National Rural ITS Conference 2006





Fostering regional cooperation through technology application

TABLE OF CONTENTS

Welcome/Special Thanks	1
Sponsors/Vendors	2
Big Sky Resort Map	3
Important Notes	4
Agenda	4
Speaker Bios	12

SCHEDULE-AT-A-GLANCE

Sunday, August 13th

8:00 am	ITS Procurement Course
10:00 am	Registration Desk Opens
6:00 pm	ITS Rocky Mountain Membership Meeting
7:00 pm	Vendor Show/Opening Reception

Monday, August 14th

7:30am	Vendor Area Opens/Continental Breakfast
8:30 am	Sessions begin
11:30 am	Lunch
4:15 pm	Adjourn for day
4:30 pm	Depart for West Yellowstone Dinner/Dance
(group activity)	

Tuesday, August 15th

7:30am	Vendor Area Opens/Continental Breakfast
8:30 am	Sessions begin
12:00 pm	Lunch
4:00 pm	Adjourn for day
4:15 – 5:00 pm	Depart for individual choice activities

Wednesday, August 16th

7:30am	Continental Breakfast
8:30 am	Sessions begin
8:30 am	United We Ride/Mobility Services for All
	Americans Workshop for Rural Areas
	(by invitation only)
12:00 pm	Conference Adjourns
1:00 pm	Rural SIG Committee Meeting



WELCOME

This year's conference hosts, the Western Transportation Institute and the Rocky Mountain Chapter of ITS America, would like to welcome you to Big Sky Country and the 2006 National Rural ITS Conference. Following on the heels of a record number of abstract submittals, we have assembled an impressive agenda with speakers and moderators from a variety of backgrounds. Our goal is to assist attendees in learning and sharing as much knowledge as possible in the time available. We hope you find the conference informative.

SPECIAL THANKS

Many individuals have come together to help make this event a success. In addition to those individuals speaking and moderating at the conference, we want to extend a special thank you to our conference planning committee:

Steve Albert, Western Transportation Institute Mike Bousliman, Montana Department of Transportation Richard Hodges, Hodges Transportation Consulting, LLC Thomas Kratochvil, New Mexico Department of Transportation Richard Manser, Utah Department of Transportation Mark Owens, Meridian Environmental Technology, Inc. Nels Sanddal, Critical Illness and Trauma Foundation Keith Trimels, IDT Group Wei Zhang, Federal Highway Administration

The following individuals assisted by reviewing abstracts: Steve Albert, Western Transportation Institute Barbara Blue, Kansas Department of Transportation Mike Bousliman, Montana Department of Transportation Sean Campbell, California Department of Transportation Mike Cole, Montana State University Steve Gaddy, Meridian Environmental Technology, Inc. Dia Gainor, Idaho EMS Bureau Susan Gallagher, Western Transportation Institute Yehuda Gross, Federal Highway Administration Sean Graham, Western Transportation Institute Marcel Huijser, Western Transportation Institute Bill Jameson, Western Transportation Institute David Kack, Western Transportation Institute Thomas Kratochvil, New Mexico Department of Transportation Fergus Laughridge, Nevada State Health Division Suzanne Lassacher, Western Transportation Institute Bill Legg, Washington State Department of Transportation Richard Manser, Utah Department of Transportation Felix Martinez, Oregon Department of Transportation Ed McCormack, Washington State Transportation Center John Mewes, Meridian Environmental Technology, Inc. Mark Owens, Meridian Environmental Technology, Inc. James Pol, Federal Highway Administration Kevin Powell, Wyoming Department of Transportation Nels Sanddal, Critical Illness and Trauma Foundation Bob Seliskar, Federal Highway Administration Chris Strong, Western Transportation Institute Keith Trimels, IDT Group Ian Turnbull, California Department of Transportation Patricia Weaver, Kansas University Transportation Center Richard Wolff, Montana State University Wei Zhang, Federal Highway Administration

1

<u>Agenda</u>

SPONSORS

This event would not be possible if it were not for the generosity of our conference sponsors:

GOLD Level:

ITS America, FHWA/USDOT Institute of Transportation Engineers, District 6

SILVER Level:

Critical Illness and Trauma Foundation Montana Department of Transportation

BRONZE Level:

URS Corporation Western Systems, Inc.

FRIEND-OF-ITS Level:

Delcan Corporation National Center for Frontier Communication ThomTech Design, Inc.



VENDORS

Numeric Listing

Booth 1 - GarrettCom, Inc. Booth 2 - Advanced Traffic Products Booth 3 - Trapeze Group Booth 4 - International Road Dynamics, Inc. Booth 5 - Critical Illness and Trauma Foundation Booth 6 - ThomTech Design, Inc. Booth 7 - 3M Company Booth 8 - EIS, Inc. Booth 9 - Econolite Control Products Booth 10 - Coral Sales Company Booth 11 - National Center for Frontier Communities Booth 12 - Skyline Products Dynamic Message Signs Booth 13 - Smartwatch Systems Booth 14 - InfoTek Booth 15 - Western Systems, Inc. Booth 16 - ADDCO, Inc. Booth 17 - Sno Shu Systems, Inc. Booth 18 - Intermountain Traffic, LLC Booth 19 - Boschung America, LLC Booth 20 - Geodecisions Booth 21 - Pacific Intermedia Booth 22 - McCain Booth 23 - Western Transportation Institute Booth 24 - Quixote Transportation Technologies Booth 25 - High Sierra Electronics. Inc. Booth 26 - Intelligent Devices, Inc. Booth 27 - Open Roads Consulting, Inc. Booth 28 - Pacific Signal Supply Booth 29 - Daktronics Booth 30 - Adaptive MicroSystems, LLC Booth 31 - Scientific Systems/Cohu Electronics

Alphabetical Listing

3M Company (Booth 7) Adaptive MicroSystems, LLC (Booth 30) ADDCO, Inc. (Booth 16) Advanced Traffic Products (Booth 2) Boschung America, LLC (Booth 19) Coral Sales Company (Booth 10) Critical Illness and Trauma Foundation (Booth 5) Daktronics (Booth 29) Econolite Control Products (Booth 9) EIS, Inc. (Booth 8) GarrettCom, Inc. (Booth 1) Geodecisions (Booth 20) High Sierra Electronics, Inc. (Booth 25) InfoTek (Booth 14) Intelligent Devices, Inc. (Booth 26) Intermountain Traffic, LLC (Booth 18) International Road Dynamics, Inc. (Booth 4) McCain (Booth 22) National Center for Frontier Communities (Booth 11) Open Roads Consulting, Inc. (Booth 27) Pacific Intermedia (Booth 21) Pacific Signal supply (Booth 28) Quixote Transportation Technologies (Booth 24) Scientific Systems/Cohu Electronics (Booth 31) Skyline Products Dynamic Message Signs (Booth 12) Smartwatch Systems (Booth 13) Sno Shu Systems, Inc. (Booth 17) ThomTech Design, Inc. (Booth 6) Trapeze Group (Booth 3) Western Systems, Inc. (Booth 15) Western Transportation Institute (23)

Vendor Booth Locations





IMPORTANT NOTES

Assistance – If you have questions, or need assistance during the conference, please look for your "hosts" wearing nametags with blue ribbons.

Altitude - Big Sky Mountain village is at 7,500 feet, if you are arriving from lower elevations please remember to stay hydrated and pace yourself if you plan on participating in any activities.

Nametags – Nametags allow attendees and guests entrance to all applicable conference sessions, meals and activities. Please have your nametag with you at all times. Please note that the opening reception, continental breakfasts, lunch on Monday and Tuesday and dinner on Monday are included in the attendee registration fee. Guests are invited to the opening reception and those who have signed up may also attend the Monday evening dinner.

Dress – The Yellowstone Conference Center is located at 7,500 feet above sea level. Evening and nighttime temperatures can easily dip into the 40s (Fahrenheit). It is recommended that you bring a jacket for evening activities. Dress for the conference is business (Montana) casual.

Registration/Activities – The registration desk will be open all 4 days of the conference (see following pages for times). If you have questions regarding sessions or activity meeting times/places, please feel free to stop and ask for assistance. You can also phone us at 1-866-633-8110.

CEUs – For those individuals who signed up to receive CEUs for their attendance at the conference, 1.65 CEUs will be offered for the full conference (Monday through Wednesday) and 1.3 CEUs will be offered for Monday and Tuesday sessions.

Proceedings – The NRITS Conference staff will be collecting the presentations from speakers and making them available to conference participants at the following website: www.coe.montana.edu/wti/tech_transfer.html

The proceedings should be available by 9/15/2006.







AGENDA

Sunday, August 13th

8:00 am - 5:00 pm

ITS Procurement (NHI Course), Lake/Canyon Room

Deployment of ITS introduces new challenges to state and local transportation agencies that operate under traditional procurement practices developed to support the design and construction of roads and bridges or to design and construct rail projects. The traditional practices do not readily accommodate the special needs of ITS procurement that is focused on operations. For this reason, the transportation professional must recognize the special considerations required in ITS procurements, and understand how they can be accommodated. This seminar is intended to heighten awareness of the challenges in procuring ITS within the traditional construction project environment. It combines lectures with presentations of case studies to describe the lessons learned from past ITS projects and to help ensure successful ITS procurement.

10:00 am – 9:00 pm Registration, *Firehole Lounge*

2:00 – 6:00 pm Vendor Setup, Madison/Gallatin Ballrooms

6:00 – 7:00 pm ITS Rocky Mountain Membership Meeting, *Lake/ Canyon Room*

7:00 – 9:00 pm Vendor Show/Reception, *Madison/Gallatin Ballrooms* This event sponsored by URS Corporation and Western Systems, Inc.

Monday, August 14th

7:00 am **Registration**, *Firehole Lounge*

7:30 am Vendor Area Opens, *Madison/Gallatin*

7:30 – 8:30 am Continental Breakfast, Lower Atrium/Madison Ballroom

8:30 am **OPENING SESSION, Jefferson Ballroom** Steve Albert, Director, Western Transportation Institute Jim Currie, Deputy Director, Montana Department of Transportation Neil Schuster, President & CEO, ITS America

9:30 am BREAK, *Madison/Gallatin Ballroom*

9:45 am **CONCURRENT SESSIONS**

Session A1: Technology Synthesis and Evaluation of **Road/Weather Systems** Dunraven/Obsidian

MODERATOR: Ed Boselly, Weather Solutions Group

 Katie O'Keefe, Western Transportation Institute Evaluation of the UDOT Weather Operations/RWIS Program · Manju Kumar, Western Transportation Institute Evaluation of Automated Wind Warning Systems • Xianming Shi, Western Transportation Institute Synthesis of Vehicle Based Winter Maintenance Technologies · Ahmed Al-Kaisy, Montana State University Weather-Response Signal Timing: Practical Guidelines

This session will present Utah and Oregon's approach to automated weather systems, as well as information on vehicle-mounted winter maintenance technologies and the impact of adverse weather on signal operation.

Session A2: ATIS and 511 Interoperability Lamar/Gibbon

MODERATOR: Ben Frevert, Iteris

 Robert White, Vermont Agency of Transportation ConnectVermont: Vermont's Tourism and Traveler Information Platform Jaime Eidswick, Western Transportation Institute Evaluation of Alaska's 511 System Heather Young, ITS America 511 Interoperability Quick Tips ROUNDTABLE DISCUSSION

Advanced Traveler Information Systems (ATIS) play a vital role in ITS. This session will cover location-based wireless services in connection with ATIS as well as insights into Vermont's ConnectVermont System. Presenters will also provide examples from 511 in Alaska and 511 Interoperability Quick Tips.

Session A3: Coordinated Public Mobility Lake/Canyon

MODERATOR: Gwo-Wei Torng, Mitretek Systems

· John Krause, Idaho Transportation Department Idaho Statewide APTS Assessment Pam Couch, Modoc County Transportation Commission An Evolving Frontier-Rural Mobility Management Center: Improving Coordination and Mobility with Advanced Technologies · David Kack, Western Transportation Institute An Evaluation of the Transportation Component of the Real Choices

Systems Change Grant in Montana

ROUNDTABLE DISCUSSION

Rural/Frontier America provides a unique challenge to public transportation providers. Come hear what other states are doing to improve services in rural locations.

