WESTERN STATES RURAL TRANSPORTATION TECHNOLOGY IMPLEMENTERS FORUM

Review of 2007 Meeting

By

Christopher Strong, P.E.
Western Transportation Institute
College of Engineering
Montana State University

September 2007

DRAFT

Table of Contents

List of Tables

The purpose of this review is to document the 2007 Western States Rural Transportation Technology Implementers Forum (WSRTTIF): how and why it was planned, how the forum went, lessons learned and recommendations for the future.

1. Background

The concept of WSRTTIF originated through the rural California/Oregon Advanced Transportation Systems (COATS) partnership. This partnership, initiated in 1998 by the California and Oregon Departments of Transportation (Caltrans and ODOT, respectively) with support from the Western Transportation Institute (WTI), has sought to advance the implementation of intelligent transportation systems (ITS) to meet transportation challenges in rural areas. COATS has consisted of three major phases:

- COATS ITS Strategic Deployment Plan (1998-2001). The purpose of the first phase was to encourage regional, public and private sector cooperation between California and Oregon organizations to better facilitate the planning and implementation of ITS in a rural bi-state area extending between Eugene, Oregon and Redding, California.

- COATS Showcase (2001-2006). COATS Showcase built on the foundation of the COATS ITS Strategic Deployment Plan by providing funding for increased deployment and evaluation of ITS. COATS Showcase was funded by Caltrans and the UTC program in a four-year program. WTI engaged in a number of research and evaluation activities through COATS Showcase, which sought to provide information to improve the performance of existing ITS elements, and to provide data to justify, support or direct future deployment of ITS in the COATS study area.

- COATS Phase 3 (2005-present). The goal of COATS Phase 3 is to provide research and support activities to help California and Oregon achieve the COATS vision. These activities include: fostering bi-state cooperation and communication, promoting technology transfer, assisting in ITS planning and architecture development efforts, evaluating ITS projects and systems, and providing assistance to mainstream deployment of field-tested ITS technologies.

Over time, COATS has increasingly focused on technology transfer; i.e. dissemination of information about COATS projects and practices to stakeholders both within and outside the COATS region. Phase 3 reflects an evolution from COATS Showcase in that technology transfer has broadened to include both planning-level as well as design-level information sharing. In fact, Phase 3 includes a task for "ITS Technology Workshops", designed as a complement to the COATS Steering Committee meetings with the goal of facilitating technology transfer among rural ITS implementers and designers.

This COATS Phase 3 task became the seed for WSRTTIF. Initial discussions occurred between Caltrans and WTI starting in November 2005, and WTI agreed in December 2005 to support the forum. WSRTTIF was designed as a one-day meeting where people involved with implementing transportation technology solutions could exchange detailed technical information about how solutions are designed, engineered, integrated and implemented. It was a day for dynamic

discussion of practical and technical issues associated with rural ITS, to promote transferability of solutions and knowledge across the ITS community. The meeting was to place high importance on in-depth technical content, spurring discussion, and fostering transparency and trust among participants. In order to do this, attendance for the forum was to be intentionally limited, and presentations were to be carefully screened before the forum.

The inaugural forum was held in 2006. Due to very favorable response from meeting attendees, the decision was made to host a second forum in 2007. The remainder of this document describes the 2007 event.

2. Planning

2.1. Funding

One key aspect of the inaugural forum's success was the ability to minimize participant costs. In order to keep participant costs low, WTI redirected some funds (with Caltrans consent) which had been designated earlier for "Maintenance Workshops" under COATS Showcase to provide a pool of funds to be used for supporting WSRTTIF. Using UTC funding has the benefit of allowing for greater flexibility in what was paid for, including subsidizing lodging for meeting attendees.

Unlike in 2006, participants were charged no registration fee. One motivation for the registration fee was to try to encourage participants to solidify their commitment to attend the meeting, in order to assist in planning and meeting logistics. However, this did not prove to be very effective, as most participants paid on-site. Since the income received from registration fees was negligible compared to the costs of the forum, the decision was made to eliminate the registration fee. In order to make sure that participants made a firm commitment to attend the meeting, each participant had to make a lodging reservation three weeks in advance of the forum, secured with their own credit card. This seemed to work well.

2.2. Steering Committee

A small steering committee was formed to direct preparations for the forum. The committee members included: Sean Campbell, Caltrans Division of Research and Innovation; Ian Turnbull, Caltrans District 2; and Chris Strong, WTI. These were the same individuals who developed the 2006 forum, which eliminated any potential learning curve.

