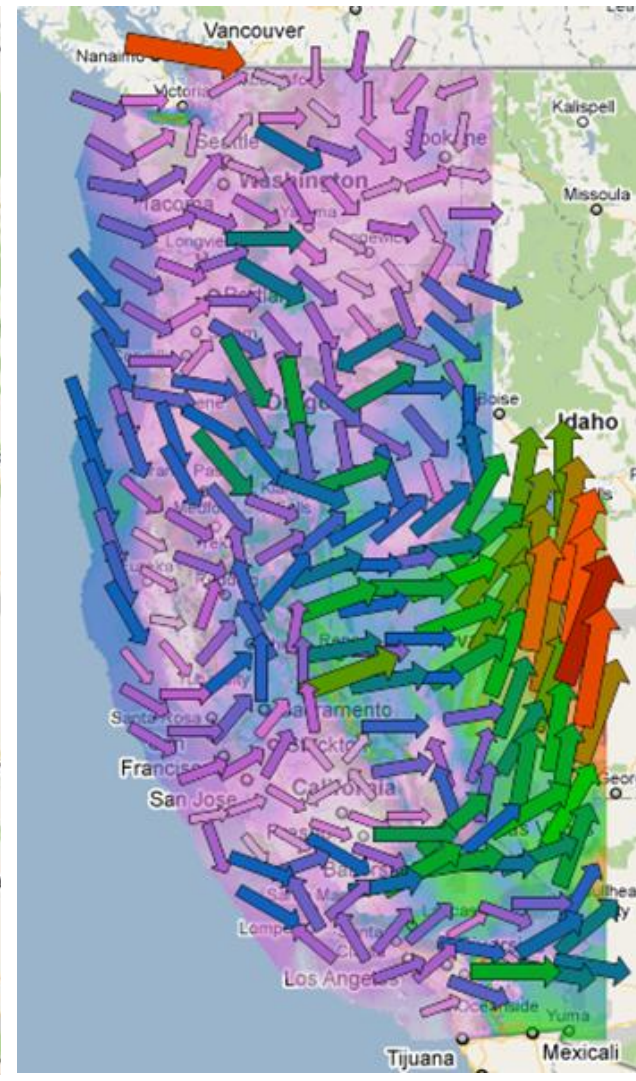
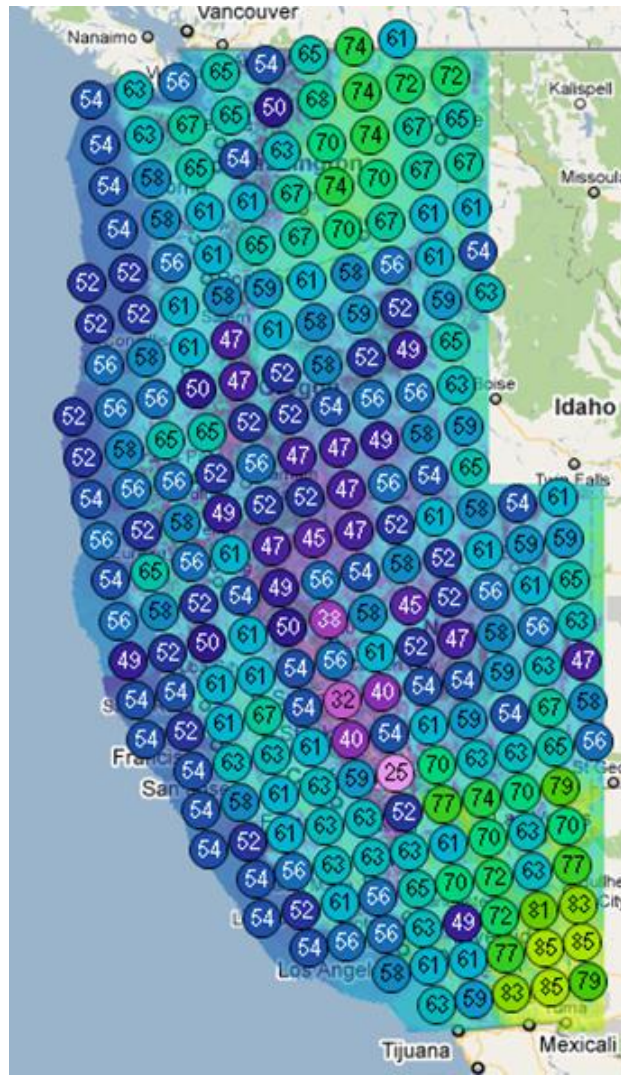
MONTANA
STATE UNIVERSITY

College of
ENGINEERING

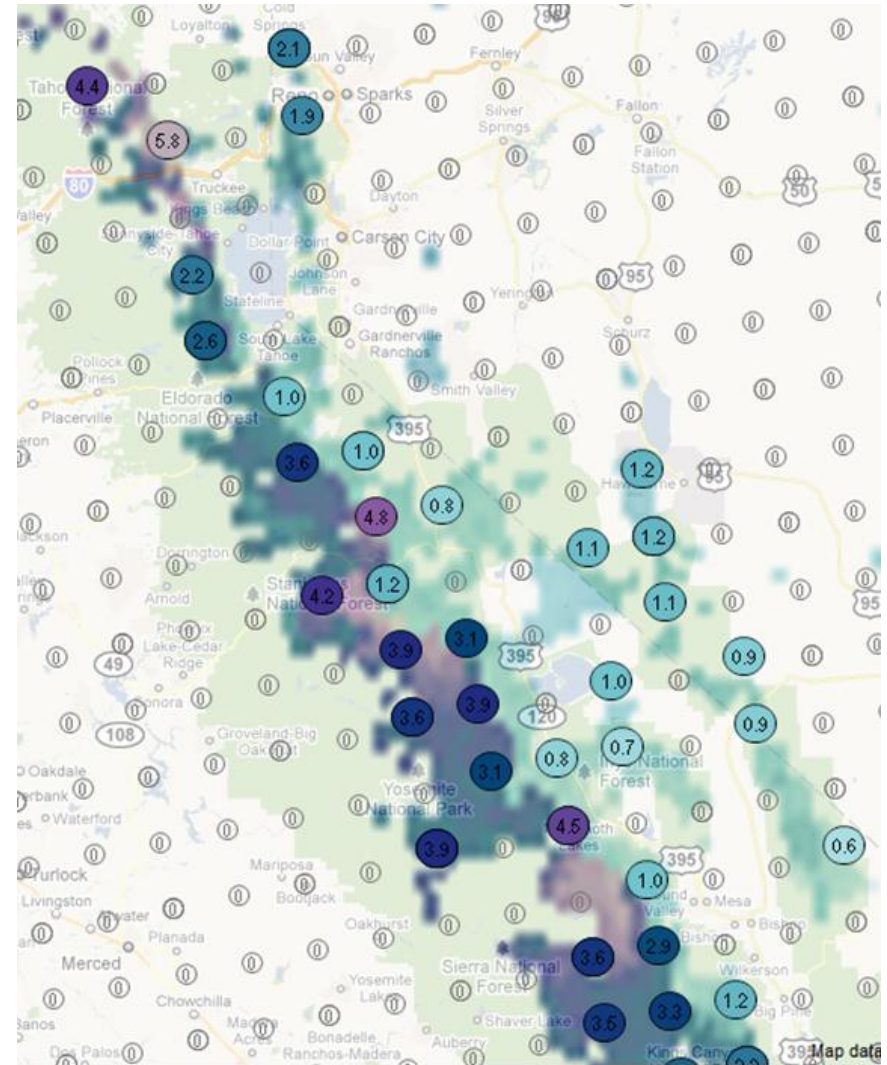
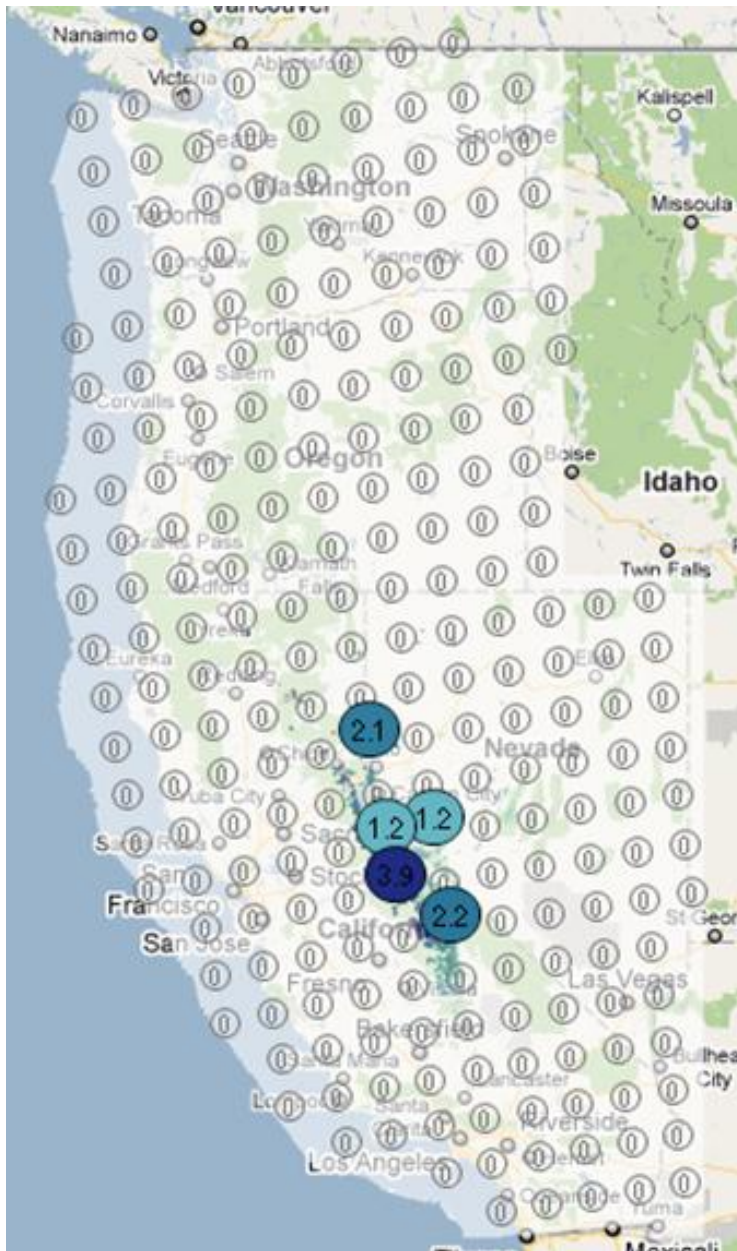
25