Session A4: Innovative Communication Solutions Amphitheatre

MODERATOR: David Lochtefeld, Utah Department of Transportation

· Doug Galarus, Western Transportation Institute

The Redding Responder Project: Mobile Data Communication Challenges in Remote Rural Areas

Dr. Richard Wolff, Montana State University

Providing Traveler Information in Rural Areas Using Ad Hoc Wireless Routing

David Register, Science Applications International Corporation

Implementing Multi-tiered Wireless Communications in a National Park • Bradley Cameron, Utah Department of Transportation

City-wide Wireless Traffic Signal Interconnect and TCC Implementation for Utah's Washington County

This session will summarize analysis techniques, challenges, and applications of various new communication systems (among them, wireless sensor network, mobile ad hoc wireless networks, etc.)

11:30 am

LUNCH, Huntley Main Dining Room

This luncheon sponsored by the Critical Illness and **Trauma Foundation**

12:30 pm **CONCURRENT SESSIONS**

Session B1: Road/Weather – Modeling Applications in **Road Maintenance**

Lake/Canyon

MODERATOR: Thomas Kratochvil, New Mexico Department of Transportation

- Jennifer Hanson, Surface Transportation Weather Research Center Spring Load Restriction Modeling
- Damon Grabow, Surface Transportation Weather Research Center A Discussion of Geospatial Blowing Snow Susceptibility Index
- Benjamin Hershey, Surface Transportation Weather Research Center The Effects of Residual Chemical on the Road During Blowing/Drifting Snow Events
- · Leon Osborne, Jr., Surface Transportation Weather Research Center A Blowing and Drifting Snow Prediction System Supporting Winter Road Maintenance Decision Making

Learn about some of the cutting-edge work in modeling for road/ weather applications. Spring load restrictions, blowing snow susceptibility index, blowing and drifting snow prediction systems and the effects of residual chemical on blowing/drifting snow events will be covered.







Session B2: "Rural" Congestion and Travel - Getting the Word Out Amphitheatre

MODERATOR: Fred Kitchener, McFarland Management LLC

Michael Klatt, ADDCO, Inc.

No Mickey Mouse Operation: PITS Keeps Travelers Informed Chris Strong, Western Transportation Institute Golden Gate National Recreation Area ITS Pilot Project Evaluation Mark Parry, Utah Department of Transportation A Road for All Seasons: The Little Cottonwood Canyon Transportation Study Gary Danczyk, Glacier National Park

Using ITS to enable Going-to-the-Sun Road Construction

How do you ensure that information on travel delays reaches the traveling public? This session highlights some of the technologies and strategies used by various states.

Session B3: ITS Solutions for Rural Transit Dunraven/Obsidian

MODERATOR: Richard Hodges, Hodges Transportation Consulting, LLC

Todd Allen, RouteMatch Software

Managing and Coordinating Transportation in Rural Communities Using Transit ITS Technologies

· Jeff Gerfen, California Polytechnic State University

Commercialization Test Deployment of the EDAPTS Smart Transit System · Yehuda Gross, ITS Joint Program Office, USDOT

System Impacts and Lessons Learned from Community Transportation Coordination Operational Tests Using ITS

ROUNDTABLE DISCUSSION

Come hear about best practices and lessons learned for deploying ITS in rural transit. This session will highlight user friendly passenger information systems as well as ITS technologies in use in other parts of the country. The ultimate goal - make ITS technologies more available to the small transit community.

Session B4: Innovative Data Collection and Sharing Lamar/Gibbon

MODERATOR: Sean Campbell, California Department of Transportation

 Jack Stickel, Alaska Department of Transportation and Public Facilities Seasonal Weight Restriction Decision Making Process

· Gregory Thompson, ThomTech Design, Inc.

Level of Service Evaluation and Analysis of Anti-Icing Road Treatments • Doug Galarus, Western Transportation Institute

The WeatherShare Project: Aggregation and Dissemination of Weather Information for Public Safety

· Clint Gregory, California Department of Transportation New Frontiers in Data Collection

How do you collect the data necessary to address the wide variety of issues faced by the transportation professional on a daily basis? From truck weights to temperature data to emergency vehicle locations, this session will address methods and systems that can be utilized to collect this data and much more.

2:15 pm

BREAK, Madison/Gallatin Ballrooms

This break sponsored by ThomTech Design, Inc.

2:30 pm **CONCURRENT SESSIONS**

Session C1: Innovative Road/Weather Data Collection, **Control and Sharing**

Lake/Canyon MODERATOR: Mark Owens, Meridian Environmental Technology, Inc.

Xianming Shi, Western Transportation Institute

Integrating the Surface Transportation Weather Information: An ITS System for Northern California

- · Ray Murphy, Federal Highway Administration
- New and Emerging Strategies for Road-Weather Management
- · Edward Boselly, Weather Solutions Group

Integrated Information for Roadway Maintenance and Operations Support · Bonnie Haskins, Surface Transportation Weather Research Center Jennifer Hanson, Surface Transportation Weather Research Center ESS Data Control and Evaluation

Cutting edge technologies and newly developed integration tools that gather data and information directly from the roadway environment will be presented. Environmental Sensor Stations (ESS) and Maintenance Decision Support Systems (MDSS) will also be touched upon.

Session C2: Multi-State Initiatives Dunraven/Obsidian

MODERATOR: Steve Albert, Western Transportation Institute

· Bill Legg, Washington State Department of Transportation North/West Passage Corridor: Development of an ITS Integrated Corridor Strategic Plan

- · Ed Ryen, North Dakota Department of Transportation
- Multi-State ITS Project Deployment: A Win-Win Arrangement
- · David Huft, South Dakota Department of Transportation
- The Pooled Fund Study Maintenance Decision Support System
- · Ray Starr, Minnesota Department of Transportation

Stop Sign GAP Assistance at Rural Expressway Intersections

Facilitators will present examples of multi-state partnerships including center-to-center information, and corridor development as well as a discussion of the Maintenance Decision Support System Pooled Fund Study and Cooperative Intersection Collision Avoidance Systems.







Session C3: Transportation Management and Operations *Amphitheatre*

MODERATOR: Bob Koeberlein, Idaho Transportation Department

Gary Schneider, R&S Consulting

Innovation in Systems Engineering for ITS Design, Management and Operation

Karen Gilbertson, Kansas Department of Transportation

Kansas Statewide Transportation Operations and Management Center Study • Miomar Ivanovic, GeoDecisions

Addressing Rural ITS Needs When Developing Statewide ITS Operations Strategies

· Davis Powell, Texas Department of Transportation

Texoma Vision: Traffic Management Center with a Rural Texas Twist

This session presents lessons learned from adapting a historically urban tool – Transportation Management Centers (TMC) – to a rural environment. All aspects of a TMC will be touched upon from consideration of stakeholder needs during the planning process to system components and operation protocol.

Session C4: ITS Resources Lamar/Gibbon

MODERATOR: Dennis Foderberg, Short Elliott Hendrickson, Inc.

• David Kack, Western Transportation Institute

Developing a Transportation Toolkit for Federal Land Managers

Heather Young, ITS America

SAFETEA-LU S1201: Real-Time Systems Information Management Program • Stephen Gordon, Oak Ridge National Laboratory

The Federal Highway Administration's ITS Knowledge Resources

ROUNDTABLE DISCUSSION

Learn about some of the new resources available to individuals in the ITS field. Topics covered will include the basic- online ITS knowledge resources available from FHWA – to more complex issues of the Real-Time Systems Information Management Program outlined in SAFETEA-LU and a decision support system software "toolkit" that is available to Federal Land Managers.

4:15 pm Adjourn for Day

4:30 – 5:00 pm West Yellowstone Dinner/Dance, *Huntley Lodge Lobby*

Conference attendees and guests should meet in the main lobby of Huntley Lodge for loading onto the buses. The evening will begin with a leisurely bus ride from the resort to the town of West Yellowstone. Upon arrival at the historic Union Pacific Dining Lodge, guests will be treated to a traditional western dinner. The evening continues with dance lessons and dancing – all accompanied by a live band (Shane Clouse and Stomping Ground). Individuals can also take some time after dinner to wander around the local shops – a guide to West Yellowstone is provided in your conference packets. The first bus will return to Big Sky at 8:30 pm for those individuals who wish to turn in early. Additional buses will depart at 9:00 pm, 9:20 pm, 9:40 pm, 10:00 pm and 10:20 pm. This event is included in the registration costs for attendees – only guests needed to register separately.

Tuesday, August 15th

7:00 am **Registration**, *Firehole Lounge*

7:30 am Vendor Area Opens, *Madison/Gallatin Ballrooms*

7:30 - 8:30 am

Continental Breakfast, Lower Atrium/Madison Ballroom

8:30 am CONCURRENT SESSIONS

Session D1: Commercial Vehicle Safety and Operations

Dunraven/Obsidian

MODERATOR: Bill Legg, Washington State Department of Transportation

• Larry Redd, R&S Consulting

Evaluation of Intelligent Transportation System Alternatives for Reducing the Risks of Truck Rollover Crashes Due to High Winds

• Randy Allemeier, Idaho Transportation Department

The Idaho Smart Roadside System "Efficient, Service-Oriented Weight Enforcement"

• Ed McCormack, Washington State Transportation Center Near Real-Time Truck Travel Data in Rural Corridors

How are some states addressing such commercial vehicle issues as rollover crashes and weight enforcement? This session will inform you about these issues and more.

Session D2: Innovative Approaches to Data and Communications *Amphitheatre*

MODERATOR: Dean Deeter, Athey Creek Consultants

 Leslie Fowler, Kansas Department of Transportation Dorothy to the Wizard: "Can You Hear Me Now?" An Innovative Approach to Providing Public Safety and Intelligent Transportation Systems (ITS) Communications in Rural Kansas • Greg Thompson, ThomTech Desin, Inc. Chaos versus Blink Applied to Data Collection • POLINDTABLE DISCUSSION

ROUNDTABLE DISCUSSION

This session presents some new ways of thinking about some of the old ITS issues and challenges. Learn about the technical, legal and institutional issues of installing a 800 MHz system that is accessible to both the public and private sector as well as tailoring mobile data collection to meet increasing efficiency and safety requirements.

Session D3: ITS Maintenance Lake/Canyon

MODERATOR: Mike Bousliman, Montana Department of Transportation

Manju Kumar, Western Transportation Institute
 Maintenance of ITS Devices in Rural Areas: Case Studies
 John Hansen, ITS-Solutions-Help, LLC/Mobile Detect, Inc.
 ITS Requires Effective Maintenance (You Actually Wanted this to Work
 Too?!)
 POLIMIDITABLE DISCUSSION

ROUNDTABLE DISCUSSION

Critical to the long-term success of ITS deployment is the timely and appropriate maintenance of ITS elements. Learn about some of the unique challenges and findings in the emerging field of ITS maintenance.

Session D4: Second Generation CARS-511 Larmar/Gibbon

MODERATOR: Thomas Kratochvil, New Mexico Department of Transportation

· Greg Laragan, Idaho Transportation Department

Overcoming the Challenges of Implementing a New Statewide Traveler Information and 511 System – Idaho's Experiences

• Bruce Burrows, Wyoming Department of Transportation

Route-based reporting for ATIS (Telephone Component)

• Peter Davies, Castle Rock Consultants

Second Generation CARS-511: Building on the Experiences of 12 States to pilot Second Generation Systems in Idaho and Wyoming

Moving beyond the initial implementation of CARS-511 systems, learn about the improvements now available within the CARS-511 system and how some DOTS are utilizing these to improve their traveler information systems.