2.3. Attendees

The forum was intended toward ITS technology practitioners, as opposed to planners and managers. ITS engineers/designers from Caltrans Districts 1 through 11 were invited. In addition, efforts were made to reach out to technical staff within western states' DOTs, including Alaska, Arizona, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

The meeting was attended by 22 professionals; their names are listed in Table 1. This represents a 46 percent increase in the number of participants from 2006. In addition, the number of participating state departments of transportation doubled from two to four.

Table 1: List of Forum Attendees

Name	Organization
Ted Bailey	Washington State DOT
Ken Beals	Caltrans District 2
Dean Campbell	Caltrans District 3
Sean Campbell, P.E.	Caltrans Division of Research and Innovation
Mandy Chu	Caltrans Division of Research and Innovation
Jose DeAlba	Caltrans District 6, Office of Traffic Management and TMC Support
Doug Galarus	WTI/MSU
Ramin Ghodsi	Caltrans District 8
Gonzalo Gomez	Caltrans Division of Maintenance
Phil Graham	Caltrans District 9, Traffic Operations
Clint Gregory	Caltrans District 10
Matt Hanson	Caltrans Division of Research and Innovation
Gary Meurer	Caltrans District 2
Thomas Moore, P.E.	Nevada Department of Transportation
Stanley Norikane	Caltrans Traffic Operations
Jeremiah Pearce	Caltrans District 2
Arturo Robles	Caltrans Electrical Design, District 2
Jason Shaddix	Oregon Department of Transportation
Brian Simi	Caltrans District 3, Traffic Operations
Doug Spencer	Oregon Department of Transportation ITS
Christopher Strong, P.E.	WTI/MSU
Ian Turnbull, P.E.	Caltrans District 2

2.4. Publicity

Two pieces of promotional literature were prepared: an 8 ½ x 11 tri-fold color brochure, and an 8 ½ x 11 flyer. These were distributed electronically to individuals who were targeted as potential forum attendees, to the COATS Steering Committee, and to a select few others. The flyer was also made available at WTI's booth at the 2006 National Rural ITS Conference in Big Sky, Montana. Copies of these promotional pieces are provided in Appendix A.

3. Execution

3.1. Logistics

The Steering Committee was quite satisfied with the location of the first meeting; therefore, to simplify logistics, it was decided that the 2007 forum would again be held at the Mount Shasta Resort (http://www.mountshastaresort.com/).

The Steering Committee wished to have the forum scheduled in a similar time frame each year (early June), to promote continuity. Since the ITS America Annual Meeting was scheduled for

Palm Springs, California during the preferred timeframe, the Steering Committee elected to postpone the forum by two weeks.

As was done in 2006, WTI contracted with a Redding-based event planner, who provided invaluable assistance in coordination with the hotel, arrangements with caterers and vendors, and on-site attendee registration.

3.2. Agenda

The focus of the forum was the one day of formal presentations and discussion. Based on previous experience, the decision was made to limit the agenda to four presentations to ensure adequate time for discussion. The day of presentations (June 21) was bracketed by a dinner reception on June 20 and a continental breakfast on June 22. The full agenda is provided in Appendix B.

3.3. Presentations

3.3.1. Guidelines on Presentations

Based on experience from the 2006 forum, a 90-minute time slot was reserved for each presentation. This was intended to include 45 to 60 minutes of prepared remarks by the speaker as well as ample time for question and answer.

To ensure some level of consistency and quality, the steering committee reviewed presentation drafts before they were presented. Committee members individually reviewed the presentations, and then discussed their assessment in a teleconference and via e-mail. Committee members were delegated to provide the committee's comments to each speaker in advance of the forum, so that changes could be incorporated.

3.3.2. Selection of Speakers

To keep both speakers and audience members engaged, the Steering Committee made a decision to not have any repeat speakers between the 2006 and 2007 events. This provided the Steering Committee with a challenging task of identifying speakers who recognized the expectations of forum attendees, who had the time to devote to assembling a high-quality presentation, and who had a topic which had suitable relevance and timeliness for the audience.

Within these constraints, the forum steering committee agreed to focus on speakers with whom they were already familiar.

3.3.3. Presentation Topics

The following speakers gave presentations at the conference.

- Clint Gregory, Caltrans District 10, "Improving Traffic Data Collection Using Wireless Technology". This presentation focused on an intelligent modem that allows systems to

collect, process, and distribute data within a wireless network. The system integrates into the Caltrans Automated Warning System (CAWS) as a means to reduce highway incidents caused by high traffic volumes and severe weather conditions. The data from the system also send to the Freeway Performance Measurement System for use in real-time traffic decisions.