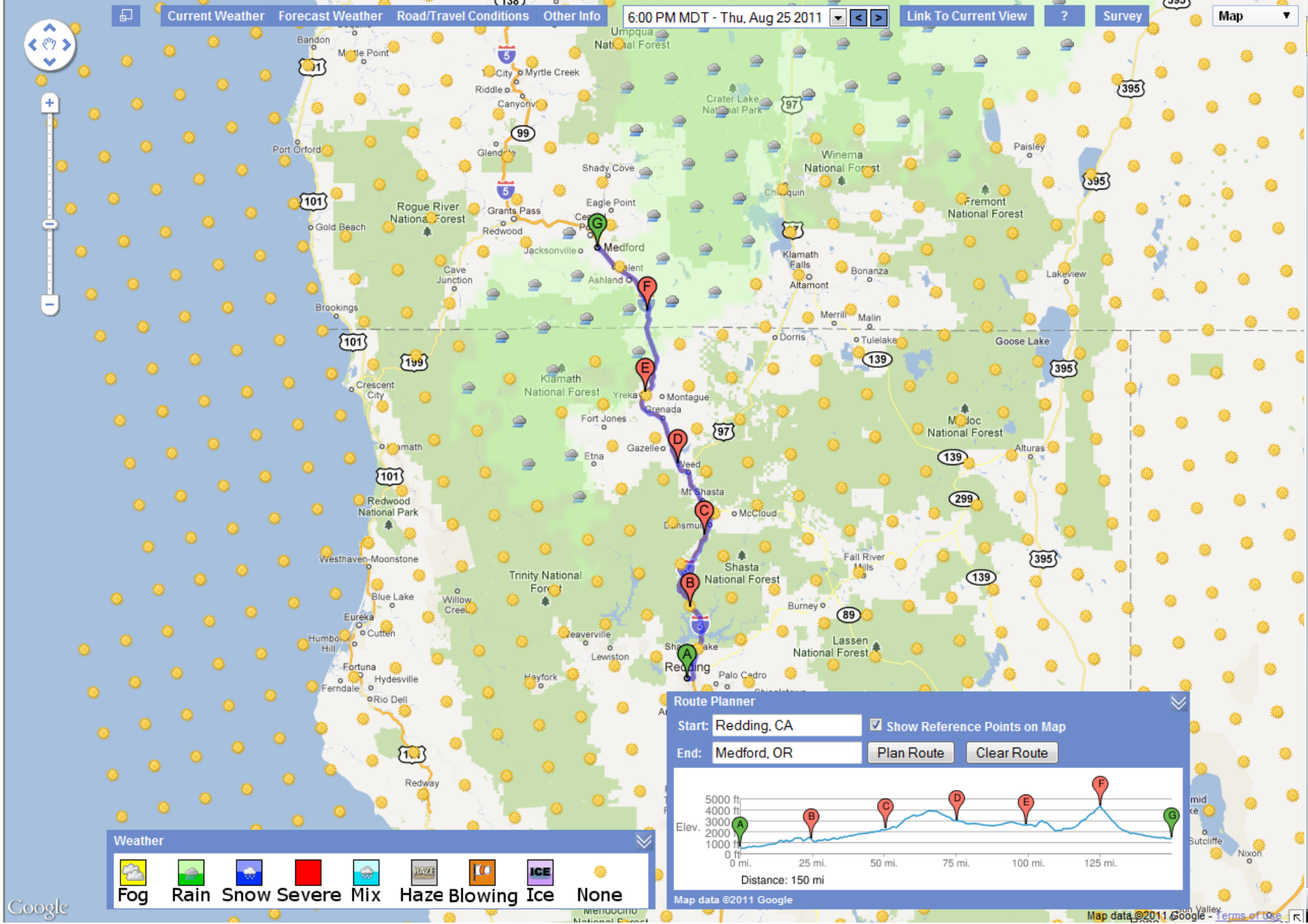
Western Transportation Institute

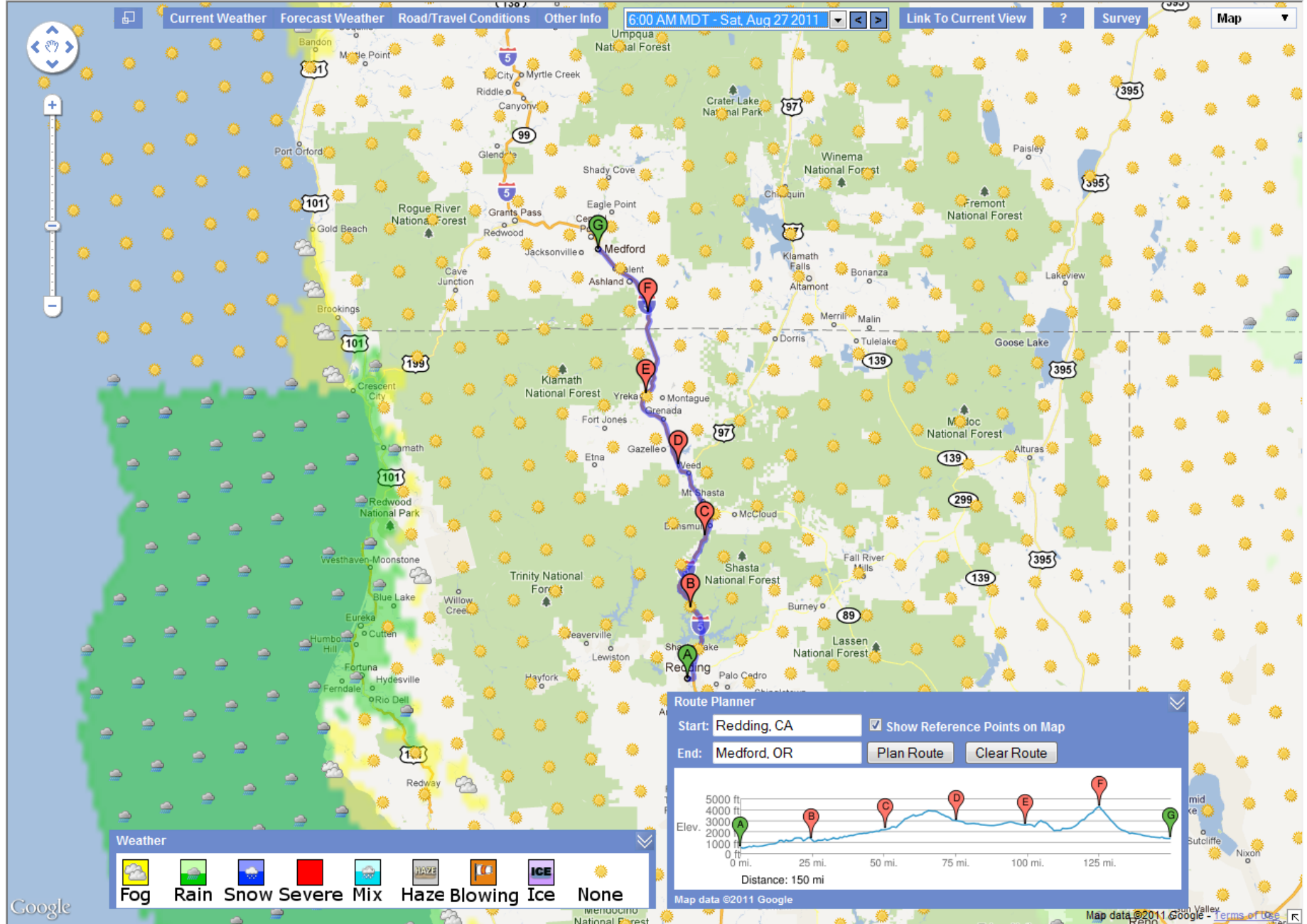
Information at a Glance



Further Detail Upon Zoom







18 - DN 101 PM 20.57 - Cushing Creek - FNB
Updated: 2:59 PM MDT - Thu, Aug 25 2011

