The Western States Forum
Tech Transfer from the Implementer's Perspective

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NRITS 2009
Session D1: Personnel Development for Next Generation ITS Systems
Tuesday, August 25, 2009
10:15 AM
Abstract

The Western States Rural Transportation Technology Implementers Forum (WSRTTIF) is held annually at Mount Shasta, California. This implementers’ forum has completed its fourth year, and is made possible through a partnership between the California Department of Transportation and the Western Transportation Institute at Montana State University. In-depth, nuts and bolts presentations by ITS practitioners are the core of the forum, with details such as source code, equations, and component-level discussion brought out in 60-90 minute interactive sessions. Transparency is key, and presenters discuss not only success stories, but also failures and problems, so that participants can learn about what does and doesn’t work, and why. At the 2009 WSRTTIF, seven western states were represented by 44 participants. While attendance is limited to maintain an atmosphere conducive of professional, peer-to-peer exchange of technical content and experience, the steering committee is actively seeking involvement from more practitioners from western state DOTs.
Initial Concept

• Conceived by Ian Turnbull (Caltrans District 2), Sean Campbell (Caltrans DRI) and Chris Strong (WTI) at ITS World Congress 2005 in San Francisco.

• Addresses a need unmet by transportation conferences and venues:
  – Trade Conferences,
  – Academic Conferences,
  – TRB, ITSA, ITS World Congress,
  – IEEE, ACM, etc.
  – Even NRITS …

• Formed within California – Oregon Advanced Transportation System (COATS) Initiative.

• Focuses on the (Rural) ITS Engineer.
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.

*Made possible by a partnership between WTI/UTC and Caltrans*
The Western States Forum places high importance on the following:

**Technical Content:**
Presenters delve into how solutions were developed, focusing on applications that have been deployed in the field and are being used in live traffic situations. The longer presentation time ensures that this level of detail may be presented and understood.

**Discussion:**
Attendance is limited and extended time is allocated to facilitate and encourage detailed technical discussions.

**Transparency and trust:**
Presenters will discuss not only success stories, but also about failures and problems, so participants can learn about what does and doesn't work and why.
Who attends?

ITS technology practitioners at the state and local level:

- Field engineers and maintenance staff
- Systems integration/networking engineers
- Wireless/communications technicians
Location: Mt. Shasta, California
Caltrans District 2
Sample Agenda – from 2009

Western States Rural Transportation Technology Implementers Forum
Mt. Shasta, California

Meeting Agenda

Wednesday, June 17, 2009

Technical Presentations

7:00-8:00 AM   Breakfast Buffet

8:00-8:15 AM    Welcome and Introductions

8:15-10:15 AM   You’re Grounded…Ground System Design and its Role in ITS
                Jeremiah Pearce
                Caltrans District 2

10:15-10:35 AM  Break

10:35-12:05 PM  Creation of an Ethernet/IP Backbone System for Wyoming’s
                Department of Transportation
                Paul Andersen
                Wyoming Department of Transportation

12:05-1:00 PM   Lunch

1:00-3:00 PM    Automatic Traffic Data Collection Using Surveillance Video
                Cameras
                Yegor Malinovskiy, Yao-Jan Wu, Yinhai Wang: STAR Lab at
                the University of Washington
                Matthew Neeley, Ted Bailey: Washington State Department of
                Transportation

3:00-3:20 PM    Break

3:20-5:05 PM    Run-Away Truck Escape Ramp: A Trucker’s Safety Net
                Jose de Alba
                Caltrans District 6

5:05-5:15 PM    Comments / Evaluation
**Sample Agenda – from 2009**

**Thursday, June 18, 2009**

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
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</thead>
<tbody>
<tr>
<td>7:00-8:00 AM</td>
<td>Breakfast Buffet</td>
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<tr>
<td>8:00-8:15 AM</td>
<td>Introduction/Overview</td>
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</tbody>
</table>
| 8:15-9:00 AM  | *Idaho Traffic Management System (ITMS)*  
Mark Blackshaw  
Idaho Transportation Department |
| 9:00-9:10 AM  | Break                                                                   |
| 9:10-9:55 AM  | *Simple Network Contact Closure*  
Dean Campbell  
Caltrans District 3 |
| 9:55-10:10 AM | Break                                                                   |
| 10:10-10:55 AM| *Hand-Hold Diagnostics Terminal*  
Michael Edwards, Ryan Huffman  
Caltrans Division of Research & Innovation |
| 10:55-11:05 AM| Break                                                                   |
| 11:05 AM – 12:15 PM | *Caltrans Weather/Share System: A Look at Design, Development, and Usability*  
Shaowei Wang, Daniell Richter  
Western Transportation Institute |
| 12:15-1:00 PM | Concluding Remarks/Evaluations                                          |
| 12:30 PM      | Lunch                                                                   |
Ground System Design and its Role in ITS
Jeremiah Pearce
Caltrans District 2