- Doug Spencer, Oregon Department of Transportation (ODOT), "Weather Warning Systems in Oregon and Region 5 Interstate Access Gates". This agenda slot included two presentations. The first presentation discussed flood, high wind, ice, and debris warning systems installed and operated by ODOT. The second presentation discussed the implementation of remotely operated gates on on-ramps on Interstate 84, which eliminated the need to dispatch ODOT personnel to implement and monitor road closures. Both presentations included discussions of systems architecture, equipment, engineering design and installation and maintenance issues.

- Dean Campbell, Caltrans District 3, "Unlicensed Wireless Multipoint System in Sacramento Metro". This presentation discussed the creation of a multi-point wireless link to provide telecom between four cameras along I-80 and downtown Sacramento. It compared the manufacturer's claims with actual experience, and reviewed lessons learned.

- Stanley Norikane, Caltrans Traffic Operations and Matt Hanson, Caltrans DRI, "Weigh-In-Motion NOT DONE ON A WIM!!!". This presentation dealt with both technical and institutional issues related to Caltrans' high-speed weigh-in-motion (WIM) technology, which has been used at 135 locations in the state. It discussed installation, operation, and maintenance issues, as well as issues associated with data delivery.

3.3.4. Participant Gifts

Each forum participant received a stainless steel thermos with a logo customized for the 2007 forum. Speakers were also provided with touchless infrared thermometers as gifts at the end of the presentations in appreciation for their diligent work in preparing these presentations.

3.4. Networking Events

The forum included three primary social networking events. A buffet-style dinner was held at the Mount Shasta Resort on Wednesday, June 20. The evening social on Thursday, June 21 included a tour of Mount Shasta Caverns, bus and boat transportation to and from the caverns, along with a catered dinner on the boat. A continental breakfast was provided on the morning of Friday, June 22. Spouses and children were permitted to come to all of these functions.

4.   Evaluation

4.1.   Attendee Comments

Meeting attendees were provided with evaluation forms to assist WTI in assessing how successful the forum was, and what modifications should be made in the future. Fifteen completed evaluation forms were received. Attendees gave generally positive remarks for all the speakers in terms of quality, level of detail and relevance[1]. The ratings were generally similar to those received in 2006.

As was true in 2006, meeting attendees were extremely receptive – an average score of 4.8 on a five-point scale – toward the idea of attending a similar forum in 2008. The indications of a few comments are that the forum should seek to continue to grow, not only in the number of states represented, but also potentially in the number of days devoted to technical presentations. Several attendees volunteered topic ideas for the 2008 forum, which should help in developing the technical program.

A summary of the evaluation responses is provided in Appendix C.

4.2.   Finances

The expenses and income associated with the forum are shown in Table 2. The cost for the 2007 event was almost 20 percent lower than in 2006, primarily due to reduced labor and travel costs for WTI personnel. The reduced costs are attributable in part to the ability to chain trips to reduce costs, as well as the ability to build on the previous year's experience with the forum. It is important to note also that the overall costs were lower, even though there was an increase in attendance and there was no registration fee in 2007 (as there had been in 2006).

---

[1] The presentation on weigh-in-motion was a bit of an experiment by the Steering Committee, since WIM is not directly relevant to many attendees' work assignments. While the presentation did not score as well on relevance as the other topics, several attendees commented that they appreciated the opportunity to learn about a different topic.

Table 2: WSRTTIF Costs

	Direct Costs	Indirect Costs (40%)	Total
WTI Staff Costs	$ 4,736.40	$ 1,894.56	$ 6,630.96
Payroll/Bens.	$ 3,300.67	$ 1,320.27	$ 4,620.94
Travel	$ 1,435.73	$ 574.29	$ 2,010.02
Conference Planner	$ 1,143.21	$ 457.28	$ 1,600.49
Facility Costs	$ 7,618.81	$ 453.13	$ 8,071.94
Lodging Subsidy	$ 4,600.00	$ -	$ 4,600.00
Room Fees & Service Charge	$ 1,013.65	$ 405.46	$ 1,419.11
Misc. Supplies	$ 119.18	$ 47.67	$ 166.85
Thursday evening event	$ 1,885.98	$ -	$ 1,885.98
Marketing	$ 653.70	$ 261.48	$ 915.18
Attendee Gifts	$ 372.52	$ 149.01	$ 521.53
Speaker Gifts	$ 281.18	$ 112.47	$ 393.65
Total Expenses	$ 14,152.12	$ 3,066.45	$ 17,218.57