SHARP CURVES
STEEP GRADE

Second Screen of Message

18 - DN 101 PM 20.57 - Cushing Creek - FNB
Updated: 2:59 PM MDT - Thu, Aug 25 2011

REDUCE SPEED
NEXT 2 MILES

CMS

Active CMS

Blank CMS

Route Planner

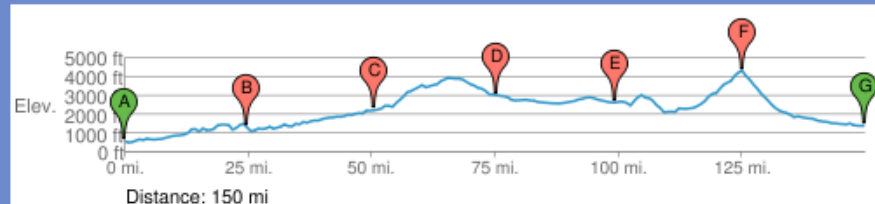
Start: Redding, CA

☒ Show Reference Points on Map

End: Medford, OR

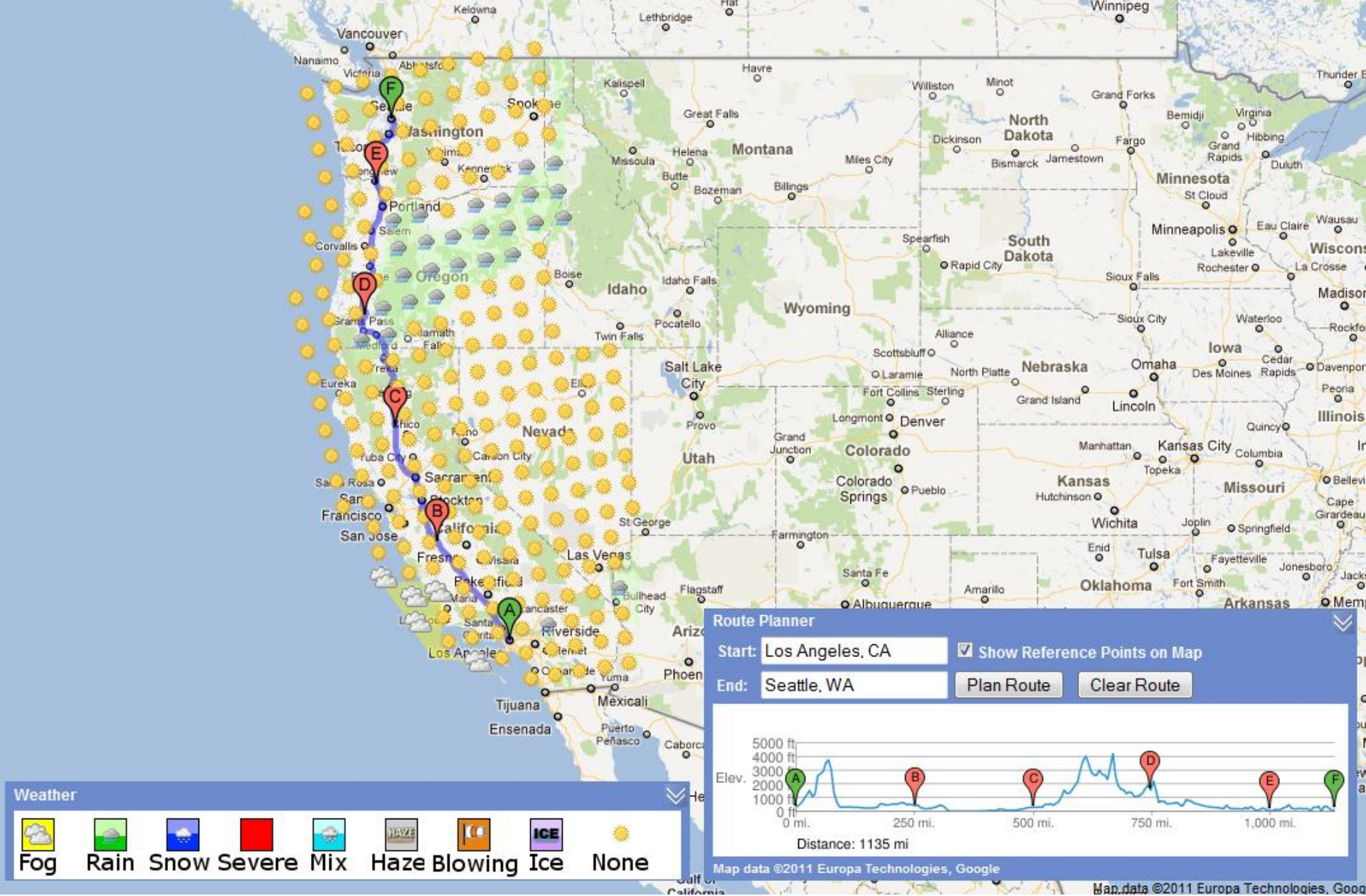
Plan Route

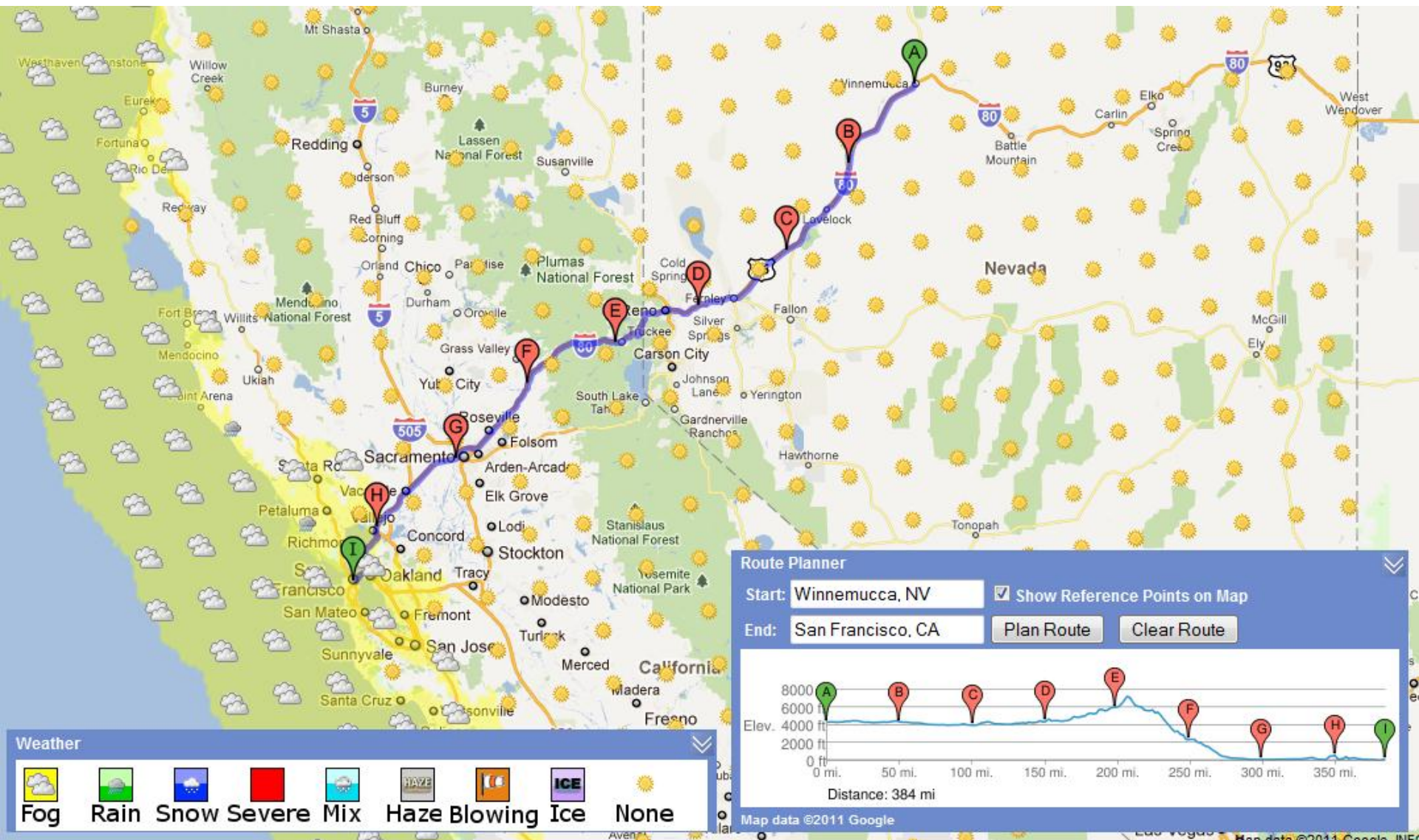
Clear Route



Map data ©2011 Google

Map data ©2011 Google





Clarus OSS on
the big screen
in the Caltrans
Division of
Research and
Innovation
lobby in
Sacramento



Photo by Sean Campbell

Brief Live Demonstration

- If time, network, etc. allow ...

Clarus OSS

- Survey results
 - Total of 13 responses – somewhat expected