Run-Away Truck Escape Ramp: A Trucker's Safety Net
Jose de Alba
Caltrans District 6
Presentations - 2009

Automatic Traffic Data Collection Using Surveillance Video Cameras
Yegor Malinovskiy, Yao-Jan Wu, Yinhai Wang
STAR Lab at the University of Washington
Matthew Neeley, Ted Bailey, WSDOT

Creation of an Ethernet/IP Backbone System for Wyoming's Department of Transportation
Paul J Anderson, WyDOT
Demonstrations - 2009

_Idaho Traffic Management System (ITMS)_
Mark Blackshaw
Idaho Transportation Department

_Simple Network Contact Closure_
Dean Campbell
Caltrans District 3
Demonstrations - 2009

Hand-Held Diagnostics Terminal
Ryan Huffman, Michael Edwards
Caltrans Division of Research & Innovation

Caltrans WeatherShare System: A Look at a Design, Development, and Usability
Shaowei Wang, Dan Richter
Western Transportation Institute
Networking Event - 2009
2006 – 2009

A lot has been accomplished in a short amount of time …
Western States Forum 2006

Chris Strong

Attendees

Sean Campbell

Ian Turnbull
Presentations: 2006 - 2008

- A Tale of Two RWISs (RWIS Trials and Tribulations)
- Caltrans District 9 Mountain Pass Signs
- Fiber Optic Network/Topology Design on State Highways
- Improving Traffic Data Collection Using Wireless Technology
- Microwave Communications for Rural ITS Applications
- Oregon DOT Traveler Information Systems
- Redding Responder Project: Mobile Data Communication Challenges and Solutions in Remote Rural Areas
- TMC-TMS Communications: Overview and Demonstration
- Unlicensed Wireless Multipoint System in Sacramento Metro
- Washington DOT Field Tests of Wireless and Microwave Vehicle Detection Systems
- Weather Warning Systems in Oregon and Region 5 Interstate Access Gates
- Web-Based ITS Field Element Control
- Weigh-In-Motion NOT DONE ON A WIM!
Presenters: 2006 - 2009

Past Presenters have been from 5 different states, 5 Caltrans Districts and 2 Caltrans Divisions.

- Idaho Transportation Department
- Oregon Department of Transportation
- University of Washington
- Washington Department of Transportation
- Western Transportation Institute
- Wyoming Department of Transportation
- Caltrans District 2
- Caltrans District 3
- Caltrans District 6
- Caltrans District 9
- Caltrans District 10
- Caltrans Division of Research & Innovation
- Caltrans Traffic Operations; Weigh-In-Motion
Attendees

Attendance at the 2009 Forum was three times that of the first Forum in 2006.
Western States Representation

2006—CA, ID, MT
2007—CA, MT, NV, OR, WA

2008, 2009
CA, ID, MT, NV, OR, WA, WY
# Positive Feedback

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

<table>
<thead>
<tr>
<th>Year</th>
<th>Average Score</th>
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<tbody>
<tr>
<td>2006</td>
<td>4.8</td>
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<tr>
<td>2007</td>
<td>4.8</td>
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<tr>
<td>2008</td>
<td>4.7</td>
</tr>
<tr>
<td>2009</td>
<td>4.6</td>
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Positive Feedback

2006: Enjoyed very much and looking forward to next year. Might consider opening up forum to more electrical engineers within Caltrans and other agencies.

2007: 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.

2007: 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.

2007: Thanks much for your efforts. Thanks also for making this a “family-friendly” event.

2008: Continue the practice of having more demonstrations and practical application info.

2008: The presentations were very informative; picked up a lot of technical information.

2009: Excellent Forum- Keep up the good work!

2009: This is a wonderful format, love the network opportunities. Thanks.

2009: Once again I learned relevant info that I can take back to my dept.

2009: Campfire networking event was best yet.

2009: Could do another half-day hands on training-next step from demos.

2009: It's already the best. Thanks for all the hard work.
Next Steps?

• If it isn’t broke, don’t fix it!
  – More participants?
  – More forums / venues?
  – Additional opportunities at the Forum – Training?
  – Expand to other “Western States” efforts?
Next Steps?

• We definitely would like participation from even more Western States: Arizona, Utah, Colorado, Montana, …

• We’re always looking for good, appropriate presenters and presentations. (Not a sales opportunity.)

• Vendors are not a part of the Forum – it is a safe, neutral place to discuss technology issues, working and non-working.
Western States Forum 2010

The Forum will be held at Mt. Shasta in June 2010 – the final date not selected yet.

If you are interested in attending or presenting, please contact:

Leann Koon:
- Phone: (406) 994-7643
- Fax: (406) 994-1697;
- Email: leann.koon@coe.montana.edu
Acknowledgements

• COATS Project - Steering Committee and Participants
• California Department of Transportation
  – Caltrans District 2
  – Caltrans Division of Research and Innovation
• Oregon Department of Transportation
• University Transportation Centers Program
• Western States Participants and all who help in putting the Forum together.