



Western States Rural Transportation Consortium (WSRTC)

**Steering Committee Meeting
June 21, 2016
Yreka, California**

Meeting Minutes

This document is the official record of the WSRTC Steering Committee meeting held June 21, 2016, in Yreka, California, just prior to the 11th annual Western States Rural Transportation Technology Implementers Forum.

WSRTC Steering Committee Meeting

June 21, 2016

Meeting/Teleconference

Yreka, California

Meeting Minutes

Prepared by

Leann Koon and Doug Galarus

Western Transportation Institute, Montana State University

Doug Galarus called the meeting to order at 1:00 pm Pacific Time. Introductions were made by everyone at the meeting site in Yreka, California, and by those calling in. Doug reviewed the purpose of the meeting and the planned agenda.

The meeting agenda, slide presentation, and minutes are posted on the Consortium website at: <http://www.westernstates.org/Documents/Default.html>.

Western States Forum

Leann Koon provided an overview of the upcoming 11th annual Western States Forum. A total of thirteen speakers were scheduled covering a variety of topics. A preview of the nine presentations was made available to those registered for the Forum. Forty-seven participants represented six states, five state DOTs, several Caltrans districts and divisions, FHWA, City of Gresham (OR), three universities, and the Idaho National Laboratory.

WSRTC Pooled Fund Discussions

Sean Campbell passed around and reviewed a spreadsheet of Pooled Fund contributions to date. Rod Schilling asked whether commitments/obligations were made according to a calendar year or fiscal year (There were two entries for Nevada in 2016). Sean and Ron Vessey indicated it was by fiscal year. In addition to the annual \$60,000 for 4 years for the pooled fund, California is also contributing an additional approximately \$550,000 for Consortium projects – One-Stop-Shop Phase 2, One-Stop-Shop Phase 3, WeatherShare Phase 4. Active task orders 2 (OSS Phase 2) and 5 (WSRTC travel support) are almost completed (end date June 30, 2016). Task Order 7 WeatherShare Phase 4, Task Order 8 WSRTC Travel Support and Website Maintenance, and Task Order 9 One-Stop-Shop Phase 3, have just started. After all obligations from the commitments, there is approximately \$239,000 for incubator projects. California will be contributing \$250,000 in the next fiscal year for the next phase of the Automated Safety Warning Controller project.

The Master Agreement with WTI expires June 30th of this year. Sean and Ron have discussed this and Ron has talked with the WSDOT Research Department to renew it. The agreement will be updated and extended through 2020. Active Task Orders will continue as they are.

Sean Campbell complimented WSDOT and Ron Vessey for moving the task order process along efficiently and expediently. Ron's leadership is appreciated.

The Pooled Fund website (<http://www.pooledfund.org/Details/Study/469>) does not include an end date for the WSRTC Transportation Pooled Fund. However, it should be determined whether an extension or similar is needed for Phase II.

Incubator Project Updates

Leann Koon reviewed the objectives and status of the *Data Quality for Aggregation and Dissemination of DOT Traveler Information* task. A report has been drafted and sent to the WSRTC for review. Neither the survey of DOT practitioners nor the literature review found a comprehensive, well-defined plan for unified, multi-dimensional approaches to quality assurance of traveler information. However, all of the DOT practitioners that were surveyed, as well as the literature reviewed relative to data quality in transportation, indicated in some way that quality data was important for safe, efficient operation of the transportation system, including provision of traveler information that is accurate, timely, and reliable. The group discussed the need for the project indicating that data quality seems to be an endemic problem. The group also discussed the need for national engagement on the topic in order to address the challenge.