5. Recommendations

Feedback received from meeting attendees indicated that the 2007 WSRTTIF was another success, and most aspects associated with the meeting were received favorably. There is significant interest in repeating the conference next year. In order to improve next year's conference, it is suggested that the Steering Committee continue to focus on attracting potential out-of-state participants. One challenge in attracting out-of-state participants is funding. There may be possibilities in setting up a pooled fund funding mechanism to allow states to contribute funding to the project, which could also be used to pay for participant travel. This could help to provide a stable funding source. There is also the possibility of using existing funding to provide travel stipends or subsidies for invited presenters. Both options, and others, should be explored.

Based on the interest of meeting attendees, there is interest in trying to have additional technical content and lengthening the forum. Therefore, depending upon the availability of potential speakers and topics, the Steering Committee should consider lengthening the technical content of the forum, perhaps to a day and a half of presentations in 2008.

One area of improvement that was identified for 2008 was the need to confirm the dates and presenters earlier. This is important because it allows more time for promoting the forum to other states, it facilitates out-of-state travel requests for non-California participants, and it also helps to ensure adequate time for quality control on presentations. It is recommended that the dates for the 2008 forum be established in the near future, with a "Save-the-Date" card sent out to western states as soon as possible. It is also recommended that candidate speakers and presentation topics be identified in the next couple of months, to make it easier to promote the event to potential attendees.

Finally, from a marketing perspective, it is recommended that some promotional materials also be distributed by regular postal mail, as this may enhance awareness of the event.

Appendix A: Promotional Material

ATTENTION:
ITS Design Engineers & Technical Staff...

If interested in participating in future forums contact Chris Strong

FOR THE
Western States Rural Transportation
Technology Implementers Forum

Are you installing new Intelligent Transportation Systems (ITS) in a rural location? Come learn about the latest technologies, plus the "nuts and bolts" of designing, implementing and maintaining a successful system. ITS technology practitioners from other western states will be on-hand to present practical, technical training sessions based on field-tested applications. Hear candid accounts from experienced professionals about what works, what doesn't, and other important lessons learned. Don't miss this opportunity to ask questions and receive professional counsel on your upcoming projects.

Who should attend?

ITS technology practitioners at the state and local level:
Field Engineers and Maintenance Staff
Systems Integration/Networking Engineers
Wireless/Communications Technicians

If interested in participating in future forums contact Chris Strong

**Contact us for program agenda
and location or with any other questions.**

Contact Chris Strong at the
Western Transportation Institute
Ph: 406/994-7351 or
email: chriss@coe.montana.edu)

MONTANA
STATE UNIVERSITY
College of
ENGINEERING

Western
Transportation Institute
ADVANCING RURAL TRANSPORTATION
THROUGH RESEARCH & EDUCATION

Caltrans

Western States Rural Transportation Technology Implementers Forum

2007

June 20-22, 2007
Mount Shasta Resort, California

Western Transportation Institute
ADVANCING RURAL TRANSPORTATION THROUGH RESEARCH & EDUCATION

MONTANA STATE UNIVERSITY
College of ENGINEERING

Western Transportation Institute
Montana State University-Bozeman
PO Box 174250,
Bozeman, MT 59717-4250

What Is It?

The Western States Rural Transportation Technology Implementers Forum is a one-day meeting where people involved with implementing transportation technology solutions may exchange detailed technical information about how solutions are designed, engineered, integrated and implemented. It is a day for dynamic discussion of practical and technical issues associated with rural ITS, to promote transferability of solutions and knowledge across the ITS community. The meeting places high importance on the following:

Technical content.

Presentations will delve into how specific solutions were developed, focusing on applications that have actually been deployed in the field and are being used in live traffic situations. Technical presentations are planned for an hour apiece, ensuring that this level of detail may be presented and understood.

Discussion.

Attendance will be limited to ensure that detailed technical discussions are encouraged.

Transparency and trust.

There is a need for practitioners to know not only success stories, but also about failures, so they can know what doesn't work and why.

Who should attend?

ITS technology practitioners at the state and local level:
- Field engineers and maintenance staff
- Systems integration/interworking engineers
- Wireless/communications technicians

When and where is this?

June 20-22, 2007 at Mount Shasta Resort, in Mount Shasta, California.

Registration Procedure

Call Mount Shasta Resort by May 22 to make your lodging reservations.

Complete Registration form and send by mail or submit information electronically to Chris.S@coe.montana.edu by June 1.