10:00 am

BREAK, Madison/Gallatin Ballrooms

This break sponsored by Delcan Corporation

10:15 am CONCURRENT SESSIONS

Session E1: Animal Detection and Warning Dunraven/Obsidian

SPECIAL NOTE: An Animal Detection Systems Professional Tour will follow this session at 1:00 pm. MODERATOR: Rob Ament, Western Transportation Institute

Sedat Gulen, Indiana Department of Transportation

Evaluation of Radar (Radio Detection and Ranging) Sensing in Reducing Vehicle-Deer Collisions on the Indiana Toll Road

Marcel Huijser, Western Transportation Institute

The Reliability of the Animal Detection System Along Hwy 191 in Yellowstone National Park, Montana

Laura Stanley, Virginia Tech Transportation Institute

Enhanced Wildlife Warnings as Potential Means of Reducing Wildlife-Vehicle Collisions

Amanda Hardy, Western Transportation Institute

Effectiveness of Animal Advisory Messages on Dynamic Message Signs as a Speed Reduction Tool: A Case Study in Rural Montana

Animal-vehicle collisions on rural roads present a serious safety danger to both people and wildlife. Learn about some of the latest systems available for detecting and avoiding animals on the roadway. This session will be followed by a professional tour of an Animal Detection System deployment site.

Session E2: Public Safety Integration: Examples and Best Practices Lamar/Gibbon

MODERATOR: Dia Gainor, Idaho EMS Bureau

 Doug Funke, General Dynamics Advanced Information Systems Integration of Collision and Emergency Medical Services Data to Improve Response to Automobile Collisions in the State of Alabama • Chris Winkler, Washington State Department of Transportation Construction Project Traffic Monitoring and Response System • John Hansen, ITS-Solutions-Help, LLC Catching the BAD GUYS • Kevin McGinnis, National Association of EMS Officials

• Kevin McGinnis, National Association of EMS Officials Pursuing a National Unified Goal for Traffic Incident Management

In our post 9-11 world, new methods and efficiencies are being sought to improve emergency medical services and response time, warn of impending nuclear danger or simply improve Traffic Incident Management. This session will highlight efforts from Alabama to Washington as well as lessons learned from a European scanning tour.

Session E3: Using ITS for Information Collection and Dissemination *Amphitheatre*

MODERATOR: Mark Parry, Utah Department of Transportation

Sean Campbell, California Department of Transportation

Web Based ITS Field Element Control and Traveler Information

Kristin Virshbo, Castle Rock Consultants

Expanding a Condition Reporting System into a Statewide Traffic Management System: The Experiences of Deploying the New York Thruway Authority Statewide Traffic Management System

Mohammad Smadi, Advanced Traffic Analysis Center

DMS Composer: A Software Application for Supporting DMS Operation • Tom Blaine, New Mexico Department of Transportation Design of Automated Variable Speed Limits and Lane Assignments in

Rural Areas

CCTV, DMS, and other ITS elements have been used in urban areas for years. What are some of their applications within the rural environment and some of the challenges and rewards of deploying them? These questions and more will be answered during this session.







8

Session E4: New Strategies and Innovative Approaches to Road/Weather Systems

Lake/Canyon

MODERATOR: Mark Owens, Meridian Environmental Technology, Inc.

 Jack Stickel, Alaska Department of Transportation and Public Facilities *Rural Communications Solutions for Road Weather Information Systems* Joerg Rosenbohm, PB Farradyne

Pennsylvania Turnpike Commission (PTC) Fog Dectection

 Mark Askelson, Surface Transportation Weather Research Center The Pavement Precipitation Accumulation Estimation System (PPAES)
 Ben Frevert, Iteris

Idaho RWIS Build Out

Freeway spread spectrum wireless radios, Fog Warning systems, and Pavement Precipitation Accumulation Estimation System (PPAES) are some of the innovative approaches to Road/Weather Systems that will be discussed during this session. The concluding presentation will provide lessons learned and experience regarding deployment, use and maintenance of a large RWIS network in Idaho.

12:00 pm

LUNCH, Madison/Gallatin Ballrooms

This luncheon sponsored by the Montana Department of Transportation

1:00 pm

CONCURRENT SESSIONS

Session F1: Animal Detection Systems PROFES-SIONAL TOUR

SPECIAL NOTE: Please meet in the Huntley Main Lobby

The Western Transportation Institute at Montana State University is investigating the reliability and effectiveness of an experimental animal detection system located between mile post 28 and 29 along Highway 191 in Yellowstone National Park, Montana. The animal detection system relies on sensors that detect large animals that approach the road. Once a large animal is detected, drivers are informed that a large animal is on or near the road at that moment. The time-specific warning signals inform drivers to slow down, be more alert or both. The system was installed in the fall of 2002, but it took two years to identify and solve technological challenges. The system started to detect elk reliably in November 2004. You will be able to see the system along the 1 mile long road section, and WTI personnel will provide information on the functioning of the system, and the lessons learned with regard to the planning, installation and operation of an animal detection system.

Session F2: Evacuation Preparedness and Response *Dunraven/Obsidian*

MODERATOR: Steve Clinger, Federal Highway Administration

• Daryl Taavola, URS Corporation

- Twin Cities Metro Evacuation Traffic Management Plan
- Charles Brindell, PBS&J
- FDOT Study of Multi-State Hurricane Contra-Flow and Evacuation Response • ROUNDTABLE DISCUSSION

This session presents results of a multi-state study of contra flow plans and the lessons learned in implementing contra flow, evacuations and responses in various states. It will also give an example of incorporating elements of existing local, regional, and state emergency and evacuation plans into a larger urban or statewide evacuation traffic management plan.

Session F3: Leveraging to Meet Partner Needs Lamar/Gibbon

MODERATOR: Steve Albert, Western Transportation Institute

• Lisa Loftus-Otway, Center for Transportation Research at University of Texas at Austin

Strategies for ITS Funding: The Benefits of Leasing

Tip Franklin, Serco Group, Inc.

- Multi-Tasking for ITS
- ROUNDTABLE DISCUSSION

Deployment of ITS over the past 10 years has produced positive results. However, funding ITS deployments in rural areas remains challenging. New ways of funding deployments and increasing efficiencies or economies of scale for these deployments will be presented during this session.

Session F4: Technology Evaluation Amphitheatre

MODERATOR: Wei Zhang, Federal Highway Administration

- Wei Zhang, Federal Highway Administration
- Field Evaluation of Detection Control Systems
- · Peter Davies, Castle Rock Consultants
- The Potential Applications of High Definition Radio for Rural ITS
- Chris Strong, Western Transportation Institute
- Pilot Application of AVL on Snow Plows

What new technologies are available to state and local departments of transportation to improve the traveling environment? How well do they work? This session will answer these questions and more.

2:30 pm

BREAK, Madison/Gallatin Ballrooms

This break sponsored by the National Center for Frontier Communities

2:45 pm CONCURRENT SESSIONS

Session G1: Improving EMS and Incident Response Lake/Canyon

MODERATOR: Kevin McGinnis, National Association of State EMS Officials

• Nels Sanddal, Critical Illness and Trauma Foundation Rural Ambulance Crashes: Tragedies En Route to the Hospital

- Maria Flaging, Oslandr, Heingrit, et Duffela Deservel, Osata
- Marie Flanigan, Calspan-University at Buffalo Research Center
- A GIS Evaluation of EMS Response to Alaskan Car Crashes • ROUNDTABLE DISCUSSION
- From mainstreaming operations to address emergencies on transporta-

tion infrastructure to using GIS to improve EMS response in rural areas, this session will inform attendees of efforts to reduce the fatality rates in rural states.

Session G2: Using Existing Technology in New Ways Amphitheatre

MODERATOR: John Hansen, ITS-Solutions-Help, LLC

• Doug Galarus, Western Transportation Institute

The Application of Systems and Software Engineering Process Models for Development on Small to Moderate-Sized ITS Projects: Weather-Share and the Redding Responder Projects

- Manju Kumar, Western Transportation Institute
- A Smart Work Zone Delay Estimation System for Rural Highway Operations • PROJECT DEMONSTRATION (Work Zone Project)

This session demonstrates what happens when systems engineering and software engineering techniques are applied in new ways to existing technologies. These techniques, often associated with large-scale, multi-million dollar projects, can be applied successfully to smaller projects. A project demonstration will conclude the session.

Session G3: Communicating to Travelers: Lessons in Interagency Cooperation and Partnering *Dunraven/Obsidian*

MODERATOR: Greg Krueger, Michigan Department of Transportation

Amy Vanderbilt, Glacier National Park
Lisa Ballard, Current Transportation Solutions *Glacier National Park is the Sum of its Partnerships*Jennifer Douglas, Citizens Conservation Corps of West Virginia *West Virginia Courtesy Patrol: Striving to Meet Tourism and Traveler Needs*ROUNDTABLE DISCUSSION

Pre-planning, broad stakeholder outreach, and interagency cooperation can combine to create systems that communicate more effectively to the traveling public. This session shares lessons learned from some existing partnerships.

Session G4: Workforce Development Lamar/Gibbon

MODERATOR: Dennis Foderberg, Short Elliott Hendrickson, Inc.

· Emily Parkany, Mitretek Systems

New Opportunities for ITS Learning

• Richard Hodges, Hodges Transportation Consulting, Inc.

NTI's ITS Staffing Courses

• Joe Schopfer, Montana Department of Transportation

Developing Supervisors in a Technical Environment

Workforce development is a crucial component of ITS. This session will highlight some of the programs available to improve and extend your training dollars.







4:00 pm Adjourn for Day

4:15 – 5:00 pm

Depart for Individual Choice Activities

If you and/or your guest signed up for a evening activity, please refer to your registration packet for departure time/information.

Wednesday, August 16th

7:00 am Registration, *Firehole Lounge*

7:30 – 8:30 am Continental Breakfast, *Jefferson/Madison Ballroom*

8:30 am – 4:00 pm United We Ride/Mobility Services for All Americans Workshop for Rural Areas *Talus Room (Summit)*

To improve the effectiveness and efficiency of human service transportation systems, the USDOT ITS Joint Program Office launched the Mobility Services for All Americans (MSAA) Initiative. The objective of the MSAA Initiative is to bring stakeholders together and apply technological solutions to the barriers to accessibility and mobility for all travelers in general, and the transportation disadvantaged in particular. This workshop intends to provide opportunities for selected rural communities to directly interact with federal government representatives, subject matter experts from both public and private sectors, and their peer communities to exchange knowledge and information with one another. Attendance is by invitation only.

8:30 am CONCURRENT SESSIONS

Session H1: National Initiatives to Improve Emergency Medial Response

Lake/Canyon

MODERATOR: Nels Sanddal, Critical Illness and Trauma Foundation

- Jack Stickel, Alaska Department of Transportation and Public Facilities
- Roadway Inventory Data for EMS Response the MIRE Development
- Clay Mann, Intermountain Injury Control Research Center
- Reaching Towards a National EMS Dataset
- Jenny Hansen, Next Generation 9-1-1
- USDOT's Next Generation 9-1-1 Initiatives
- Kevin McGinnis, National Association of EMS Officials

Communications System of the Future

During the last 30 years, Emergency Medical Services (EMS) in the United States have grown exponentially. Today, the public expects the 911 system to work faster and better. This session will present national initiatives that are being undertaken to improve the EMS system for future generations.

Session H2: Innovative Data Collection and Sharing *Amphitheatre*

MODERATOR: Mark Owens, Meridian Environmental Technology, Inc.

· Bruce Churchill, Delcan Corporation

The Use of Cell Probe Data

- Stephen Gaddy, Meridian Environmental Technology, Inc. Automated Collection of Winter Maintenance Data: Applications and Challenges
- Doug Galarus, Western Transportation Institute

The Redding Responder Project: Computing and Communication in the Middle of Nowhere

PROJECT DEMONSTRATION (Redding Responder Project)

This session touches on the use of cellular technology to develop estimates of speeds and travel times as well as the development of mobile data communications. Special attention will be paid to collecting and sharing this information across systems. A project demonstration will cap the session.

Session H3: Partnering and Outreach – Veteran Programs to New Approaches

Dunraven/Obsidian

MODERATOR: Martha Morecock Eddy, Wilbur Smith Associates

- Dennis Foderberg, Short Elliott Hendrickson, Inc.
- ITS Minnesota Outreach
- Brian Scott, SRF Consulting, Inc.
- Lessons Learned from a Major ITS Deployment Along a Rural Corridor • Michael Shaw, U.S. Department of Transportation
- Satellite Navigation Services for Applications at Federal, State and Local Levels
- ROUNDTABLE DISCUSSION

Lessons learned from established programs – such as ITS Minnesota/ Minnesota Guidestar – as well as newer programs will be provided in this session. A roundtable discussion and audience participation will also be utilized.