 - Responses received from California, Nevada, Oregon, Washington State and Washington, D.C.
 - Survey feedback complimented by data from Google Analytics

Clarus OSS

- User visitation

How often do you visit the website?	Response Percent	Response Count
First time visitor	76.9%	10
Website is open all the time	0.0%	0
Hourly	0.0%	0
Daily	0.0%	0
Weekly	23.1%	3
Monthly	0.0%	0
Other (please specify)		0

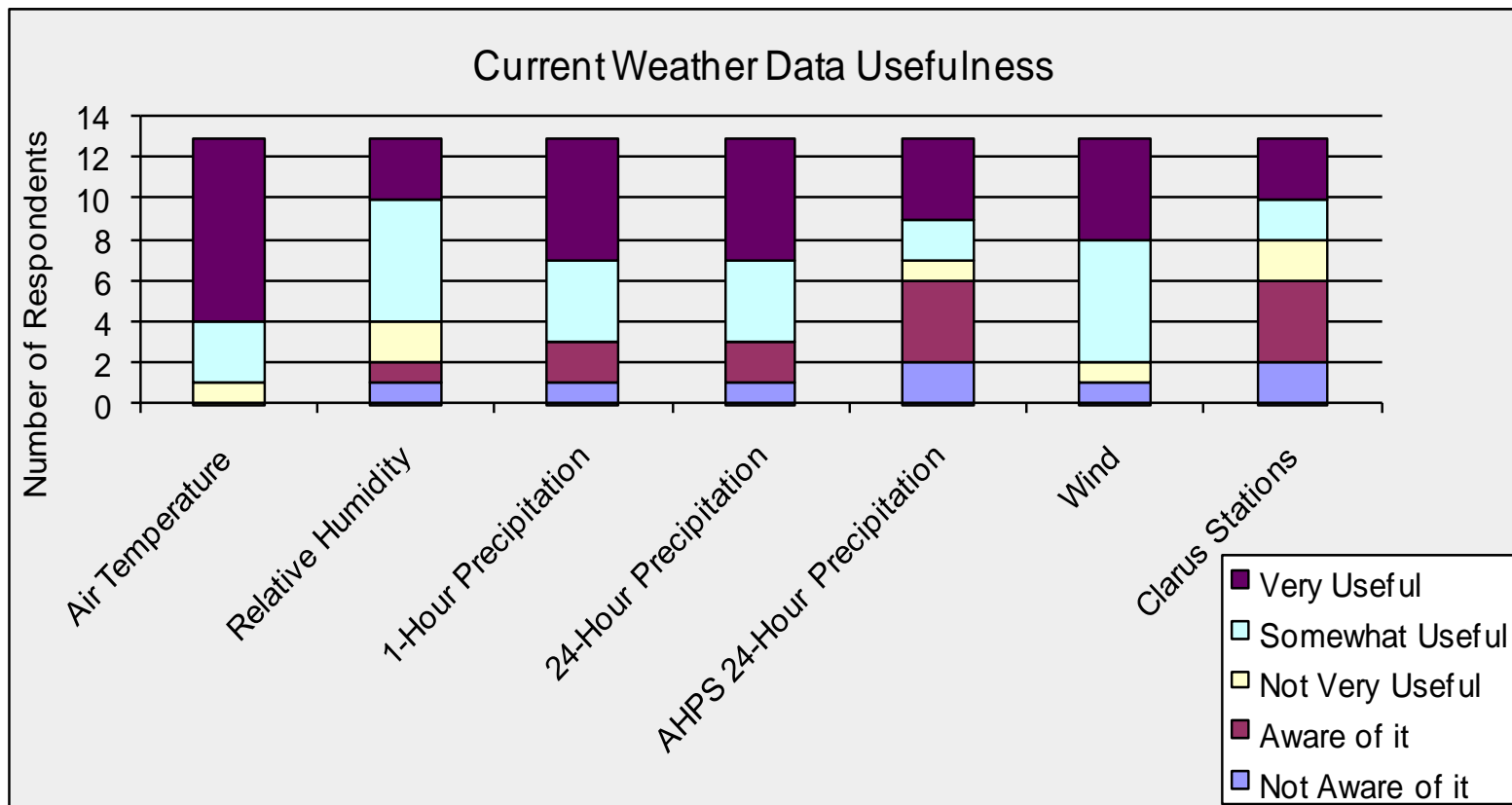
Clarus OSS

- Uses of information

When/why will/do you use (or intend to use) the information?	Response Percent	Response Count
Trip planning	92.3%	12
Under changing conditions only	23.1%	3
During incident conditions (storm/fire etc)	61.5%	8
Daytime hours	15.4%	2
Nighttime hours	15.4%	2
Other (please specify)		1