Discussion

Doug asked if anyone didn't know what was meant by data quality. As an example, if you pull up OSS on an arbitrary day at an arbitrary time, issues will inevitably be present. Traveler information must be accurate, timely, and reliable; this is a problem for most providers. Ian commented that people will only make decisions based on information they perceive as reliable. Data quality should include defining what the threshold is for "perceived reliable." Sean mentioned that most states are challenged with accurately locating ITS assets for traveler information (e.g., a CCTV camera in the middle of the ocean). Sean has used Google Earth to identify asset location. Generally, it is recognized that data quality checks need to be performed. The ability to disseminate data through a common dataset is important. Currently, each state has its own dataset with varying availability. The comment was made that national engagement is needed to address the problem – can't move forward to address this challenge without a solid foundation. Rod commented that FHWA doesn't require states to provide quality metrics, but NDOT is working to build an asset inventory that is compiled in a central location. Nathaniel Price mentioned the 1201 rule and Doug replied that it is somewhat vague. Steve Pyburn added that volume data is also part of the equation, and Sean followed up saying that OSS uses Google Traffic – as Map 21 continues with emphasis on operations and safety performance measures, consistent quality data will become more valuable. There was discussion on the DOT perspective and focus relative to data quality. One person commented, looking ahead 20 years, many assets can be deployed, but not much can really be done if there is no confidence in the information you collect from those assets. "Reliable" must be defined. So far, California has not shown much interest beyond what District 2 has implemented. Sean commented that it may be indicative of the ITS industry (i.e., don't need to calibrate, flashy brochures and spec sheets, etc.). He added that DOTs should demand more from vendors and hold them accountable for their equipment's performance. Rod questioned whether it was because civil engineers were still guiding the process; Ian responded that it could be part of the issue. Steve commented that he didn't think it was engineers in an agency, but more industry driven instead (e.g., if a DOT doesn't say this is what it should be and what we want, then vendors will say this is what we have and we promise it will meet your needs). Sean added that California recently became a WAZE state and districts are considering shutting down loop detectors altogether and instead just using Google. District

by District, loop detector fitness is low – they require resources (e.g., money, people, safety concerns). Maybe loop detectors could be used differently which could result in better data. The need to define what is accurate and reliable is still critical. Ian commented that the engineering process needs to be used for all ITS projects. Sean followed up that Caltrans is taking steps to educate its workforce relative to communication systems so that personnel can make better decisions and not just rely on glossy vendor sheets (Professional Capacity Building for Communications project).

Doug Galarus briefly mentioned the prior incubator projects. The Chain-up Delay Tracking with Bluetooth project is not at the point of deployment, but is still a possibility in the future. The evaluation of the Fredonyer Summit Icy Curve Warning System was completed earlier this year. The sixth phase of COATS will end on June 30th.

General Project Discussions

Doug Galarus reviewed the status and activities of a number of spin-off projects of interest to the WSRTC.

- Professional Capacity Building (PCB) for Communications Systems
 - Phase 4 is pending.
 - Duration: Two years
 - Up to three courses will be delivered during this phase. WTI will procure and facilitate one and Caltrans will facilitate the others.
 - Tony Leingang asked about course length and whether the training was available to other states. There are seat limitations for individual courses, but that doesn't mean more courses couldn't be conducted.
 - Tony is hiring staff that need this kind of training. Sean will send the project's documentation to Tony.
 - Getting the right instructor is key to the courses' success. Doug further commented on the procurement process, review of course materials, access to the instructor, content customization, and curriculum ownership.
- California Oregon Advanced Transportation Systems (COATS)
 - Phase 7 is pending.
 - Duration: Two years
- Integration of Aviation AWOS with RWIS
 - Phase 4 is pending
 - Duration: Two years
 - Caltrans is attempting to internalize the application.
- WeatherShare Integration with QuickMap
 - In progress.
- Automated Safety Warning Controller
 - Deferred until 2017.
 - Will go through the WSRTC.

Website, Discussion Group

Leann Koon gave a quick review of the Consortium website, including the changes made since the last annual meeting. In addition to regular project updates, a page listing all published documents for each project was launched. Ranging from Fact Sheets to WSRTC meeting minutes, from final reports to Quick

Start Guides, this page organizes WSRTC documents by project and release date, making it simple and easy to find resources related to the Consortium and the various projects.