Session H4: Microwave Communications for Rural ITS Applications

Lamar/Gibbon

MODERATOR: William Jameson, Western Transportation Institute

• Ian Turnbull, California Department of Transportation Microwave Communications for Rural ITS Applications

This session will provide an in-depth technical presentation of what the California Department of Transportation, District 2 did to use microwave radio (wireless) to connect ITS field elements back to the TMC at the District Office in Redding. System topology, frequency planning, microwave transmission considerations, path reliability, path calculations as well as installation issues are addressed. The session is intended for ITS Engineers to attend and leave with a good idea of what they would need to consider if they were to try this in their area. 10:15 am BREAK, *Lower Atrium*

10:30 am Rural ITS Buildout, Gallatin Ballroom

12:00 pm **Adjourn**

1:00 pm Rural Stakeholder Interest Group, Amphitheatre

The following agenda items will be addressed following greetings and introductions:

- USDOT FHWA Representative Briefing Rural Program activities at USDOT
- SAFETA-LU S1201 Briefing
- SURTOC Update
- FHWA Lessons Learned Database Training
- Methods to Accelerate the Deployment of Rural ITS and TMC's Pooled Fund Study
- Rural ITS Build-out Discussion
- National Rural ITS Conference
- ITS America Update & Outreach









SPEAKER BIOS

Al-Kaisy, Ahmed, Montana State University

Ahmed Al-Kaisy is an assistant professor in the Civil Engineering Department at Montana State University in Bozeman, Montana. Prior to joining MSU, Dr. Al-Kaisy served as an assistant professor at Bradley University in Peoria, Illinois and has held positions as research associate, project engineer and highway design engineer in the public and private sectors. Dr. Al-Kaisy holds a Ph.D. in civil engineering from Queen's University in Ontario, Canada and has extensive teaching and research experience in transportation engineering.

Allemeier, Randy, Iteris, Inc.

Dr. Allemeier is a principal with the firm of Iteris, Inc., where he has led Iteris' efforts in ITS/CVO and Commercial Vehicle Information Systems and Networks for the past six years. His work focuses on development and deployment of technologies to improve efficiency and safety in commercial vehicle operations. Prior to joining Iteris, Randy was a Senior Advisory Scientist at the Idaho National Laboratory in Idaho Falls, Idaho where his work focused on the development of noncontacting sensor technologies, road/weather information systems, and distributed computing. He received is Bachelor of Science degree from Montana State University and his Ph.D. from Johns Hopkins University.

Allen, Todd, RouteMatch Software

Todd Allen has been actively involved in the transportation industry for over 15 years. Todd has served in various industry-related roles such as a transportation consultant, general manager, senior transit planner and acting transit director. In particular, Todd has assisted rural and urban transit systems across North Carolina. In addition, Todd has also administered section 5310 & 5311 and statewide planning programs. Todd is currently the Director of Business Development & Communications at RouteMatch Software, where his main responsibilities include extending the current size of the market and capitalizing on new opportunities. In addition, his mission is to create and maintain strong strategic relationships with public, private and non-profit organizations that affect the future of RouteMatch and help with communications in both directions.

Askelson, Mark, Surface Transportation Weather Research Center Mark Askelson is an Assistant Professor in the Department of Atmospheric Sciences at the University of North Dakota. He has numerous research interests, including storm dynamics, weather prediction, radar meteorology, and surface transportation weather. Growing up in Minnesota, Mark experienced a variety of s evere weather phenomena, which motivated him to become a meteorologist and to try to better analyze and predict the weather. He studies both summer- and winter-time weather, with activities ranging from chasing tornadic storms to monitoring snowfall and its impact on roadways. His hobbies include most sports, especially football, softball, and fishing.

Ballard, Lisa, Current Transportation Solutions

Ms. Ballard works with organizations who serve rural and small urban areas to analyze, plan for, and operate their roads, bus systems, and supporting technologies. She holds the position of Transportation Scholar at Glacier National Park through June 2007. The National Park Transportation Scholars Program pairs transportation professionals and graduate students with National Parks seeking expert assistance on transportation-related projects. Besides working in Glacier, Lisa runs a consulting company, Current Transportation Solutions, based in Bozeman, Montana. She began her ITS career 11 years ago working on freeway management systems in southern California. In 2000 she moved to Bozeman and began working in the rural transportation field. Ms. Ballard holds a Masters degree in Civil Engineering from University of California, Irvine and a Bachelors degree from Cal Poly San Luis Obispo.

Blaine, Tom, New Mexico Department of Transportation

Tom Blaine is currently the Senior ITS Engineer in the ITS Bureau for New Mexico Department of Transportation. For the past 27 years, Tom has gained experience as a design engineer in both the public and private arena. He has developed expertise in ITS solutions to geometric problems, signal timing for progression of major corridor, geometric roadway design, bicycle facilities (on street and off street), and traffic operations around school zones. He developed the first two ITS corridors in the state of New Mexico and an automated sign inventory system by integrating GIS and GPS technologies. He is Past Chair of the ITS sub-committee, and current President of New Mexico ITE. He holds a B.S. in Agricultural Engineering from New Mexico State University.

Boselly, Ed, Weather Solutions Group

Ed Boselly heads Weather Solutions Group (WSG) located in Olympia, Washington. WSG provides consulting services to public and private entities in order to assist them in the reduction of the impact of weather on their operations. WSG also combines with leading experts in related fields to conduct research in and training for winter maintenance practices in highway agencies. Ed currently assists in the marketing of new road and weather information services for transportation operations. He brings over 40 years operational and research experience in meteorology. He has led numerous research projects and authored many publications related to road weather. He holds Bachelor of Science degrees in both chemistry and atmospheric sciences from the University of Washington, and a Master of Science degree in Meteorology from the University of Utah. Professionally, Ed is considered among the founders of road weather management and is a frequent guest speaker on road weather related activities. Ed is a member of the American Meteorological Society, where he is a member of two committees, the National Weather Association, and the American Public Works Association.









Brindell, Charles, PBS&J

Charlie Brindell is a Senior ITS Specialist and Project Manager with Post, Buckley, Schuh, and Jernigan, Inc (PBS&J). He has worked on ITS projects in Texas, Indiana, and North Carolina. Mr. Brindell has over eight years experience in ITS, more than six of those with Texas Department of Transportation (TxDOT). During his tenure with TxDOT, Charlie was responsible for rural ITS projects across the state and provided design and technology guidance to many urban districts. He evaluated and recommended new ITS technologies for TxDOT and managed a central ITS technical evaluation facility. Charlie has over 28 years experience with the Department of Defense in communications and computer systems maintenance and design, system design, requirements analysis, software process improvement, training and education. He is a former faculty member of Embry Riddle Aeronautical University and Hallmark Institute of Technology.

Burrows, Bruce, Wyoming Department of Transportation Bruce Burrows is a public affairs specialist with the Wyoming Department of Transportation. He works frequently on communications aspects of ITS-related issues and during the past year, participated with an intra-agency team in developing WYDOT's interactive voice response telephone system. Burrows earned a Bachelor of Arts degree in radio/ television journalism from the University of Montana and a master of public administration from the University of Wyoming.

Cameron, Bradley, Utah Department of Transportation Brad has been with the Utah Department of Transportation for the last 14 years. He has held various positions within the Department starting with 4 years in Central Maintenance. From there he spent another 4 years in Traffic Engineering focused on the Salt Lake City area. He joined the ITS Division 6 years ago as the State of Utah's Rural Project Manager. With ITS deployment as his main responsibility, Brad has been involved in countless CCTV, VMS, TMS and Fiber optic signal interconnect projects. He recently was recognized by the State of Utah for his efforts in implementing the new city managed Traffic Control Center in St. George, Utah.

Campbell, Sean, California Department of Transportation Sean Campbell has been with the California Department of Transportation for over 15 years. During this time, Sean has worked in the San Francisco Bay Area designing, deploying and implementing ITS projects, engineered the surveillance system for the National Automated Highway System Consortium Demo '97 event in San Diego, provided a key role in the California Oregon Advanced Transportation System (COATS) and has worked on numerous research projects for the department's Division of Research and Innovation. Mr.Campbell has also written a number of applications for controlling rural ITS field elements, such as CCTV control, Amber Alert Software for Changeable Message Signs and implemented a method to put Travel Times on the CMSs in the Bay Area. He received a BS degree in Electrical and Electronic Engineering from the California State University, Sacramento in 1991 and is a registered Electrical Engineer in the State of California.

Churchill, Bruce, Delcan Corporation

Mr. Churchill is currently the co-Project Manager for the San Diego Intermodal Transportation Management System (IMTMS), a program of five projects designed to integrate multi-modal transportation management centers in the San Diego Region. In 1985, he has been working in the Public Safety, Intelligent Transportation Systems (ITS) and Homeland Security fields. He was the Project Manager for a large part of California's state-legislated Service Authorities for Freeways and Expressways (SAFE) program. He also led a California Highway Patrol (CHP) project to study the realignment of 9-1-1 communications centers throughout the state and the US DOT-funded InterCAD Project in San Diego.Mr. Churchill is the Project Director of the Homeland Security & Public Safety Forum of ITS America and a member of the IEEE Incident Management Working Group that develops incident management message standards for transportation, law enforcement and HAZMAT. He also works with the US Department of Homeland Security on the Emergency Data Exchange Language (EDXL) project as a transportation advisor. He is a member of the Executive Board of the San Diego Chapter of the FBI InfraGard program for critical infrastructure protection.

Couch, Pam, Modac County Transportation Commission Pam Couch manages two small rural agencies: the Modoc County Transportation Commission, a regional transportation planning agency and the Modoc Transportation Agency, which operates "Sage Stage" public transit. Pam is responsible for transportation planning, administration, project management, transit operations, and coordination of public, human service agency and community transportation services. Pam is an energetic advocate for ITS tools and solutions for (neglected) rural and remote regions. In her spare time, Pam writes grant applications to benefit her agencies and community. Pam moved from suburban southern California to Modoc County in 1998, and <u>loves</u> her frontier rural lifestyle, clean air and healthy environment. She delights in her mustang horses, trail riding, and helping folks get where they need to go!

Danczyk, Gary, Glacier National Park

Gary Danczyk is the Project Manager for mitigation on the Going-tothe-Sun Road project. Mitigation includes a new alternate fuels transit system, transit center, and an ITS to link work zones, transit and park operations to visitors in an efficient and responsive manner ensuring they understand the road will remain open during the rehabilitation. Gary recently completed service as a U.S. Army engineer officer. He served in leadership and project management positions in combat units as well as several special national and multi-national assignments. Some highlights include Arctic engineering in Alaska, the Airborne Laser program during the first Gulf War, the Force XXI program to introduce the US Army to the world-wide-web and multinational operations during the break up of former Yugoslavia. He has a BS in Engineering from the US Military Academy, a MS in Physics from the US Naval Postgraduate School and is a registered Professional Engineer in Montana.



<u>Agenda</u>

Davies, Peter, Castle Rock Consultants

Peter Davies has over twenty years of experience in ITS design. His vision of creating a multi-state network of advanced traffic management and traveler information systems, based on the national ITS architecture and national ITS standards, makes traffic information exchange between groups of agencies a practical reality across North America. His approach to modular ITS architecture creates solutions that are core elements of innovative new ITS products - simple to use, yet complex enough to overcome today's transportation problems. During his 30-plus year career, Dr. Davies has worked on ITS and traffic engineering projects throughout North America and Europe; in the Middle East; in Australia; in South Africa; and in South-East Asia. He is the founder and CEO of Castle Rock.