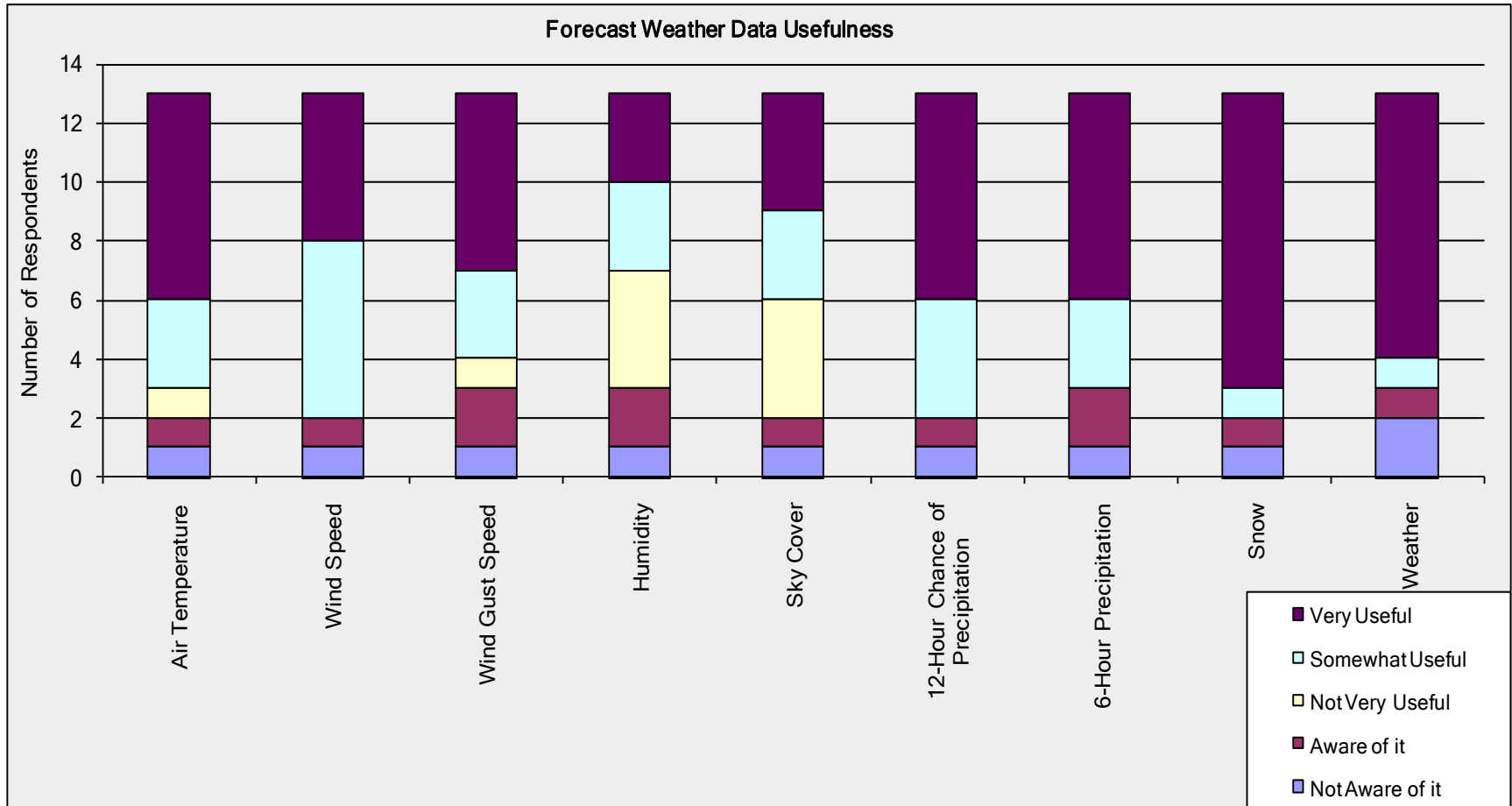
Clarus OSS

- Utility of Current Weather Data



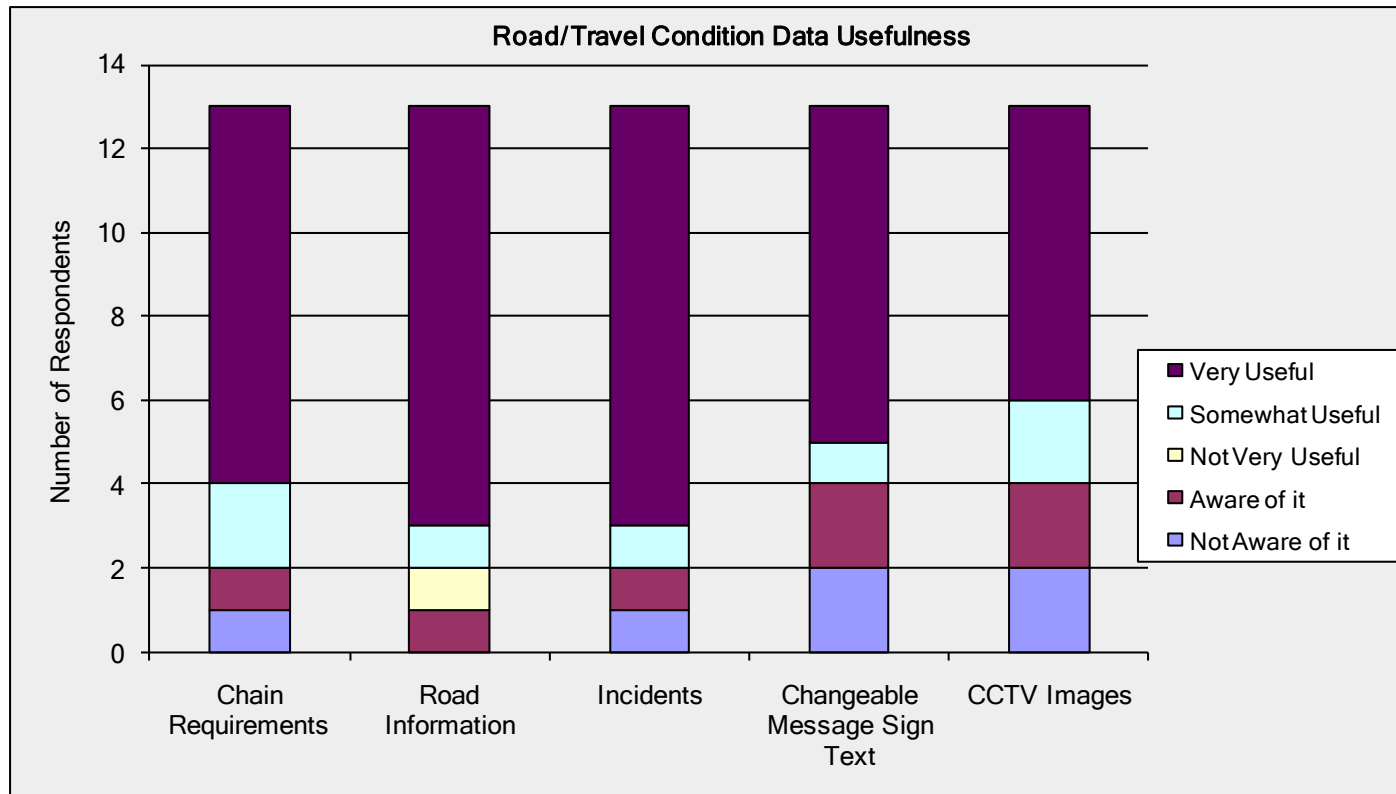
Clarus OSS

- Utility of forecast weather data



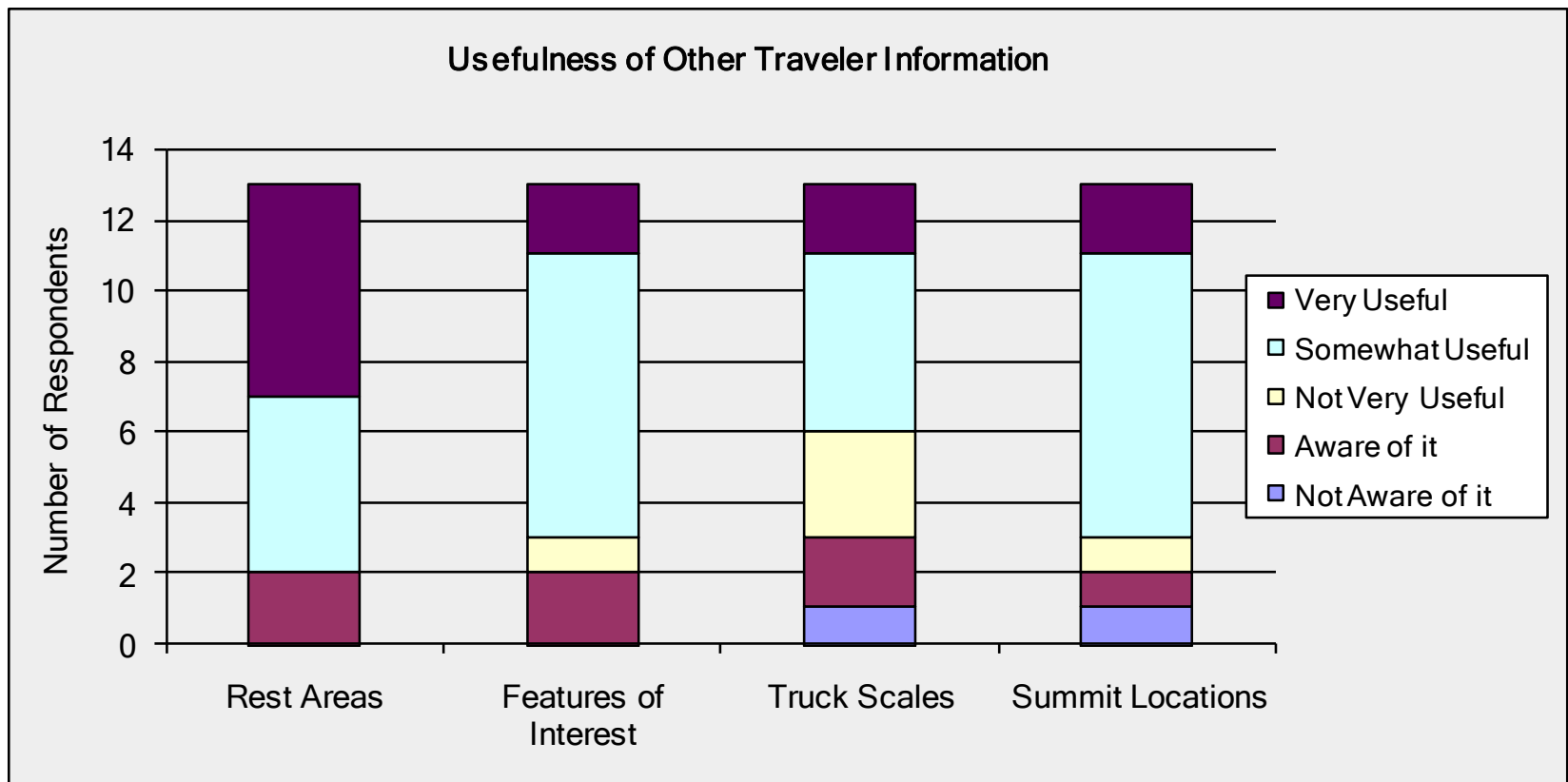
Clarus OSS

- Utility of Road/Travel Condition data



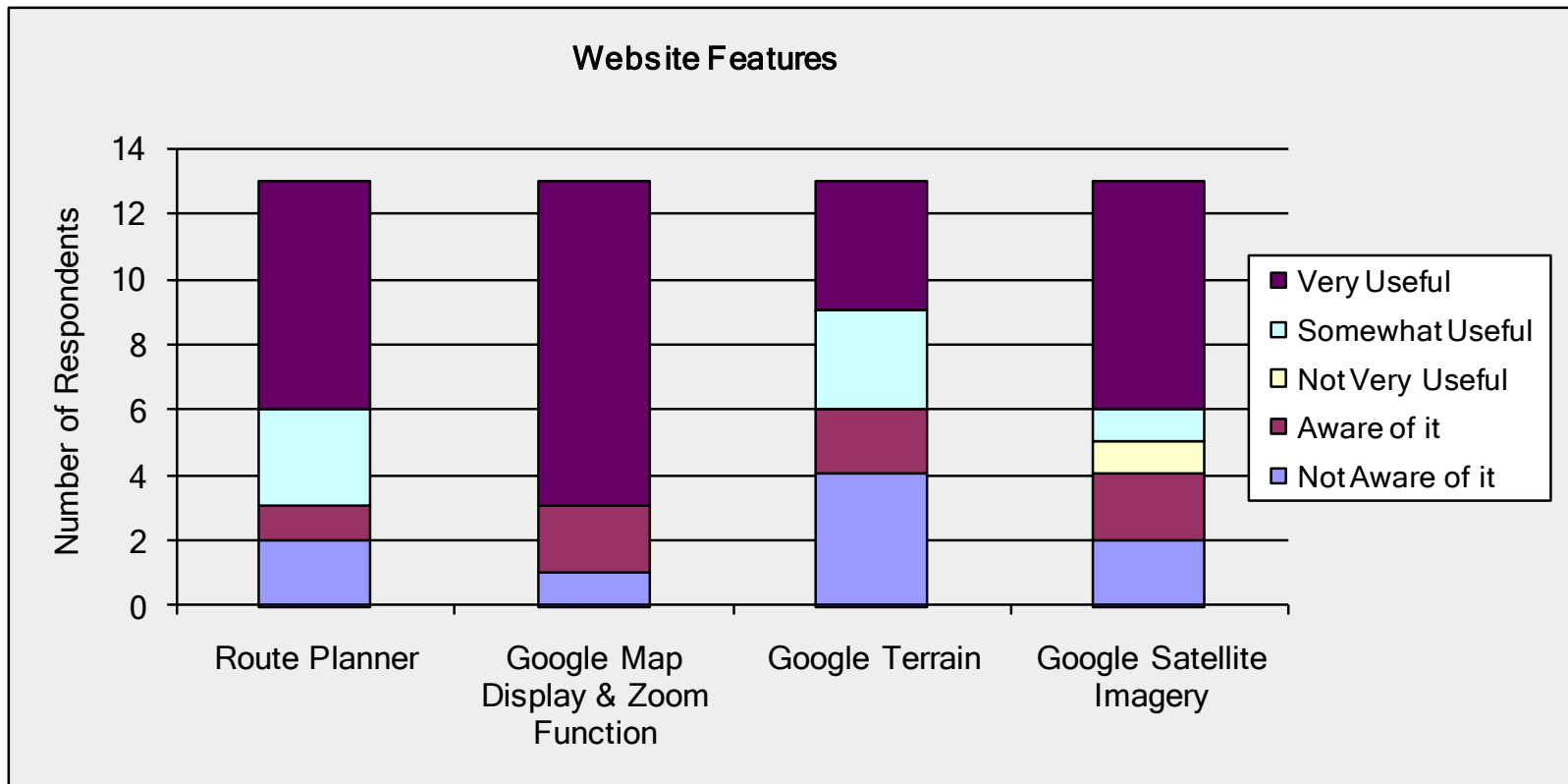
Clarus OSS

- Utility of other data



Clarus OSS

- Website features



Clarus OSS

- Website perceptions

Perceptions of website	Strongly Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Strongly Disagree	Count
The site is well organized and user friendly.	6	7	0	0	0	13
The site presents the right amount of information.	5	6	1	1	0	13
I would like to see additional information added.	2	2	5	4	0	13
I would like to see less information presented.	0	3	2	6	2	13
Information should be presented in a different format than the current one.	1	2	3	6	1	13
I find the information presented timely and useful.	9	3	1	0	0	13
I find the information presented accurate and understandable.	7	6	0	0	0	13

Clarus OSS

- Feedback on additional data

- *Highway Advisory Radio activation and messages.*
- *Nothing additional, very good content.*
- *There are no Features of Interest for Washington State. Please add.*
- *"It was confusing where some of the functions required that you click on the icons to obtain information whereas other "icons" were actually the information. There's a bit of a Human Factors element going on here. I realized it after playing with the site, but I wonder if a wider audience might become more easily frustrated.*
- *You may want to consider for the static icons indicating the unit of measurement on the drop down menu (i.e. Celsius vs. F).*
- *More States included, this is an incredible tool and I would use it even more if I could use this for more states. Great job team! Very practical and intuitive! I'm sharing this with everyone that I know who travels in those regions!*
- *Continuous profile of weather forecast. Especially precipitation and alerts for potential ice/chain control on roadways.*
- *Under the "Road/Travel Conditions" tab I would like to see flow data available as an option. WSDOT data is available through our API at: <http://webpub3qa.wsdot.wa.gov/traffic/api/>*

Clarus OSS

- Benefits of website

- *Weather on route I'm taking, information on potential travel delays.*
- *Pre-trip planning and the ability to actually view conditions (CCTV, Chain Control, CMS, etc.) along a route seamlessly.*
- *Provides information concerning road conditions and weather forecasts on one website.*