The WSRTC discussion group has not seen much activity. This may be acceptable as we do not want to spam people. Invitations to join the group will be sent to new Western States Forum attendees. The Fredonyer ICWS report may be appropriate to share with the group.

Other Items

Establishing COATS-WSRTC Emeritus Status was approved at the March 2016 meeting. This will be implemented this fall.

Two proposals for new incubator projects were submitted and discussed at the March 2016 WSRTC meeting. The project proposals and the notes and discussion from the Steering Committee's review of the proposals are on the Consortium's website at <http://www.westernstates.org/Projects/Default.html>.

The project proposal for *Winter Travel Times from Mexico to Canada and Wendover to the Sea* was approved at the last meeting. Ian Turnbull reviewed the revised proposal and the group confirmed the desire to move forward with this incubator project. The project would be a task order for WTI or another university. As desired, each state will visit with universities that might be interested in the project to determine capabilities and capacity to do the work. The group indicated a desire to broaden who is doing the research. The group will report back on a teleconference in a couple months. Some points of discussion at this meeting included:

- Researchers will determine the length of segments for testing.
- Availability of truck parking may be a consideration for the research.
- Along Interstate 5 during winter conditions, travel decisions are being made a significant distance from road closure points.
- Caltrans District 3 determined travel times between Sacramento and Lake Tahoe using Bluetooth. How would this work in the winter time?
- Tony Leingang asked whether there was a concept of what a maximum segment length might be beyond which it was too far to predict travel times. Ian's initial thought is to develop algorithms that work for individual segments and then string the segments together. Rod Schilling thought a segment may need to be long enough to include an alternate route. The researchers will answer these questions.

The proposal for *Automated Safety Warning Data Feeds and Virtual Changeable Message Signs* was put on hold until resources needed for the winter travel times project are determined.

The group questioned whether there were new ways to solicit proposals for incubator projects. The group discussed means to cultivate thought processes for thinking long term and different ways to do things, etc. Lisa Popoff commented that one person in her office has quite a few ideas, but he has said he just doesn't have the time to pursue or further develop those ideas.

Roundtable of Recent ITS Activities

Sean Campbell – Caltrans DRISI

- DRISI is deploying the CCTV information relay statewide. The info relay is a means of measuring CCTV availability and provides a performance measure for the CCTV system. It standardizes the look and feel of CCTV images and presents timestamps that are accurate and timely. It also addresses the issue of stale images, and attaches a performance measure to it. It automatically updates the CWWP2.
- DRISI is working on a similar mechanism for RWIS. Caltrans District 2 is developing an info relay to poll RWIS stations.
- DRISI is the second largest research entity in the world, second only to the federal government.
- Tony asked about ScanWeb and whether it was free. WSRTC developed technology is sharable. WSDOT is stepping back from RWIS and Tony would like Joe Schmit to learn about WeatherShare.

John Carson – Caltrans District 1

- Further development is being done on the microwave backbone in Lake County to establish more reliable communications links.
- District 1 is working on several storm and fire damage projects.
- Cell phones are now being used to handle data transfer to the TMC in areas where DSL or dial up are unreliable or unavailable.
- There has been somewhat of a change in philosophy towards maintenance staff taking a more active role in repairing and maintaining ITS field elements.
- Due to a change in job responsibilities, this will be John's last Consortium meeting. The group expressed thanks for participating in COATS and WSRTC activities for many years!