Douglas, Jennifer, Citizens Conservation Corps of West Virginia Jennifer Douglas is the Director of the West Virginia Courtesy Patrol (WVCP), operated by the Citizens Conservation Corps of West Virginia (CCCWV), via contract with the West Virginia Division of Highways (WVDOH). The WVCP has been identified as a national Welfare-to-Work best practice model program by the United States Department of Labor for innovative approach to job creation. Jennifer has a Bachelor of Science degree in Criminal Justice Administration with a minor in Psychology from Bluefield State College. She is currently pursuing a master's degree in Technology Management with an emphasis in Transportation Systems at Marshall University. Formerly selected by West Virginia Executive Magazine as one of the state's top young executives, Jennifer was named a West Virginia 2002 Young Gun. Jennifer serves as a member of the Raleigh County Chamber of Commerce, the West Virginia Welfare Reform Coalition, Intelligent Transportation Systems (ITS) America, Rotary International, the WV Citizen Corps Council, and the National Association of Service and Conservation Corps.

Eidswick, Jaime, Western Transportation Institute

Jaime Eidswick, P.E. is a Research Engineer at the Western Transportation Institute at Montana State University-Bozeman, where her research priorities include traveler information, travel and tourism in National Parks and intelligent transportation system planning and evaluation. Prior to working at WTI, Jaime received her Master of Science in Civil Engineering from Texas A&M University in 2002 with a research emphasis in work zones, and her Bachelor of Science in Civil Engineering from the University of Massachusetts Amherst in 2000. She is a registered professional engineer in the state of Montana.

Flanigan, Marie, Calspan-University at Buffalo Research Center (CUBRC)

For more than fifteen years, Dr. Flanigan has performed technical work in both the Aerospace and Transportation arenas where she acquired extensive experience in the design and conduct of experimental ground & flight test programs, data analyses and computer modeling. She is currently leading the "Atlas & Database of Air Medical Services (ADAMS)" GIS Project, with US DOT funding from the Center for Transportation Injury Research (CenTIR). She and her colleagues are also working on various projects aimed at optimizing Automatic Crash Notification (ACN) data routing in order to speed delivery of emergency medical care to motor vehicle crash victims.

Foderberg, Dennis, Short Elliott Hendrickson, Inc.

Mr. Foderberg is a registered Civil Engineer and has over 40 years of professional experience. He currently serves as a Senior Consultant with Short Elliott Hendrickson, Inc. (SEH). Mr. Foderberg is past chairman and a current member of the Minnesota Guidestar Board of Directors. He is also a director of ITS Minnesota as well as a past president. He previously worked with the Minnesota Department of Transportation (Mn/DOT) where he provided assistance in their national and international ITS development program. He also served as the first director of the ITS Institute at the University of Minnesota. Mr. Foderberg served as the second chairman of the Advanced Rural Transportation Systems (ARTS) Committee of ITS America for 2 years and has been a national champion for Rural ITS issues. He helped organize the first ARTS Conferences and chaired the organizing committee for the 1996 and 2004 National Rural ITS Conferences that were held in Duluth, MN. He was a member of ITS America Coordinating Council for 7 years served as a member of the ITS America Board of Directors for 6 years. He chaired the TRB Communications Committee (A3A01) for 6 years. Mr. Foderberg is currently an active member of ITE's Management and Operations/ITS Council Executive Committee. Mr. Foderberg holds Bachelor's and Master's degrees in Civil Engineering from the University of Iowa.

Fowler, Leslie, Kansas Department of Transportation

Leslie Spencer Fowler is a staff attorney with Kansas Department of Transportation. She handles employment law, contract law, and the Kansas Open Records Act. Her legal work on contracts involves Intelligent Transportation System (ITS) work for the Agency. She started working on ITS issues when it was called IVHS. She was the lead attorney for the contracts that provided conduit, fiber, and bandwidth services for ITS and statewide programs.. Also, she works with ITS Consultants and Vendors on legal issues and solutions. She handles intellectual property rights legal issues for the agency and for ITS programs. She is past president of ITS Heartland, a five state member organization. She is chairperson of the Transportation Research Board (TRB) Emerging Technology Law Committee. She is licensed to practice law in Kansas, Missouri and Arizona. She is the former chamber attorney for Justice Tyler Lockett, of the Kansas Supreme Court.





Franklin, Tip, Serco Group, Inc.

Robert B. "Tip" Franklin, Jr. has a BS and MBA from Ohio State and joined the Intelligent Transportation Community in 1991 after a 27½ year career in the U.S. Army. Within the ITS Community, Tip was the Chairman of the ITS America Coordinating Council's Homeland Security Task Force, a member of the ITE Transportation Security Evacuation Advisory committee (TSEAC) as well as the ITE Traffic Incident Management committee. He is currently a member of the Transportation Research Board's Freeway Operations Committee. Tip also serves on the IEEE sponsored working group charged with developing the standard for message sets used to exchange information from transportation management systems and emergency management systems. He has written a number of papers discussing the interface of Traffic Management, Public Safety and Homeland Security, the design philosophy of ITS systems and on the overall value of ITS to the community.

Frevert, Ben, Ilteris, Inc.

Ben has a bachelor's degree in Civil Engineering from the University of Kansas. He worked for the Federal Highway Administration for 10 years in Washington, Michigan, California, and Idaho and is a licensed professional engineer in Idaho. Early in his career, Ben was involved in IVHS and then ITS with the FHWA at the project level and as the FHWA ITS Coordinator in Idaho. For the past eight years, Ben has been with Iteris working on ITS planning, development and deployment projects with a focus on rural and small urban areas.

Funke, Doug, General Dynamics Advanced Information Systems Mr. Funke is a Technical Manager for Research within General Dynamics' Transportation Security Solutions Line of Business. He is the Project Manager of the Alabama Automated Collision Notification (ACN) Project. Mr. Funke also served as the Deputy Manager on the National Highway Traffic Safety Administration's (NHTSA) ACN Field Operational Test that developed and tested advanced crash sensing and notification equipment and was General Dynamic's Program Manager on the Minnesota Mayday Plus and the USDOT / Minnesota DOT Data Routing for Mayday FOTs. In addition to recent work in the Mayday area, Mr. Funke has worked on projects in the areas of Automated Highway Systems (AHS) and incident management. He has a background in Human Factors Engineering with a Masters Degree in Industrial Engineering.

Gaddy, Stephen, Meridian Environmental Technology, Inc. Steve Gaddy is an atmospheric scientist specializing in road weather information systems at Meridian Environmental Technology, Inc. Steve holds a B.S. in Meteorology from The Pennsylvania State University, and an M.S. in Meteorology from The University of Oklahoma, where he studied the use of airborne dual-Doppler radar data in severe storms. More recently, Steve was employed by MIT Lincoln Laboratory, where he worked on the Integrated Terminal Weather System (ITWS) funded by the Federal Aviation Administration. At Meridian, Steve continues to work on a variety of projects related to surface transportation weather, including the integration of DOT maintenance data from Mobile Data Collection platforms into the pooled-fund study Maintenance Decision Support System.



Galarus, Doug, Western Transportation Institute

Mr. Galarus has more than 15 years experience in information technology development, testing, and implementation. He has extensive experience as the project lead for mobile data communications systems, database-driven web sites, web site design, desktop applications, kiosk development, PDA and Tablet PC -based development, and interactive CD-ROMs. At the Western Transportation Institute, he has applied his technical expertise to the development of specific applications for transportation safety, including improved tools for road weather management and road ecology. Mr. Galarus holds Master's degrees in Computer Science and Mathematics Education, and is Program Manager for the Systems Engineering, Development and Integration Program at WTI.

Gerfen, Jeff, California Polytechnic State University

Mr. Jeff Gerfen is a Project Director and Research Engineer at California Polytechnic State University, San Luis Obispo. Jeff has broad experience in ITS, data communications, electronic systems integration, system design, and project management. Jeff oversaw all aspects of development of the Efficient Deployment of Advanced Public Transportation Systems (EDAPTS) project in San Luis Obispo. Jeff is currently under contract in a joint project with Cal Poly Pomona to develop performance specifications for the EDAPTS system and conduct an EDAPTS test deployment on the Cal Poly Pomona shuttle system. Jeff also teaches courses in Intelligent Transportation Systems and electrical engineering at Cal Poly.

Gilbertson, Karen, Kansas Department of Transportation Karen Gilbertson, ITS Engineer, joined the ITS Unit and KDOT (Kansas Department of Transportation) in December, 2000. KDOT's ITS Unit serves as the focal point and clearing house for ITS activities statewide. Karen works with Mike Floberg, State ITS Engineer, to promote and coordinate ITS activities with KDOT, other agencies, jurisdictions and states. She has had project responsibility related to: Rural Deployment of DMS in District 2, CMAQ projects in Overland Park, Lenexa and Olathe, Kansas; the Kansas City Scout freeway management system, I-635 ITS Design, Statewide TOMC Study, Ramp Metering Study in Wichita, ITS Architecture, and early deployment activities for AVL, and ATMS in Wichita. She manages the KDOT ITS Set-Aside Program. This program is part of the State of Kansas's Comprehensive Transportation Program, and provides \$2 million plus of state money each year, for ITS projects within KDOT, other state agencies, cities and counties. Karen serves as KDOT's representative to the pooled fund, ENTERPRISE. She has coordinated ITS training and education opportunities within the state. She holds undergraduate degrees in Family and Consumer Science and Civil Engineering from Iowa State University. She had University Extension experience and ten years of varied civil engineering design experience in the private sector prior to joining KDOT.







<u>Agenda</u>

Gordon, Stephen, Oak Ridge National Laboratory

Stephen R. Gordon is a member of the research staff at Oak Ridge National Laboratory in Tennessee, a position he has held since joining the laboratory in 1993. He is the project manager of the ITS Deployment Tracking Project, which supports the FHWA ITS Joint Program Office by collecting and disseminating information on deployment of ITS technology nationwide. He has managed ITS projects for 13 years, including an effort to develop ITS standards for sharing spatial data. Previously, he was a career officer in the United States Air Force. He holds a BA in Chemistry from Bowdoin College and an MS in Operations Research from the Air Force Institute of Technology.

Grabow, Damon, Surface Transportation Weather Research Center

Damon Grabow is currently a Research Assistant for the Regional Weather Information Center. His current research includes updating current land-use classifications for model purposes, developing GIS education outreach, and geospatial technologies for rural fire weather. Previous research efforts include work on runoff and precipitation scenarios in rural areas, Piping Plover habitat, and weather impacts on agricultural production. Topics of study within STRWC include roadside vegetative roughness classification and GIS data building. Damon graduated from the University of Wisconsin at Green Bay with a B.S. in Environmental Science in 2001 and received his Master's in Atmospheric Science from the University of North Dakota in 2004.

Gregory, Clint, California Department of Transportation

Clint Gregory has been with the California Department of Transportation for 14 years, having come from private consulting. During his State service, Clint has worked in many assignments from Design to Operations. He is currently the Branch Chief for Electrical Systems in District 10 located in Stockton, California. District 10 includes three Central Valley counties and five Sierra Nevada counties. Clint specializes in Transportation Management Systems including Traffic Signals, Census and Intelligent Transportation. He received his B. S. Degree in Electrical and Electronic Engineering from San Diego State University, and an A. S. in Management from the Community College of the Air Force. Currently he is working on innovative strategies to implement advanced traffic management systems using cutting edge technologies. These strategies enabled the Department to win the Gold M2M award in 2006.

Gross, Yehuda, ITS Joint Program Office Biography not available at time of printing

Gulen, Sedat, Indiana Department of Transportation Sedat Gulen, statistical research engineer obbtained BS and MS degrees in civil engineering from Istanbul Technical University (Turkey) and Purdue University respectively. He is the author of various research projects in the field of Pavement Performance, Pavement Management and Road Safety. The Indiana Department of Transportation (INDOT) has implemented most of his research results; his current research activities for INDOT involve comparisons of three different Pavement Rehabilitation Techniques, Evaluation of Wild Life Reflectors and Evaluation of Radar Sensing to minimize deer-vehicle collisions.

Hansen, Jenny, Next Generation 9-1-1

Jenny Hansen is the Project Coordinator for the Next Generation 9-1-1 Project at the US Department of Transportation. Jenny is in her 26th year in the field of public safety communications. Most of her career was spent in the San Francisco Bay area of California, then onto the State of Montana where she recently held the position as Bureau Chief for Public Safety Services for the State. Jenny has been involved in many public safety issues including efforts with local, state, federal and tribal agencies around the country.