- *Being able to actually see the road and weather conditions via the CCTV images is great. Seeing the things that could affect travel, such as incidents and construction, right on the map is definitely useful. The terrain is also interesting and gives a good perspective. The wind display is just cool.*
- *Information for road travel.*
- *Weather hobbyist and amateur radio operator. This site will be interesting from a hobby point of view and will be helpful during bad weather.*
- *Current and future weather conditions along planned route. Current incidents and future/ongoing roadwork along planned route.*
- *There are so many, I love that you can see the CMS signs, that gives great data to a traveler, and to be able to see them in advance, awesome, The weather forecast data was very useful as was the current weather data. I love all of the different features on here.*
- *Trip planning.*

Clarus OSS

- Website improvements

- *The route planning box covers up part of the route on my screen. If planning box could be moved rather than the map being moved on the screen reading would be easier.*
- *More information in Nevada. Alerts. Quality control or flags? Current weather sky cover.*
- *It was hard to understand some of the coding for the areas cited, for instance when looking at the temperature for a certain area.*
- *Road Information has too many flags. Noticed that one closure had hundreds of flags going along the length of the closure. It is too much and overkill. Is there a way to separate out the daytime and nighttime closure? There's generally a lot more nighttime closures which overpowers the daytime closure flags. Most commuters/non-commercial drivers are only interested in daytime closures.*
- *I have accessed this site from different PCs/networks and load and refresh rates seem a bit sluggish. This will not inhibit me from using the site.*
- *Present "Route Planner" more prominently and, as an option, limit Road/Travel Condition icons to the planned route only. The temp and other weather circle icons on the map make it very busy. Try making the weather and temperature "circles" an optional display or another alternative is to simply remove the circles and use text only on a color map.*
- *Again, I thought it was very intuitive, I would just like to see it include more states to add to its usefulness*
- *User guide videos (short 1-3 mins) will be useful as well because I don't think we are used to having this much useful information in one place!*
- *Currently you can only see one "Road/Travel Condition" element at a time. It would be nice if these features were layers on the base map that could be overlayed, enabling us to see several different features concurrently.*