Ian Turnbull, Jeremiah Pearce – Caltrans District 2

- Fredonyer Icy Curve Warning System (ICWS) Evaluation Results – A follow-up review of driver behavior and accident data was completed for both ice detection and warning systems at Fredonyer Pass in Lassen County. The after deployment study period was 2008 through 2015. The study found that the ICWS is prompting motorists to reduce speeds in conditions where icy roads are not necessarily expected. The deployment of the ICWS reduced the number of annual crashes by 15%. The results also indicated that the system has reduced crash severities and was estimated to provide safety benefits of \$1.03M per winter season. A final report is available.
- Non-invasive Pavement Sensor (NIPS) Evaluation Results – A test-bed was deployed for the past two winters at three locations: on I-5 near Sims Road, on I-5 near Dunsmuir and on SR-89 at Snowman Summit. This consisted of Lufft in-pavement sensors at two locations, Vaisala FP-2000 in-pavement sensors at one location, a High-Sierra IceSight 2020E non-invasive sensor and a Vaisala DSC/DST-111 non-invasive sensor pair. The non-invasive sensors were moved among the three locations during each winter. Of particular interest was the accuracy of roadway ice detection in the presence of chemical treatments and their application in Automated Safety Warning Systems. The results showed that non-invasive pavement sensors, when properly installed, configured and calibrated, are as effective as, or better than, in-pavement sensors, with the NIPS having significant advantages in maintainability, calibration accuracy, pavement protection and disruption during paving projects. The only exception being in areas with frequent periods of low visibility (fog). Of the two non-invasive pavement sensors studied, the Vaisala DSC/DST-111 was a superior product. The results have initiated change in our RWIS

program to move to non-invasive sensing in all of our existing and future RWIS installations. A detailed presentation of the testing and results is scheduled at this year's Western States Forum.

- Siskiyou Chain-On Area Results – A trial system to replace manually operated chain signs with a flasher and light system was installed on I-5 at Yreka. It can be operated from a maintenance vehicle or the TMC. The system was used several times during this last winter and proved to be effective. Motorists saw and obeyed the proper chain condition and speed limit. Maintenance forces reported that there was no confusion on the part of motorists and that the system was easy to operate. A technical presentation was given last year at the Western States Forum.
- “Open Source” RWIS Migration – A move to use non-proprietary RWIS RPU software and algorithms on our district ESS sites is at its mid-point. Frustration with the existing RPU hardware/software model prompted us to migrate to an NTCIP compliant Campbell Scientific based RPU. This allowed us to be in control of the software, algorithms and integration of all sensors at our field sites. Stable software modules have been developed over the past year. Upgraded RPUs and software have been deployed at 10 of our existing 23 RWIS ESS sites. This migration has allowed the easy integration of the non-invasive pavement sensors mentioned earlier along with existing in-pavement sensors and typical atmospheric sensors. We have been very happy with the results. A detailed presentation on the migration is scheduled at this year's Western States Forum.
- Redding Responder Update – The Responder system was developed to allow Maintenance forces to easily communicate the details of an incident and resource needs in rural areas where there are limited or no communications services. It provides a convenient responder interface to allow collection and organization of relevant incident information. It then chooses the best communications path automatically (cellular, if it is available, then satellite if nothing else is available) and supervises the transmission of that incident information. The first prototype system was developed by Western Transportation Institute at Montana State University and won a Best of Rural ITS Award in 2010. A subsequent phase of the project involves migrating to a smartphone and pad for the user interface and an integrated truck mounted version that focuses on a Maintenance supervisor's pickup truck. This phase is currently being executed by AHMCT at UC Davis. The alpha version of the truck mounted system and a suitcase version was demonstrated on May 5, 2016. Field trials by four districts in both winter and summer conditions are scheduled to begin this coming October.

Ron Vessey – Washington State DOT

- A planning effort for RWIS is currently underway.
- WSDOT recently completed a two year look at high priority ITS projects and ranked each of the projects.
- The Northwest Region has developed their own TMS system in house. There is an effort to spread the system state-wide to regions interested in using it. The region has received funding for a position that will help other regions make needed adjustments and appropriate field device procurements so those regions are able to use the system. Sean Campbell asked if WSDOT will include a CMS feed. Ron replied yes, a CMS feed will be part of the new system and will be available as long as regions are using the new system.

Lisa Popoff – Washington State DOT

- Her region is one of the most challenging for communications.
- They have many VMS and several new RWIS.