Hansen, John, ITS-Solutions-Help, LLC and Mobile Detect John Hansen is the president of ITS-Solutions-Help, LLC and the Business Development VP for Mobile Detect, Inc, Toronto Canada. He has been involved in the transportation industry for over 29 years. John has been involved with projects throughout the US, Canada and Europe involving; traffic control devices, weigh and motion systems, Highway data collection systems, Road Weather Information Systems, cameras, Dynamic Message Signs, and ITS Maintenance. Currently, John and his associates are involved with new technologies for Chemical, Biological, Radiological and Nuclear detection, especially in the areas of Transit, Ports, Airports and Port of Entries. His firm is also involved with design and builds projects around ITS elements, and the maintaining of those elements.

Hanson, Jennifer, Surface Transportation Weather Research Center

Jennifer Hanson is a Research Assistant for the Surface Transportation Weather Research Center (STWRC) at the University of North Dakota. Her current research focus is on spring load restriction modeling and subsurface temperatures as part of a project for the North Dakota Department of Transportation (NDDOT). She is also the manager of STWRC's road weather field research facility. Previous research efforts include a project for the North Dakota Fisheries and Wildlife Association and work associated with the Local Analysis and Prediction System (LAPS) Sensitivity Analyses. Jennifer graduated from the University of North Dakota with a B.S. in Atmospheric Sciences in 2002 and received an M.S. in Atmospheric Sciences in 2005 specializing in surface transportation weather.

Hardy, Amanda, Western Transportation Institute

Amanda Hardy is a research ecologist at the Western Transportation Institute at Montana State University (WTI-MSU). She obtained her B.Sc. and M.Sc. in Ecology—Fish and Wildlife Management in 1997 and 2001, respectively at Montana State University. She joined WTI-MSU in July 2001 and has developed the "Wildlife - Transportation Interactions" program into one of WTI-MSU's focus research areas. Ms. Hardy has 16 years of experience in natural resource management and wildlife biology, with an emphasis on human-wildlife interactions for the past 8 years. Ms. Hardy is an appointed member of the Transportation Research Board's (TRB) Committee on Ecology and Transportation, cochairs the TRB Animal-vehicle collisions subcommittee, and serves as a liaison between the these groups and the TRB Environmental Analysis in Transportation Committee. She has served on the planning committee of the 2003 and 2005 International Conference on Ecology and Transportation and co-organized the Wildlife Crossing Structure Field Course in Banff National Park, Alberta, Canada in September 2002. A sample of her current work projects includes preconstruction base-line monitoring to evaluate the effectiveness of the crossing structures and fencing to be

installed with the reconstruction of US Highway 93 across the Flathead Indian Reservation; assessment of driver responses to wildlife advisories on dynamic message signs on Bozeman Pass and in a simulated environment; and facilitation of the US 93 Interagency Review Team Working Group in creating an ecosystem approach to mitigating highway program impacts.

Haskins, Bonnie, Surface Transportation Weather Research Center

Bonnie Haskins is a graduate student in atmospheric science at the University of North Dakota. Her research is primarily focused on the statistical application of quality control to atmospheric and pavement data. This research applies known quality control methods for atmospheric data to pavement temperatures. Bonnie currently resides with her husband and two kids in Columbus, Ohio.

Hershey, Benjamin, Surface Transportation Weather Research Center

Ben Hershey is currently a graduate research assistant at the University of North Dakota (UND) Surface Transportation Weather Research Center (STWRC). Ben received a Bachelor of Science degree in Atmospheric Science at the University of North Dakota in 2004. Ben's area of research involves the measurement and effects of blowing snow within the roadway environment. He has also provided key support in the development of the UND STWRC Road Weather Field Research Facility.

Huft, David, South Dakota Department of Transportation Biography not available at time of printing

Huijser, Marcel, Western Transportation Institute

Marcel P. Huijser received his M.Sc. in population ecology (1992) and his PhD in road ecology (2000) at Wageningen University in Wageningen, The Netherlands. He studied plant-herbivore interactions in wetlands for the Dutch Ministry of Transport, Public Works and Water Management (1992-1995), hedgehog traffic victims and mitigation strategies in an anthropogenic landscape for the Dutch Society for the Study and Conservation of Mammals (1995-1999), and multifunctional land use issues on agricultural lands for the Research Institute for Animal Husbandry at Wageningen University and Research Centre (1999-2002). Currently Marcel works on wildlife-transportation issues for the Western Transportation Institute at Montana State University (2002-present). He is a member of the Task Force on Ecology and Transportation and co-chairs the Subcommittee on Animal-Vehicle Collisions of the Transportation Research Board (TRB).





Ivanovic, Miomir, GeoDecisions

Mr. Miomir Ivanovic earned a B.S. in Transportation Engineering from the University of Sarajevo in 1988 and an M.S. in Civil Engineering from the University of Wyoming in 1992. He presently serves as ITS/Traffic Regional Manager for GeoDecisions and is responsible for multimodal studies, design and construction management projects with an emphasis on intelligent transportation systems (ITS) implementation. Over the past 14 years he has conducted numerous presentations and published several papers in the areas of ITS and Traffic Engineering. His most recent publication includes co-authoring "Transit Signal Priority: A Planning and Implementation Handbook", which was published by ITS America in 2005.

Jacobs, Tom, University of Maryland

Tom Jacobs was born and raised in Long Island, New York. After heading south to attend the University of South Carolina to obtain a Bachelors of Science Degree in Engineering, he started his career as a Highway Engineer with the Federal Highway Administration (FHWA) in 1990. From the beginning of his career, Tom has been involved in Intelligent Transportation Systems (ITS) starting with his involvement on the ADVANTAGE I-75 commercial vehicle operations project. Tom was involved in various areas of ITS throughout his 9 year career with FHWA working as an Urban Transportation Management Engineer in the Baltimore Region Office and Maryland Division Office. In August 1999, Tom left FHWA to become a Program Manager at the University of Maryland's Center for Advanced Transportation Technology (UMD-CATT). While at UMD-CATT, Tom completed his Masters Degree in Transportation Engineering at the University. Tom is currently the Program Director for the Capital Wireless Information Net (CapWIN). CapWIN is a Coalition of high level public safety and transportation officials working together to improve communications interoperability in Maryland, Virginia, and the District of Columbia. Tom has instructed a number of National Highway Institute courses on subjects involving ITS, incident management, systems engineering, and procurement. He was a key contributor to a recently published report on contracting ITS Projects under the National Cooperative Highway Research Program (NCHRP Report 560 - Guide to Contracting ITS Projects).

Kack, David, Western Transportation Institute

David Kack is a Research Associate at the Western Transportation Institute. He holds a Master's Degree in Business Administration and specializes in transportation coordination, management, and planning. At WTI, he has worked on several projects to develop and improve rural passenger transportation systems. He served on the team that developed a Montana Statewide Coordinated Transportation Handbook, and he has extensive experience in public outreach and developing multi-agency institutional relationships for the purpose of transportation development, including his current role as a member of the new board to create a transit system for the city of Bozeman, Montana. David has also worked on various projects for National Parks, including projects related to transportation. David also was part of a team that developed the Transportation Toolkit for Federal land managers.

Klatt, Michael, ADDCO

Michael Klatt, director of business development for ADDCO, Inc. in St. Paul, Minn., is a 18-year veteran of the highway transportation industry and Intelligent Transportation Systems market. He has a diverse background that includes director-level responsibilities in the areas of ITS manufacturing, integration, software, consulting and communications. His experience includes integrating traffic management software with state-of-the art electronics and telecommunications for use in work zones, highway corridors and special events. He has been involved in more 1,000 transportation industry projects and has managed 100 work zone ITS projects.

Krause, John, Idaho Transportation Department

John Krause coordinates and manages the Idaho Transportation Department Intelligent Transportation Systems for Transit project within ITD's Division of Public Transportation. John has been with ITD for four years, the first three of which he spent managing portions of the Department's Information Technology infrastructure and data center. Prior to that, he spent over fifteen years with the Idaho Department of Health and Welfare developing and managing advanced technologies within IDHW's information technology organization in addition to three years with the Planning and Analysis Division of the Union Pacific Railroad Company. John has a BS in Engineering and a MBA from Idaho State University.

Kumar, Manju, Western Transportation Institute

Manju Kumar is with the Western Transportation Institute at Montana State University - Bozeman. His research emphasis is on rural Intelligent Transportation Systems (ITS). He has a Master's degree in Civil Engineering with an emphasis on Advanced Transportation Systems Engineering from Virginia Tech and his bachelor's degree in Civil Engineering is from Indian Institute of Technology (IIT) - Madras. He has worked on evaluating automated high wind warning systems, developing case studies of maintenance of ITS devices in rural areas, quantifying the impacts of severe weather events on traffic operations and researching ITS applications for rural work zones.

Laragan, Greg, Idaho Transportation Department

Greg Laragan is the Assistant Chief Engineer for Operations with the Idaho Transportation Department (ITD). He oversees the construction, maintenance, materials, traffic, highway safety and technical training activities of ITD. Greg has twenty-seven years experience with ITD. Prior to his current position Greg served as Roadway Design Engineer, Assistant District Engineer, State Traffic Engineer and Assistant Maintenance Engineer. He also worked for six years as a consulting engineer early in his career. He has been a registered professional engineer in the state of Idaho since 1979 and is currently a member of the Idaho Society of Professional Engineers, the Intelligent Transportation Society of America and the Institute of Transportation Engineers (ITE). Greg served as Idaho Chapter president of ITE in 1997. Greg currently represents the Idaho Transportation Department on the American Association of State Highway and Transportation Officials Subcommittee on Systems Operation and Management and also represents ITD on the Idaho Statewide Interoperability Executive Council.

Legg, Bill, Washington State Department of Transportation Bill Legg is the State ITS Operations Engineer for the Washington State Department of Transportation. In this role he is responsible for the coordinated operations of the department's six traffic management centers and the operations of the statewide incident management program. Additional responsibilities include management of the department's statewide wireless communications network and the agencies Commercial Vehicle Services division. Bill also oversees the coordinated operations of the departments 511 phone and web based traveler information systems.

Loftus-Otway, Lisa, Center for Transportation Research at the University of Texas-Austin

Ms. Lisa Loftus-Otway is a Research Engineer/Scientist Associate III at the Center for Transportation Research at the University of Texas at Austin. Ms Loftus-Otway is a registered Attorney and Counselor at Law licensed in the State of New York and is affiliated with New York, American and English Bar Associations. Her education background includes a Masters in Environmental Law (University of Nottingham) and a Masters in Public Policy (LBJ School of Public Affairs at the University of Texas at Austin). Ms Loftus-Otway worked as an attorney for local government and in private practice in the areas of planning, fiduciary, trust, environment, European and corporate law. She was a member of a Planning Decision Panel for a local authority in London. She was actively involved in developing the authority's sustainable development plans and helped develop community planning strategies and partnerships. Ms Loftus-Otway's three primary research focus areas include (i) strategic policy and transportation law and policy including finance, tolling, freight, corridor planning, public transit and TOD development; (ii) environmental law and policy including eminent domain, NEPA and transportation ecology; and (iii) transportation land use planning specifically the juxtaposition nexus between strategic planning and land use policy. Included amongst Ms Loftus-Otway's recent activities is her work on TxDOT Research Projects analyzing alternative funding solutions for ITS deployment in rural areas; TxDOT implementation project Incorporating Inland Port Strategies into TxDOT Planning: An Implementation Manual - which developed a toolkit for TxDOT planners; Design and Operation of Inland Ports as Nodes of the Trans Texas Corridor - which developed a site selection decision model; and managing development of TxDOTs Strategic Plan for 2007-2011.