For additional information, please contact Chris Strong
Phone: 406-994-7331 Fax: 406-994-1697
E-mail: chris@coe.montana.edu

Hotel Reservations/Location

Lodging: 1 Bedroom Chalets
Room rates $180/night including taxes (subtract $100 room credit per night for additional cost approximately $80).

Please call resort to make lodging reservation.
800-958-3363
www.mtshastaresort.com

Rooms reservation name:
Western States Forum (WTI/CALTRANS)
Group Code WSF

Please make reservations by May 22 (reservations can be cancelled through June 6 at no charge).

Directions

From Interstate 5, take the Central Mount Shasta exit, turn left over the freeway then left onto Old Stage Road. Continue on Old Stage Road to the "Y", where you will veer right onto W. A. Barr Road and follow the signs toward Lake Siskiyou. Turn left onto Siskiyou Lake Blvd where the resort is located. Closest airports: Redding (60 miles to the south on Interstate 5), Medford, Oregon (90 miles to the north on Interstate 5).

Western Transportation Institute, Montana State University-Bozeman, PO Box 174250, Bozeman, MT 59717-4250

Mail to the address below, or submit your information electronically to ChrisS@coe.montana.edu :

Name				Title	

Organization

Address

Street	City	State	Zip

Day Phone	Fax	Email	

Western States Transportation Technology Implementers Forum   **Please Register by June 1**

2007 Agenda

Wednesday, June 20

4-7 pm Registration

5-6:30 pm No-Host Bar in Lounge

6:30 - 9:00 pm Dinner Reception

Thursday, June 21

7-8 am Breakfast Buffet

8-11:30 am Presentations

11:30-12:30 PM Lunch

12:30-4:15 pm Presentations & Closing Comments

Friday, June 22

7:30-10 am Continental Breakfast

Presentations
Speakers have been invited to speak on the following topics:

Improving Traffic Data Collection Using Wireless Technology

Interstate Traffic Gates and Weather Warning Systems

Motorola Canopy: The Rest of the Story

The A-to-Z on WIM (Weigh-in-Motion)

Last year, we and more than a dozen of our peers met at the Mount Shasta Resort for the inaugural Western States Rural Transportation Technology Implementers Forum. The purpose of the forum was to provide ITS implementers and engineers with a chance to engage in a detailed level of discussion about some innovative engineering and communications projects designed to support the rural transportation system. We featured presentations covering topics ranging from design of microwave system and fiber networks, development of web-based ITS applications, a platform for mobile incident management communication, and signs displaying mountain pass road status. We found the forum valuable, not only for the detailed and knowledgeable presentations, but in the times outside of sessions where we could network with our peers, including ones a lakeside cruise and some wonderful barbeque food by Lake Siskiyou.

Last year's event was a success, and we are pleased to tell you that a second forum is being sponsored this year, again funded by a partnership between the California Department of Transportation and the Western Transportation Institute (Montana State University). The venue is the same, as will be the level of technical expertise and detail in the presentations. However, we have a whole new array of topics this year related to some of the many interesting projects that have been completed in the western states in the last couple of years.

The Western States Forum is not like other conferences. You'll see that we allow a long time for each presentation, allowing speakers to get into a far greater level of detail about the projects, whether it relates to equations, source code or competent level discussion – basically the nuts and bolts of how a project works. We are also again intentionally limiting attendance to no more than 40 people on an invitation-only basis, which we believe will create a more informal atmosphere that allows for a freer exchange of ideas, and a better chance to network with peers.

Through Caltrans' partnership with WTI, we have been able to make this event quite affordable. Lodging at the Mount Shasta Resort is subsidized to be less than state rate and the cost of all meals will be covered. Between the networking opportunities, the excellent location and the quality of the facilities, this will be an event you won't want to miss.

We hope you will join us June 20-22 in Mount Shasta!

Sean Campbell, P.E.
Chief, ITS Special Projects Branch
California Division of Research and Innovation

Ian Turnbull, P.E.
Chief, Office of ITS Engineering and Support
Caltrans District 2

Appendix B: Meeting Agenda

Schedule of Events

Wednesday, June 20th

4:00 – 7:00: Registration
In front of Highland Room

5:00 – 6:30: Cocktails in Lounge (no host bar)

6:30 – 9:00: Dinner
Highland Room

Thursday, June 21st

7:30 – 8:30: Breakfast Buffet
In front of Highland Room

8:00 – 11:30: Presentations
Highland Room

11:30 – 12:30: Lunch in restaurant

12:30 – 4:00: Presentations & Closing Comments
Highland Room

4:30 – 9:30: Evening Social and Dinner
(includes transportation to lake, boat ride, tour of Lake Shasta Caverns, lake cruise with dinner, and transportation back to resort)