Tony Leingang – Washington State DOT

- Acquiring copper wire at a reasonable cost is challenging. Therefore, they moved to 700 MHz radio for communications on the Hood River Bridge. Reports used to have a ten to fifteen minute delay, but now they are near real-time. This was part of a statewide, all agency effort for rebanding.
- In the urban areas, ramp meters and travel time information are important. In order to keep the information timely, the segments cannot be too long.
- His region is hiring six new people which has not happened in many years.

Rod Schilling – Nevada DOT

- NDOT is providing full autonomy for maintenance of all devices through maintenance contracts with companies such as DTS, Titan Electric, and TransCorp. Appropriate training is and will be important going forward.
- Copper wire is being replaced with aluminum and buried.
- Conducted a comparison test using the open source Campbell Scientific RPU, and a non-invasive Lufft sensor and the Vaisala sensor. The test site is on a bridge structure with an anti-ice system. They are interested in Ian's project mentioned above.
- NDOT has an active DSRC project along a 32 mile corridor. Rod and Jim Whalen will be presenting it at this year's Western States Forum.
- FAST personnel are involved with active traffic management through Project NEON.
- NDOT is reaching out to other states for information and experiences with weather-based variable speed limit systems, especially involving high winds.
- NDOT has developed the Nevada Data Exchange and Data Dictionary, a protocol for device data sharing.

Other Discussions

The National Rural ITS Conference is October 2-5, 2016, in Chattanooga, Tennessee. The fall and/or winter WSRTC meetings will likely be held through phone conferences versus at NRITS this year. The annual meeting will be held at the 2017 Western States Forum.

Leann Koon reviewed the action items from this meeting. See below.

The group again expressed thanks to John Carson for his years of participation in COATS and the WSRTC.

Sean Campbell thanked the group for the discussion and participation, and the meeting was adjourned.

Action Items

<u>Item</u>	<u>Deadline</u>
1. Ron Vessey will facilitate updating and extending the Master Agreement with WTI.	July 2016
2. Ron Vessey and Sean Campbell will determine whether the WSRTC Transportation Pooled Fund needs an extension or similar for Phase II.	As soon as possible
3. WTI will extend invitations to new WSF participants to join the WSRTC discussion group.	Summer 2016
4. WTI will share the Fredonyer ICWS evaluation report with the WSRTC discussion group.	Summer 2016
5. WTI will begin implementing COATS-WSRTC Emeritus Status.	Fall 2016
6. As desired, each state will visit with universities that might be interested in the Winter Travel Times incubator project to determine capabilities and capacity to do the work. Each will report back at the next meeting.	November 2016
7. Sean Campbell will send information on the PCB for Communications project to Tony Leingang.	As soon as possible
8. Sean Campbell will send information on WeatherShare and ScanWeb to WSDOT.	As soon as possible

Meeting Participants

<u>Name</u>	<u>Organization</u>	<u>Email</u>
Sean Campbell	Caltrans DRISI	Sean_Campbell "at" dot.ca.gov
John Carson	Caltrans District 1	Jpcarson "at" dot.ca.gov
Doug Galarus	WTI/MSU	dgalarus "at" montana.edu
Leann Koon	WTI/MSU	leann.koon "at" montana.edu
Tony Leingang	WSDOT	LeingaA "at" wsdot.wa.gov
Jeremiah Pearce	Caltrans District 2	jeremiah_pearce "at" dot.ca.gov
Lisa Popoff	WSDOT	PopoffL "at" wsdot.wa.gov
Nathaniel Price	FHWA	nathaniel.price "at" dot.gov
Steve Pyburn	FHWA	steve.pyburn "at" dot.gov
Rodney Schilling	Nevada DOT	roschilling "at" dot.state.nv.us
Ian Turnbull	Caltrans District 2	ian_turnbull "at" dot.ca.gov
Ron Vessey	WSDOT	vesseyr "at" wsdot.wa.gov