Mann, Clay, Intermountain Injury Control Research Center Dr. Mann is a Professor in the Department of Pediatrics at the University of Utah School of Medicine and Director for Research at the Intermountain Injury Control Research Center. Dr. Mann received his Ph.D. from the University of Texas in Preventive Medicine and has a Masters Degree from the University of Utah in Statistics/Epidemiology. Dr. Mann also completed a graduate certificate in Health Services Administration. He has published 80 peer-reviewed articles dealing with traumatic injuries to children, trauma system evaluation, cardiac and trauma resuscitation and the role of emergency medical services in health care. Dr. Mann has special expertise in nonparametric statistics and small sample analysis. He has published methodological papers dealing with the specification of risk adjusted log odds using injury data, improving diagnostic accuracy by pooling test findings and design issues associated with multi-site community trials with continual data collection. Mann has served as principal investigator or co-investigator on 50 federal. state, foundation or industry grants. He has conducted several randomized, controlled community trials dealing with cardiac resuscitation, acute coronary disease education and paramedic training. Currently, Dr. Mann currently serves as the Principal Investigator for the NEMSIS Technical Assistance Center. Dr. Mann also currently serves on several national committees including the Basic Life Support Subcommittee for the American Heart Association, Chair of the Advisory Council for the National Trauma Registry Standardization Project and guest member of the Trauma Systems Consultation Committee for the American College of Surgeons.

McCormack, Ed, Washington State Transportation Center Dr. Edward McCormack is a Senior Research Engineer with the Washington State Transportation Center (TRAC) at the University of Washington in Seattle. At TRAC he has been responsible for completing research on a wide range of transportation topics. He currently manages Intelligent Transportation System (ITS) freight mobility and border projects for the Washington State Department of Transportation's Advanced Technology Branch. Dr. McCormack also teaches graduate courses for the University of Washington's Department of Civil and Environment Engineering and the Department of Urban Design and Planning. He received his master's degree in Civil Engineering and Ph.D. in Geography from the University of Washington. He is a Senior Research Engineer with the Washington State Transportation Center (TRAC) at the University of Washington in Seattle. At TRAC he has been responsible for completing research on a wide range of transportation topics. He currently manages Intelligent Transportation System (ITS) freight mobility and border projects for the Washington State Department of Transportation's Advanced Technology Branch. Dr. McCormack also teaches graduate courses for the University of Washington's Department of Civil and Environment Engineering and the Department of Urban Design and Planning. He received his master's degree in Civil Engineering and Ph.D. in Geography from the University of Washington.





McGinnis, Kevin, National Association of EMS Officials

Kevin McGinnis began studying EMS systems in 1974, and has been an EMS system builder ever since. He received undergraduate and graduate degrees from Brown University and Cornell University in health care delivery systems and hospital administration.

Kevin has been a regional EMS coordinator, a hospital emergency department director, Maine's state EMS director from 1986 through 1996 (he served as interim state E9-1-1 director for a year during that period as well). He has been an EMS system consultant for the past 9 years, evaluating systems and ambulance services, and has served the National Highway Transportation Safety Administration (NHTSA) as a member of state EMS system technical assistance teams for six statewide evaluations. For the past five years, Kevin has been a Program Advisor for the National Association of State EMS Directors. He specializes in communications and intelligent transportation systems (ITS) technology, data systems and rural EMS. He has represented five national EMS associations in addition to NASEMSD on national communications/ITS technology issues and projects (NAEMSP, ACEP, NAEMT, NAEMSE, and NEMSMA). He served on an FHWA/AASHTO Traffic Incident Response scan of four European countries in April, 2005. He is active on the ITS America Public Safety Advisory Group and the National Traffic Incident Management Coalition. He recently completed a book, the Rural and Frontier EMS Agenda for the Future, that is a national consensus document published by the National Rural Health Association in October, 2004.

Murphy, Ray, Federal Highway Administration

Ray Murphy is a Senior ITS Specialist with the Federal Highway Administration's national Resource Center. Ray received his Bachelor of Science in Electrical Engineering from the Illinois Institute of Technology. His leadership experience includes 10 years service as a Lieutenant in the U.S. Navy Civil Engineers Corp. Ray joined the Federal Highway Administration, after serving as

transportation professional for more than 20 years with the Illinois Department of Transportation. As an ITS project manager with the Illinois DOT, he led the design and implementation of the nationally recognized GCM PriorityCorridor's Traveler Information website. Ray's present role with FHWA is to provide assistance and support in the areas of Road-Weather Management and Rural ITS.

O'Keefe, Katie, Western Transportation Institute

Katie O'Keefe is a Graduate Student at Montana State University and has been working under Xianming Shi, Ph.D. at the Western Transportation Institute (College of Engineering, Montana State University) on projects pertaining to Highway Winter Maintenance.

Katie has assisted with other projects including a report and brochure for the Pacific Northwest Snowfighters Association (Synthesis of Information on Anti-icing and Pre-wetting for Winter Highway Maintenance Practices in North America) and a NCRHP study (20-07 Task 200 - Vehicle-based winter maintenance technologies).

Osborne, Leon, Surface Transportation Weather Research Center

Biography not available at time of printing

Parry, Mark, Utah Department of Transportation

Mark graduated from the University of Utah in 1995 with a Bachelor of Science in Engineering. He worked with Jacobsen Construction on building the Micron facility in Lehi, Utah, and now works for the Utah Department of Transportation. He has worked with the Department for the past 10 years. The last six years he worked in Signal timing projects and ITS project development. He is the lead person from UDOT on the Cottonwood Canyons ITS project.

Parkany, Emily, Mitretek Systems

Dr. Emily Parkany, P.E., PTOE is a Lead Transportation Engineer at Mitretek Systems in Washington, D.C. She supports the US Department of Transportation's Intelligent Transportation Systems Joint Program Office's Professional Capacity Building Program which supports ITS Learning through classroom and online training, education programs and soon the ITS Solutions Center. She is also involved with the Vehicle to Infrastructure Integration (VII) Data Characteristics for Traffic Management and Traveler Information project. Emily's Ph.D. is from the University of California, Irvine where she studied Transportation Science, a combination of civil engineering, economics, and urban planning. She also has degrees from M.I.T. and Columbia University. Prior to joining Mitretek, she was an assistant professor of civil engineering at the University of Massachusetts, Amherst and Villanova University

Powell, Davis, Texas Department of Transportation

Davis Powell has served as the District Traffic Engineer for the Wichita Falls District of the Texas Department of Transportation for the past seven years. Davis developed the ITS program for the region and designed, then constructed the traffic management center for his rural application. Prior to that, Davis had 19 years experience in roadway and freeway design where he was the project manager for the design of a 1 ½ mile new freeway system on IH 44/US 287 that carried traffic over the city of Wichita Falls with 11,000 linear feet of elevated structures and direct connectors, 16 signalized intersections and 2 dynamic message signs. In his spare time, Davis buys and refurbishes investment property in an attempt to finance his addiction for motorcycles and restoring antique sports cars.

Redd, Larry, R&S Consulting

Larry Redd has been in the transportation business for many years. He has a Masters Degree in Mechanical Engineering from Purdue, and was a design engineer with both Boeing and Cessna Aircraft Companies. He spent 5 years at the U.S. Department of Energy working in the Office of Technology Policy, analyzing the Transportation system in the U.S., and working collaboratively with the U.S. DOT and other public entities regarding technology investments. For the past three years, Larry has been working with the Wyoming Department of Transportation, helping them to improve and integrate their information systems in order to achieve their vision in asset management. Larry is a professional engineer in the State of Colorado.

Register, David, Science Applications International Corporation Biography not available at time of printing

Rosenbohm, Joerg, PB Farradyne

Joerg Rosenbohm has 14 years of professional international experience working as a consultant for public sector agencies in both Germany and the US. After arrival in the US, he started working for PB Farradyne, now Telvent Farradyne, as a junior engineer. He is working within the systems engineering department to relay 'traffic engineering speak' into 'IT speak', that is translating the requirements of the traffic engineering practice into software and systems engineering. His specialty areas are: development, design, and implementation of the National Transportation Communications for ITS Protocols (NTCIP); specification development for traffic control devices; and requirements analysis and design of Transportation Operations Centers (TOCs).

Ryen, Ed, North Dakota Department of Transportation

Ed is the Assistant Maintenance Engineer and ITS Engineer for the North Dakota Department of Transportation, in the Maintenance and Engineering Division, where he manages the ITS program for the department. During the past 11 years, he has been involved with coordinating and deploying ITS in North Dakota. He works closely with the universities in North Dakota, who assist the NDDOT in research and deploying ITS technologies, in an attempt to solve the everyday problems of rural transportation. Since 2002, he has been active as the state representative of the North/West Passage pooled fund study and is a member of the steering committee. During his 27 year career with the North Dakota Department of Transportation, he has worked as an engineer in several areas within the department. He is a graduate of the North Dakota State University; and is a registered professional engineer.

Sanddal, Nels, Critical Illness and Trauma Foundation Nels Sanddal is currently the president of the Critical Illness and Trauma Foundation, in Bozeman. CIT is a non-profit organization dedicated to improving the outcomes of people who are injured in Montana and rural America through programs of prevention, training and research. He also serves as the Director of the Department of Health and Human

Services, Health Resources and Services Administration funded Rural EMS and Trauma Technical Assistance Center, also located in Bozeman. He served on the Institute of Medicine's Future of Emergency Health Care committee and currently chairs the IOM committee charged with the dissemination of the Future of Emergency Health Care findings. Nels has published numerous articles and books and is a frequent speaker at national and international scientific forums on rural health care.

Schneider, Gary, R&S Consulting

Gary Schneider is presently assisting the Wyoming Department of Transportation (WYDOT) in designing a new traffic management center. Mr. Schneider is also assisting WYDOT with two other projects: developing a strategic plan for the I-80 corridor and implementing a new financial and asset management system. Mr. Schneider has worked in policy and business development in the public and private sectors, respectively. Mr. Schneider began his professional career with the U.S. Bureau of Reclamation as a scheduling engineer and planner. Subsequently, Mr. Schneider moved on to the U.S. Department of Energy (DOE) where he was responsible for project controls' policy for approximately \$17 billion of construction projects. Mr. Schneider also worked on policy initiatives in areas of defense programs, renewable energies and environmental remediation. Also, while at DOE, Mr. Schneider managed research projects

at Los Alamos, Oak Ridge and Sandia. After leaving DOE Mr. Schneider worked internationally as a strategy consultant for numerous Fortune 500 firms. In 1996, Mr. Schneider founded a company that developed a software application using mathematical optimization to assist farmers in making production decisions and managing market and production risks. Mr. Schneider studied systems and agricultural engineering at the University of Arizona and business at MIT's Sloan School of Management.

Schopfer, Joe, Montana Department of Transportation Joe Schopfer leads the workforce development project for the Information Services Division of the Montana Department of Transportation. He has been a technical trainer for the department, a college teacher for 14 years, and has worked for major corporations including AT&T and Prudential. His current focus is on the development of integrated processes for recruitment, selection, advancement, and retention of employees.

Schuster, Neil, Advanced Traffic Analysis Center

Neil Schuster is President and CEO of ITS America, the Intelligent Transportation Society of America. He was appointed to his position in October 2001. He joined ITS America after 16 years as Executive Director of the International Bridge, Tunnel and Turnpike Association, the association of the worldwide toll industry. At IBTTA, he launched the association's first advocacy program and a technology program to help toll officials implement electronic toll collection systems and work toward industry-wide performance specifications. He served on the ITS America Board of Directors when the organization was first formed. He also served with the Motor Vehicle Manufacturers Association and the American Waterways Operators, and has an economics degree and an MBA with a major in transportation management.

Scott, Brian, SRF Consulting Group

Mr. Scott has nearly 20 years of experience in transportation engineering in both the public and private sectors. He has worked in virtually all phases of project development, including preliminary design, final design and construction of traffic management and communication systems in the Upper Midwest. Prior to joining SRF, Brian was a systems engineer with Lockheed Martin. He also worked for Mn/DOT for many years, and was the system design engineer for the Traffic Management Center in the early 1990s where he directed the design and deployment of the traffic management and communications system for the Twin Cities region. Brian is a Registered Professional Engineer in Minnesota, Wisconsin, Kansas, Iowa, Idaho and Florida.