Clarus OSS

- Website improvements

- *There is a lot of potential with this project. The work done to date is very good. Speed and performance are much improved. Weather info is useful and the forecast info is good. Need to do quite a bit of work on the look and feel. Menu at top is disjointed and is distracting - make one blue bar across the top with the pull downs. Need to launch with elements and other road related conditions first. Weather is important but should be secondary to the elements (meaning it is all there as it is now but you go to it generally after you have looked at the elements and what is happening on your route). Should come up with elements first (CCTV, CMS, RWIS, HAR, Construction, Chain Control and Incidents) and at a zoom level that is workable. Don't try to show the entire region on the big map upon launching the site. Use a small map (shows just the entire WSRTC region) on the right that has a movable box showing the area covered by the big map. When a new user gets into the site, determine where they are from by their ISP and orient the big map location using that info. They can then move where they want from there (using the small right hand map or on the big map) and adjust the zoom level on their own. When the route planner is launched, show the route on the small map (in addition to part of the route covered on the big map) and orient the big map at the starting point of the route. Try to show the markers associated with mountain passes along the route. I have a few other things we can discuss later.*

Clarus OSS

- Site visits

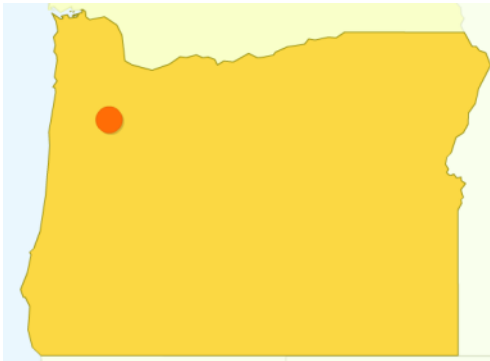
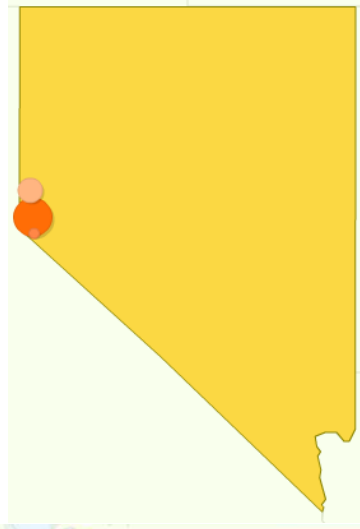
Day	Visits
Wednesday, August 3, 2011	55
Thursday, August 4, 2011	28
Friday, August 5, 2011	32
Saturday, August 6, 2011	0
Sunday, August 7, 2011	2
Monday, August 8, 2011	43
Tuesday, August 9, 2011	13
Wednesday, August 10, 2011	7
Thursday, August 11, 2011	8
Friday, August 12, 2011	4
Saturday, August 13, 2011	2
Sunday, August 14, 2011	0
Monday, August 15, 2011	10
Tuesday, August 16, 2011	11
Wednesday, August 17, 2011	12
Thursday, August 18, 2011	5
Friday, August 19, 2011	6
Saturday, August 20, 2011	3
Sunday, August 21, 2011	3

- Location and duration

Region	Visits	Avg. Time on Site (sec)
Montana	121	514.51
Washington	45	424.97
California	32	158.03
Nevada	27	331.77
Oregon	10	587.90
Texas	2	413.00
Colorado	2	367.50
District of Columbia	2	2713.50
New York	1	0.00
New Mexico	1	1197.00

Clarus OSS

- Access locations



Clarus OSS

- Access and compatibility

Browser	Visits	%
Internet Explorer	118	0.483607
Firefox	69	0.282787
Chrome	21	0.086066
Safari	20	0.081967
Opera	11	0.045082
Android Browser	5	0.020492

Operating System	Visits	%
Windows	215	0.881148
iPad	13	0.053279
Macintosh	6	0.02459
Android	5	0.020492
(not set)	2	0.008197
iPhone	2	0.008197
Linux	1	0.004098

Clarus OSS

- Browser versions

Internet Explorer Versions:		
Browser Version	Visits	%
8	60	0.508475
7	51	0.432203
9	5	0.042373
6	2	0.016949
Firefox Versions:		
Browser Version	Visits	%
5.0	28	0.405797
5.0.1	25	0.362319
3.6.18	6	0.086957
3.6.20	4	0.057971
4.0	3	0.043478
3.6.17	1	0.014493
4.0.1	1	0.014493
6.0	1	0.014493

Chrome Versions:		
Browser Version	Visits	%
13.0.782.107	14	0.666667
12.0.742.122	3	0.142857
13.0.782.112	3	0.142857
12.0.742.112	1	0.047619
Safari Versions:		
Browser Version	Visits	%
6533.18.5	15	0.75
534.5	3	0.15
532.2	1	0.05
534.8	1	0.05
Opera Versions:		
Browser Version	Visits	%
11.5	11	1

Clarus OSS

- Marker event selections
- Layer event selections

Event Action	Total Events
CCTV	394
Air Temperature	166
Incidents	158
CMS	157
Road Information	89
Clarus Stations	33
Features of Interest	20
Summits	15
Chain Control	14
Wind	8
Rest Areas	5
Truck Scales	4
Humidity	3
Precip 1hr	3
Precip 24hr	3
Weather	2

Event Action	Total Events
CCTV	76
Incidents	67
Road Information	62
CMS	61
Air Temperature	48
Temperature	36
Wind Speed	34
Clarus Stations	26
Features of Interest	23
Rest Areas	23
Chain Control	22
Wind Gust	22
Wind	21
Weather	20
Pop 12	18
Humidity	17
Precipitation 1hr	16
AHPS	14

Clarus OSS

- Evaluation conclusions
 - Website examined by a number of users
 - Visits and surveys from all WSRTC states
 - Well received based on survey feedback
 - Useful insights obtained for future improvements/updates
 - Analytics data show that both weather and traveler information was of interest
 - Still need feedback from goods movement and law enforcement users

Tasks and Deliverables

Contract Start = 9/24/2010

Actual Start = 11/1/2010

End=9/23/2011

	project month	1	2	3	4	5	6	7	8	9	10	11	12
System Concept													
• Concept Report		D✓											
Requirements													
• Technical Memorandum – Requirements			D✓										
Design and Development													
• Technical Memorandum – System Design				D✓									
• Technical Memorandum – System Documentation									D				
• Completed System									D✓				
• User Guide									D✓				
Evaluation/User Survey													
• Survey Instrument										D✓			
• Final Report											D	↩	D

Duration = 12 months

Amount of Award = \$79,995

Clarus OSS Phase 2

- Caltrans (\$150,000) and WTI (\$50,000) funded via WSRTC
- To start in late 2011.
- Prepare the system for wider use.

Clarus OSS

Try it out:

<http://clarusoss.weathershare.org/>

One Stop Shop Phase 2 Discussion

Incubator Concept Paper

Task Order 1 Update

Travel Support and Website
Maintenance

Task Order 3 Discussion

Western States Rural Transportation Technology Implementers Forum

Yreka, California
June 14-16, 2011

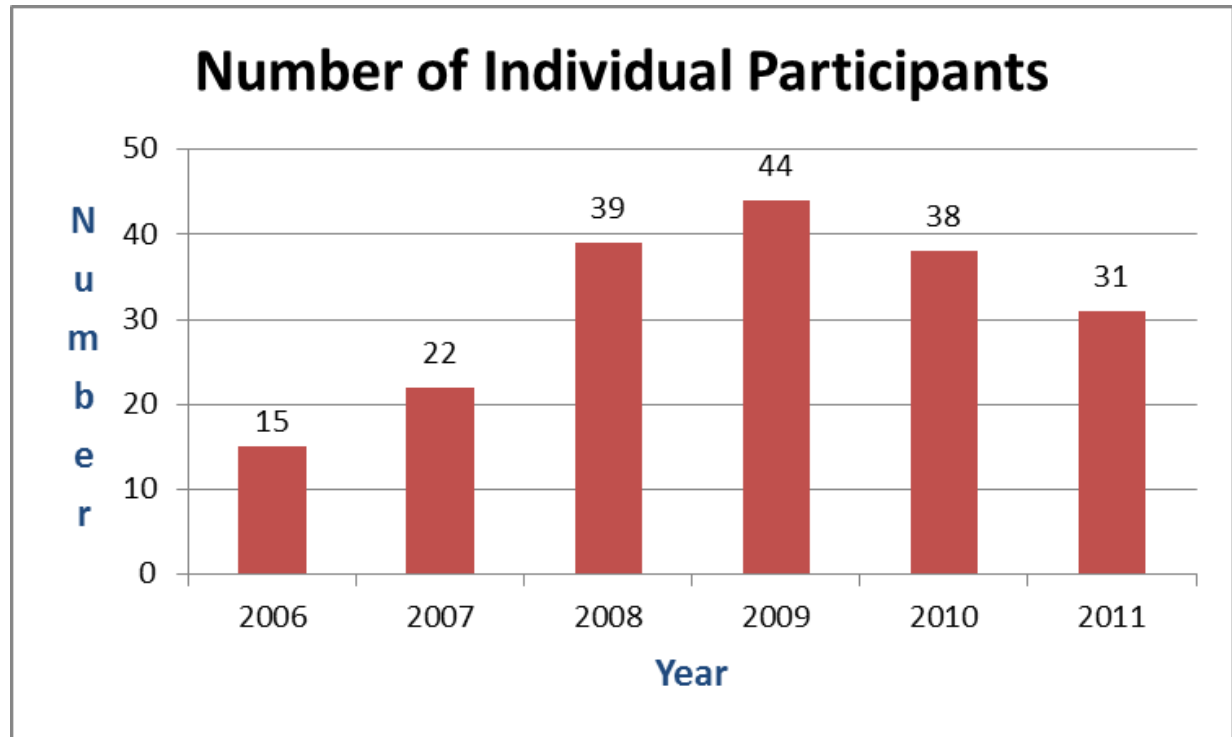
Western States Rural Transportation Technology Implementers Forum

An engineering practitioner's conference held annually since 2006.