Friday, June 22nd

7:30 – 8:30: Continental Breakfast
Highland Room

Western States Rural Transportation Technology Implementers Forum
Thursday, June 21, 2007
Mt. Shasta, California

Meeting Agenda

7:30-8:30 AM	Breakfast
8:00-8:05 AM	Welcome and Introductions
8:05-9:35 AM	Clint Gregory, Caltrans District 10 "Improving Traffic Data Collection Using Wireless Technology"
9:35-10:00 AM	Break
10-11:30 AM	Doug Spencer, Oregon Department of Transportation "Weather Warning Systems in Oregon / Region 5 Interstate Access Gates"
11:30 AM-12:30 PM	Lunch
12:30-2:00 PM	Dean Campbell, Caltrans District 3 "Unlicensed Wireless Multipoint System in Sacramento Metro"
2-2:30 PM	Break
2:30-4:00 PM	Matt Hanson and Stanley Norikane, Caltrans "Weigh-In-Motion NOT DONE ON A WIM!"
4:00-4:15 PM	Closing Comments / Evaluation

Appendix C: Detailed Evaluation Results

<u>Speaker Evaluations</u>

1. What was the overall <u>quality</u> of each speaker's presentation? Please circle one rating for each speaker. (5 = excellent, 3 = average, 1 = poor)

Speaker	Avg. Rating
Clint Gregory (Wireless Modem for Traffic Data Collection)	4.0
Doug Spencer (Weather Warning / Road Closure Gates)	4.6
Dean Campbell (Unlicensed Wireless)	3.3
Stanley Norikane / Matt Hanson (Weigh-in-Motion)	3.5

    Comments:

    *   Everyone did well; Dean could have been a little more prepared
    *   Seems like there is too much material. Perhaps do a 30-minute overview and focus the rest of the time on a specific subsystem(s). Some slides were difficult to see (too small).
    *   Having presentation material 1 week ahead of time (even a draft copy) would be beneficial in deciding who to bring along to the forum. It would also be useful in preparing questions prior to discussion; some things take a bit more thought to formulate.
    *   Dean: a little too wordy; Clint: a little too vendor-oriented slides; Matt/Stan: digression took away from presentation; Doug: a lot of detail in presentation, would be nice to have seen larger/clearer flow charts
    *   Dean "read" too much and the material was taken from other (uncited) sources
    *   Weather warning was very good. Some: the presentation was accurate, but the level of engineering done on the actual project was weak.
    *   Speakers should avoid reading directly from their slides. Otherwise all speakers were very familiar with their topic.

2. How was the <u>level of detail</u> in each speaker's presentation? Please circle one rating for each speaker. (5 = Too detailed; 3 = Appropriate detail; 1 = Not detailed enough)

Speaker	Avg. Rating
Clint Gregory (Wireless Modem for Traffic Data Collection)	3.1
Doug Spencer (Weather Warning / Road Closure Gates)	3.6
Dean Campbell (Unlicensed Wireless)	3.2
Stanley Norikane / Matt Hanson (Weigh-in-Motion)	2.9

    Comments:

    *   Dean's detail seemed to me to go in the wrong direction; it seemed more like a review of digital modulation
    *   Good detail based on 90 minutes. Some slides were difficult to see; suggest printing 2 slides per page.

- As an appendix and not actually presented, more technical info on the equipment used by each presenter would be helpful, especially to the implementers
- Doug: excellent nice examples of PLC usage; Matt: hardly any details, nice to see more; Dean: details there, but not enough coverage
- Dean placed too much effort/emphasis on product background and not enough on his own work. Balance should have been 75 percent on his work, 25 percent on Canopy background
- Learned a lot from most speakers; WIM slides were dated, however

3.   How <u>relevant</u> was each speaker's presentation to <u>your</u> interests? Please circle one rating for each speaker. (5 = Extremely relevant; 1 = Irrelevant)

Speaker	Avg. Rating
Clint Gregory (Wireless Modem for Traffic Data Collection)	4.3
Doug Spencer (Weather Warning / Road Closure Gates)	4.5
Dean Campbell (Unlicensed Wireless)	3.9
Stanley Norikane / Matt Hanson (Weigh-in-Motion)	3.0

Comments:

- All was relevant. WIM is something our group isn't generally concerned with, but it was interesting
- Will be contacting Doug in future about his designs
- Although the latter was outside my interest area, it's good to have presentations like WIM; learn new things
- Weigh in motion may not have been very relevant to others…
- Good level of technical detail

<u>Overall</u>

4.   How satisfied were you with the following aspects of the forum? (5 = very satisfied; 3 = neutral; 1 = very dissatisfied)

Aspect	Avg. Rating
Resort Facilities	4.7
Location	4.5
Ease of Access to Location	4.4
Cost	4.9
Meeting Duration	4.3
Food Quality	4.0
Networking	4.3

Comments:

- I had a great time
- Great event
- Outstanding forum!
- Very good
- Social event was better this year, but it ran a bit late, especially considering the ride back

- Overall excellent. Wednesday dinner was not quite as good as last year. Shasta Caverns trip and dinner was very good.
- If more presentations could be made, I'd like to see the forum be a day longer

5. How likely would you be to attend a similar event in the future? (5 = Very likely; 3 = Neutral; 1 = Not at all likely)

    Average Score: 4.8

6. Would you be interested in making a presentation at a similar event in the future? (5 = Very interested; 3 = Neutral; 1 = Not at all interested)

    Average Score: 3.6

    Potential speakers / topics:

Ted Bailey	The type of technical information you need, depending upon topic, may be presented by someone else
Sean Campbell	Google Earth and ITS Field Elements
Jose DeAlba	Truck escape ramp located in District 6, Kern County
Doug Galarus	Numerous topics, IT and comm related
Phil Graham	I'll have to see if anything worthy of presenting comes up in the next year
Tom Moore	Control of CMS through state's radio system
Ian Turnbull	Dial on demand routing, ITS node concept, rural ice detection and warning

7. If a similar event is planned in the future, please list topics that would be of interest to you.

- Something on backend data manipulation and tools; end result of data collection leading to dissemination
- Asset management/inventory systems (in detail)
- Alternate solutions for counts, speeds, etc. - loops, video, RTMS, Wavetronix, SpeedInfo, Wizard
- When to choose fiber for longer term data communications and when to supplement with short term needs (quickly develop a flow map)
- Wireless communications
- Microwave, radar detection, cellular and wireless detection
- Sensys detection and satellite transmission
- 802.11 WiFi
- Wi-Max

- RTMS/Wavetronix Design
- Similar to both years; include a good mix of IT and comm applications for ITS
- Communications
- Sensors
- Displays
- Detector systems
- Video encoding
- An optional tutorial on previous topic; i.e. microwave path calculations, reliability, etc. offered on first day
- Alternate roadside connectivity. IP/telemetry
- Video architecture

8.   If you had to pick one thing, what should be done to improve this forum for next year?

- A bigger conference room
- Focus on specific area or theme
- Have states develop a list of products, ITS devices, software, encoders, decoders, switches, etc. that they use for select purposes (share through a secure web portal or a simple XLS file)
- I like it the way it is; don't change
- Location is perfect; try making it at the same place
- Other states presenting besides California
- More involvement by other states
- It would be hard to top this year's meeting.
- 2 full days
- More family activities
- Advanced notice of topics (with materials) might allow preparation for easier participation

Please provide any comments that could help this forum improve.

- The conference room could get crowded if more attendees follow next year
- I think what you, WTI & Caltrans, have put together is a wonderful program! Thanks for letting me attend. If there is anything I can do to help for next year's, please let me know.
- Limit each presentation to no more than one hour, with more focus on results and comparing the results to initial assumptions
- We need to expand to more people and bigger forum. Also increased the number of days from one to at least a week, and try to integrate more people from other states and different Caltrans districts
- I think that this event was successful. Nice to see four states here. I would really like to see all western states here and perhaps expansion to two days in the future; 2-3 years out. Good job to Chris Strong and WTI in general; without you this would not be possible.