Shaw, Michael, US Department of Transportation

Mr. Shaw is the Director of the U.S. National Coordination Office for Space-based Positioning, Navigation, and Timing (PNT). He coordinates the implementation of the President's 2004 U.S. National Policy on Spacebased PNT, to include the U.S. Global Positioning system, or GPS, and its augmentations across all the Departments of the U.S. Government. He also has been involved in a wide variety of U.S. Government international consultations on this subject with many countries from around the world. Previously, he served in Departments of Transportation and Defense, as well as the Federal Aviation Administration, where he developed and coordinated policy, planning, and strategy for GPS. As a retired officer and career navigator in the U.S. Air Force, he was an aviator and Weapon Systems Officer in the F-4 Phantom. Later, Mr. Shaw was the Commander of the 2d Satellite Operations Squadron, which is responsible for the daily command and control of the GPS satellite constellation.

Shi, Xianming, Western Transportation Institute

Dr. Xianming Shi is a Research Scientist at the Western Transportation Institute, Montana State University (WTI). He holds his Ph.D. in Chemistry and M.Sc. in Industrial & Management Engineering. Dr. Shi is the Manager for the Winter Maintenance & Effects Program at WTI. He is an active member of four TRB Committees ranging from winter maintenance, corrosion, to concrete materials. His main research interests focus on best practices for winter highway maintenance and the deicer impact on water quality, pavements, and the transportation infrastructure.

Smadi, Mohammad, Advanced Traffic Analysis Center Mohammad Smadi is a Graduate Research Assistant at the Advanced Traffic Analysis Center (ATAC), North Dakota State University (NDSU). He is involved in various ITS projects, including North Dakota's Regional ITS Architectures update and maintenance, as well as handling Systems Engineering tasks and participating in the development of project architectures for ITS projects at ATAC. He played a key role in developing North Dakota's statewide ITS architecture, regional architectures in North Dakota's three MPOs, as well project architecture for a multi-state bridge anti-icing system as part of the Northwest Passage corridor. Mohammad is pursuing a PhD in Software Engineering at NDSU

Stanley, Laura, Virginia Tech Transportation Institute

Laura Stanley recently received her Ph.D. in Industrial Engineering from Montana State University in May of 2006. She is currently a Human Factors Engineer at Virginia Tech Transportation Institute, where she is working on validating simulation as a means of training truck drivers towards acquiring CDL licensure; and is working on the development and assessment of a driver fatigue monitoring system. Most of Laura's transportation research experience has been through Western Transportation Institute's Professional Fellowship program that included projects on: the distraction of hands-free and hand-held cell phones, evaluation of enhanced animal crossing warning messages, evaluating the safety benefits of an advanced defensive driving training program for young teen-aged drivers, and human factor principles of interface design for collision avoidance systems during run-off-road and head-on collisions.

Starr, Ray, Minnesota Department of Transportation

Ray Starr is the Assistant State Traffic Engineer for ITS with the Minnesota Department of Transportation. His background is in electrical engineering. Previous to his current position he provided electrical engineering support for the design and operations of traffic signals and roadway lighting. Ray also has 10 years experience as an ITS project manager in Mn/DOT's Office of Advanced Transportation Systems and in Mn/DOT's Metropolitan District managing projects as part of the Minnesota Guidestar program. In his current role he manages Mn/DOT's ITS unit, Traffic Electrical Systems unit, and traffic engineering research coordination function. He leads Mn/DOT's ITS development unit and the Traffic Electrical Systems unit, which provides leadership and technical support for traffic signals and roadway lighting. He has a Bachelor of Electrical Engineering from the University of Minnesota.



Stickel, Jack, Alaska Department of Transportation

Jack Stickel is the Manager of the Alaska Department of Transportation and Public Facilities (ADOT&PF) Highway Database Group. He has 16 years experience in statewide transportation data that includes: legacy transportation databases and data warehouses, vehicle crash & traffic data programs, Road Weather Information Systems (RWIS), and traveler information systems (CARS/511).

Jack has a Bachelor of Science from The Florida State University and a Masters of Professional Meteorology from Saint Louis University.

Stombaugh, Dennis, Association of Programs for Rural Independent Living

Dennis Stombaugh, Ph.D., P.E. is currently employed as the project manager for APRIL's transportation demonstration project (National Demonstration of a Rural Employment Transportation Voucher Model: Placing control in Our Hands). He has served The Association of Programs for Rural Independent Living in this capacity for four years and coordinates training, assists the ten sites in resolving operational issues and coordinates data collection and reporting requirements. Prior to joining APRIL he was a professor and administrator in the Department of Food, Agricultural and Biological Engineering at The Ohio State University for 25 years. His daughter (currently a special education teacher) was born with spina bifida and uses a wheelchair; he has been associated with disability issues and wheelchair athletics for the past 30 years.

Strong, Chris, Western Transportation Institute

Chris Strong is a Research Engineer and Program Manager for Safety and Operations at the Western Transportation Institute at Montana State University in Bozeman. Chris has ten years of transportation engineering experience, and has worked on several types of projects, including ITS planning and evaluation, safety and operations, traffic engineering studies, transportation planning and modeling, and GIS analysis. His current research focus is operations and safety in rural areas, with an emphasis on ITS. Chris earned his Bachelor's in civil engineering from Rensselaer (pronounced: Ren-suhleer) Polytechnic Institute and a Master's in engineering from the University of Texas at Austin. He is a registered professional engineer in the State of Montana, is a member of ITE, is a member of the TRB Committee on Native American Transportation Issues, and currently serves as secretary of the ITS Benefits Evaluations and Costs Working Group.

Taavola, Daryl, URS Corporation

As a member of the URS Minneapolis office, Daryl is the director of the Intelligent Transportation Systems (ITS) and Traffic Engineering Groups. He has more than 20 years' experience including the areas of ITS, traffic engineering, advanced transportation management systems, evacuation route planning, electronic toll systems and signal systems. Recently Daryl served as an Assistant State Traffic Engineer and ITS Director for the Minnesota Guidestar Program while employed at the Minnesota Department of Transportation. Other experience includes serving as Manager for the Traffic Management Center (TMC) in the City of Pasadena, CA and he was also a signal design operations engineer for Los Angeles County. Daryl is a registered Professional Civil Engineer and a certified Professional Traffic Operations Engineer (PTOE). He is currently the 2006-2007 President of ITS Minnesota.

Thompson, Gregory, ThomTech Design, Inc.

Greg Thompson is the President of ThomTech Design, Inc. He has served as program manager, research engineer, and principal investigator for several mobile data collection projects related to snow/ice removal, winter traffic safety and public works maintenance. He has a Doctorate in Engineering Management from Kennedy Western University and a Master's Degree in Electrical Engineering from the Naval Postgraduate School, Monterey, CA. His previous assignments include: Satellite Engineer supporting US DOD (1992-94), Commanding Officer Marine Wing Communications Squadron (1989-91), and Electrical Engineer for Space & Naval Warfare Systems Command (1984-88).

Turnbull, Ian, California Department of Transportation

Ian Turnbull, P.E. is the ITS Engineering and Support engineer for Caltrans District 2 in Redding, California. Ian has over 20 years of communications systems experience and over 6 years experience developing intelligent transportation systems in a rural environment. He served as lead engineer and project manager for the development of the district's award winning Rural Transportation Management Center and associated field element network. His transportation work includes deployment of Internet Protocol based field element networks, use of ISM band microwave for ITS applications and improving rural ITS reliability with uninterruptible power systems. He has a bachelor's degree in Electrical and Electronic Engineering from California State University, Chico and is a registered electrical engineer in the State of California.

Vanderbilt, Amy, Glacier National Park

A 25-year veteran of the National Park Service (NPS), Ms. Vanderbilt has worked primarily as a Public Affairs Specialist at Glacier National Park since 1989 when she moved north from Yellowstone National Park where she worked (1983-89) as the Deputy Public Affairs Officer at Yellowstone (1983-1989). At Yellowstone she served as a primarily spokesperson during the 1988 Greater Yellowstone wildfires. She served as team leader for the interdisciplinary park team tasked with finding a solution to rehabilitating and returning the historic red bus fleet to service at Glacier National Park. Through an innovative partnership, the National Park Service, Glacier Park, Inc., Ford Motor Company, The Glacier Fund, and others joined in an unprecedented cooperative effort that returned the buses to service in 2002. Other highlights include serving as the NPS liaison/park representative on the Fire Media Task Force (2003; Montana Governor's Tourism Award for 2003); White House Conference on Tourism (1996); Montana Tourism and Recreation Initiative (MTRI), and other interagency initiatives. Ms. Vanderbilt is a 2004 graduate of Leadership Flathead and a graduate of the USDA Graduate School Leadership Development Academy's 12-month-long Executive Leadership Program (1999). Among her assignments, she completed a four-month detail in Washington, DC, working for Jacqueline Lowey, Deputy NPS Director for External Affairs (and previous Assistant Secretary, Department of Transportation) developing the program, coordinating partners and serving as the conference planner for four NPS regional transportation conferences. She holds a Bachelor of Science Degree in Secondary Education (Biology) from Central Michigan University (1979) and a Bachelor of Applied Arts & Sciences Degree in Outdoor Recreation/Park Administration & Natural Resource Conservation also from Central Michigan University (1977).

Virshbo, Kristin, Castle Rock Consultants

Kristin Virshbo is Principal and Deputy CEO with Castle Rock. She heads up the systems analysis and design group and also supervises new software development. Her day-to-day responsibilities include both technical and management support for many of CRC's new development and deployment projects.

White, Robert, Vermont Agency of Transportation

Robert is a 1988 graduate of Tennessee State University, obtaining a Bachelor of Science degree in Electrical Engineering. In 1988 Robert started with Digital Equipment Corporation as a Quality Assurance Engineer. From there Robert migrated to Project Management and then Program Management for DOD and DOE specialized computer installation services. Robert continued this role through the Compag merger and then HP acquisition. In October 2003, Robert started with the Vermont Agency of Transportation as the ConnectVermont ITS Administrator. In April 2005 Robert was promoted to Director of ConnectVermont due to his expanding the program from 3 agencies within Vermont State Government to over 13 State Agencies and Departments. Since joining the Agency of Transportation, Robert has been an ongoing member of ITS America, AASHTO, and recently been nominated to the SAE-ATIS Committee. Robert has championed several key ITS Projects in Vermont including two LPFM stations that play both Tourism and Road and Weather information, VMS signs with CCTV controlled remotely via satellite ISP, and continued expansion of ConnectVermont initiatives.

Winkler, Chris, Washington State Department of Transportation Chris is the Signal, Illumination and ITS Engineering Manager for the Eastern Region of the Washington State Department of Transportation in Spokane, WA. He is a licensed professional engineer in the state of Washington. Chris earned his bachelors degree from the University of Idaho, and holds a master's certificate in Project Management from Washington State University. He has worked in various design and construction positions for the Washington State DOT for the past 14 years, and in his present position in the Eastern Region traffic office for the past 3 years.

Wolff, Richard, Montana State University

Richard S. Wolff the Gilhousen Chair in Telecommunications and professor of Electrical Engineering at Montana State University, Bozeman. His research interests are in novel applications of emerging technologies in telecommunications systems. Prior to joining MSU, he spent 25 years in telecommunications research at Telcordia, Bellcore and Bell Labs, and taught physics at Columbia University. He earned a BS in Engineering Physics at the University of California, Berkeley and a Ph. D. in Physics at Columbia University. He has published over 100 papers, has been awarded two patents, and is a senior member of the IEEE.

Young, Heather, ITS America

As the Director of Transportation Information Programs, Heather Young is the technical lead for weather information applications such as Clarus, 511 and transportation information programs at ITS America. She also supports the society's tasks with the U.S. Department of Transportation, which includes the coordination of stakeholder input to one or more of the Department's programs, identifying industry experts for the review of related materials. Heather also supports the society's Annual Meeting and World Congress on ITS by developing and managing technical sessions and symposia for the Transportation Information Forum.

Zhang, Wei, Federal Highway Administration

Wei Zhang holds a Ph.D. in Geotechnical Engineering from the University of Minnesota. He currently serves as a Highway Research Engineer at the Turner Fairbank Highway Research Center, where he conducts research and deployment of intersection safety related technologies including Detection Control System, and novel intersection treatments such as Continuously Flow Interstion (CFI), Diverging Diamond Intersection (DDI), and Superstreet. Previously, he served as a Research and Technology Engineer for the FHWA New Mexico Division, where he managed seven federal aid programs, including ITS and Local Technical Assistance Program