Designed to be two days of dynamic discussion and demonstration of practical applications and technical issues associated with Rural ITS in order to promote transferability of solutions and knowledge across the ITS community.

Western States Rural Transportation Technology Implementers Forum

This year's participants came from five western states. They represented three state DOT's, five different universities, the ITS Joint Program Office at the US DOT, and the California Highway Patrol.



Western States Rural Transportation Technology Implementers Forum

State Representation

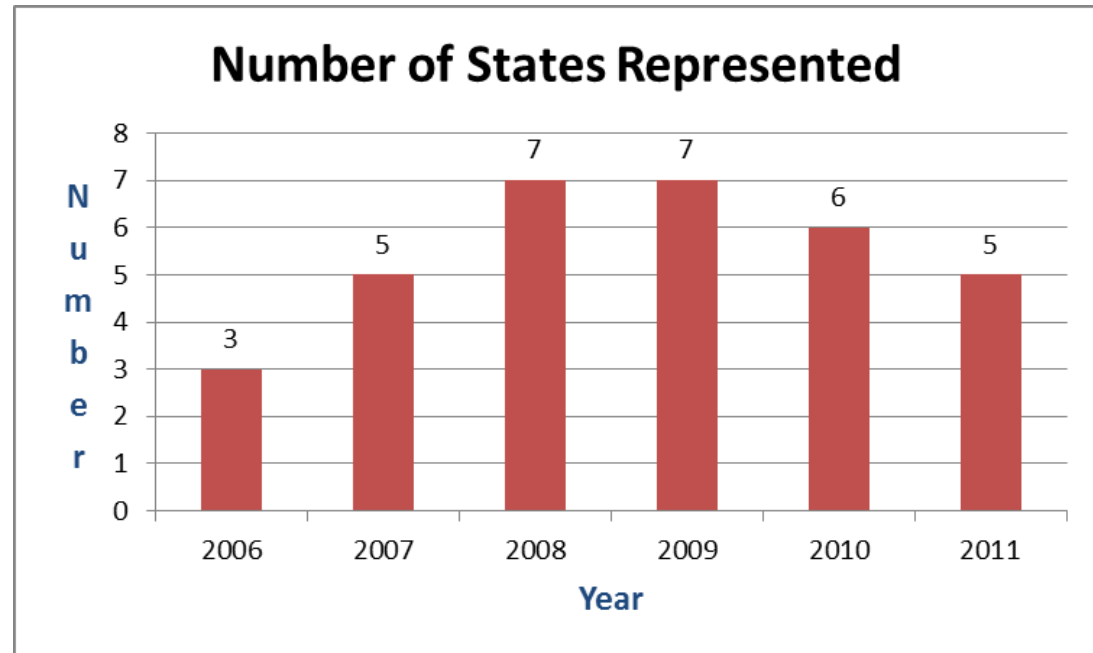
2006 - CA, ID, MT

2007 - CA, MT, NV, OR, WA

2008, 2009 - CA, ID, MT, NV,
OR, WA, WY

2010 - AK, CA, MT, NV, OR, WA

2011 - CA, MT, NV, OR, WA



Western States Rural Transportation Technology Implementers Forum



Western States Rural Transportation Technology Implementers Forum

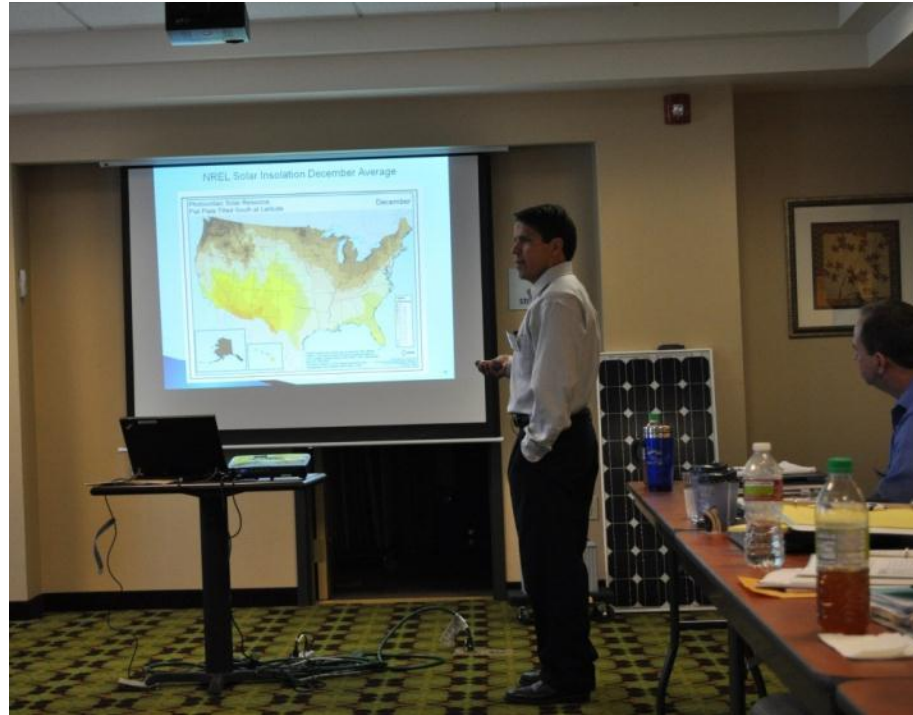


Wireless Communications for Rural ITS

Tim McDowell

Washington State Department of Transportation

Western States Rural Transportation Technology Implementers Forum



Photovoltaic Power Systems for Rural ITS
Mark Aragon, Jon Dickinson
Nevada Department of Transportation

Western States Rural Transportation Technology Implementers Forum



Voice Communications in Rural Areas (Voting Scan)

Javier del Rio, John Schmidt

Caltrans Office of Radio Communications

Western States Rural Transportation Technology Implementers Forum



The IRIS Open Advanced Traffic Management System: Development, Deployment, Capabilities, and Maintenance

Michael Darter, Kin Sing Yen; AHMCT, University of California-Davis
John Castro; Caltrans District 10

Western States Rural Transportation Technology Implementers Forum



The Power of Information

Keith Koeppen

Caltrans District 2

Western States Rural Transportation Technology Implementers Forum



Avoiding the Remote Callout

Dean Campbell, Caltrans District 3

Sean Campbell, Caltrans Division of Research and Innovation

Western States Rural Transportation Technology Implementers Forum



Antenna Characterization for Bluetooth-Based Travel Time Data Collection
J. David Porter, David S. Kim, Mario E. Magaña, Carlos Antar Gutierrez Arriaga, Panupat Poocharoen, Amirali Saeedi, SeJoon Park
Oregon State University

Western States Rural Transportation Technology Implementers Forum



MAC Address-Based Delay Measurements at Rural "Gateways"

**Yegor Malinovskiy, Yinhai Wang, Un-Kun Lee; University of Washington
Ted Bailey, Matt Neeley; Washington State Department of Transportation (WSDOT)**

Western States Rural Transportation Technology Implementers Forum



Redefining the Path to ITS Standards Training

Mac Lister

US DOT, RITA, ITS JPO

Western States Rural Transportation Technology Implementers Forum

2012 Forum

June 12, 13, 14, 2012

Yreka, California

Holiday Inn Express

Survey of Western States Safety Devices

Discussion

- What devices/items are of interest to the group?
 - What do we want to know about them?
- What other information/questions do we want to ask?

Task Order 1 Update

Travel Support and Website
Maintenance

Task Order 3 Discussion

Other Discussion

Items

- Upcoming meeting
 - Next Consortium meeting –November Steering Committee Meeting – tentatively scheduled for November 1, 2011 in Yreka
 - Normally shoot for 2nd Tuesday, but that's election day this year

Wrap-up