- Good job; enjoyed it!
- Thanks for much for your efforts. Thanks also for making this a "family-friendly" event.
- Great job
- Not next year but sometime in the future it would be great to have forum hosted by another state
- Love Mount Shasta, but would prefer a more centralized CA location
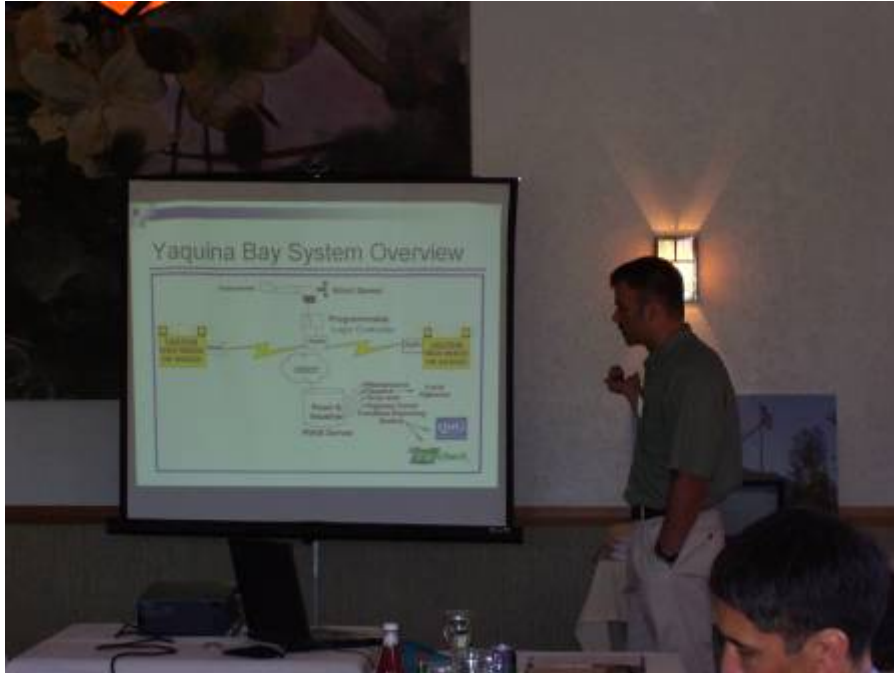- Presentations are a bit long without breaks to stretch

Appendix D: Photos

Figure 1: Attendees Listening to Presentation
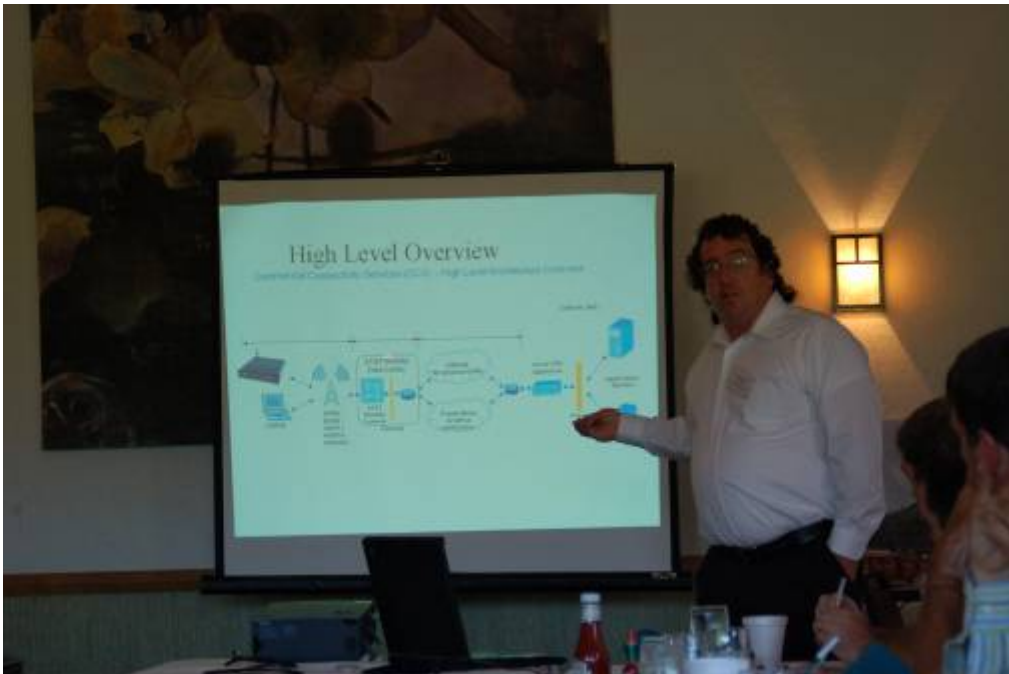
Figure 2: Clint Gregory Discussed His Wireless Modem Application

Figure 3: Doug Spencer Discusses the Yaquina Bay Wind Warning System

Figure 4: Dean Campbell Discusses His Experience with Unlicensed Wireless

Figure 5: Another Picture of Attendees

Figure 6: Stanley Norikane Discusses Caltrans' Installation of Weigh-in-Motion

Figure 7: Mount Shasta Caverns Tour

Figure 8: Dinner on Boat, Returning from Mount Shasta Caverns