California – Oregon Advanced Transportation Systems

Stakeholder Outreach Workshop Summary

Prepared by

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for the

State of California
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INTRODUCTION

Intelligent Transportation Systems (ITS) are developing rapidly, but the implementation of these advanced technologies in rural areas has not advanced as quickly as it has in more urbanized areas. Two potential reasons for this may include: local officials and stakeholders in rural areas may not be aware of what technological opportunities exist; and there may not be a mechanism for setting local and regional priorities for the implementation of systems that may benefit state and local officials and the traveling public.

In an effort to overcome these challenges, the California and Oregon Departments of Transportation (Caltrans and ODOT, respectively), in cooperation with the Western Transportation Institute (WTI) of Montana State University, hosted a number of workshops for organizations (stakeholders) interested in the Northern California/Southern Oregon Rural ITS Areawide Travel and Safety Improvement Project. This effort is formerly known as the focus of the *California – Oregon Advanced Transportation Systems (COATS)* Project. One focus of the COATS Project is to encourage regional, public and private sector cooperation between Oregon and California organizations to better facilitate the planning and implementation of advanced technology systems. The approximate area of focus is between Redding, California and Eugene, Oregon. This area will provide a test bed for research, development, demonstration and deployment of rural ITS technologies and systems to *"make rural travel safe, dependable and convenient"*.

This report provides documentation of those workshops. Included in this report is a brief summary of the goals and objectives of the workshops, the details of those workshops and the workshop results.

GOALS AND OBJECTIVES

Stakeholder outreach is an integral component of any transportation planning effort. For our purposes, stakeholders are defined as those having a stake in the rural COATS project. This group includes, but is not limited to, local, regional and tribal transportation planners, land use planners, transit operators, senior citizen groups, welfare-to-work providers, special mobility services providers, trucking and delivery services, electronic communications providers, park and tourist destination operators, and police and emergency service providers.

To ensure the success of the rural COATS project, participants must meet with project stakeholders in the study area to:

> Introduce the rural COATS project,
>
> Solicit their view of the transportation challenges in their area,
>
> Elicit their comments on the challenges identified in the Conditions and Performance of the Existing Transportation System Report (Technical Memo No. 1),
>
> Maintain their interest throughout the project,
>
> Solicit their views on perceived solutions, and
>
> Provide mechanism to achieve consensus on recommended projects included in the long-term Deployment Plan.

To accomplish these objectives, two series of workshops were included in the contracted project scope of work. Also, Caltrans and ODOT participated in numerous outreach meetings and presentations with current stakeholder groups. Promoting the outreach meeting and acting as a liaison to the appropriate local and regional stakeholder groups are primary elements of the roles and responsibilities of the Regional Team members.

While there is not a pot of gold at the end of the rural COATS project, there are numerous benefits to participants and inducements for stakeholder participation. As discussed above, the stakeholders include transportation providers and those whose livelihood or service is directly dependant on transportation. Advanced rural transportation systems can serve to mitigate transportation challenges inherent in areas with limited services, thinly distributed population, episodic traffic congestion due to events and tourism, rugged terrain, and changeable, and sometimes extreme, weather conditions.

ITS are an integral component in all the solutions applied to transportation planning problems. As part of a goal-based planning process, ITS contributes to helping regions achieve their goals. Development of the Rural COATS' ITS Deployment Plan will provide an opportunity for transportation providers to participate in a multi-jurisdiction planning effort. The public agencies, private sector and the traveling public will all benefit if decisions can be made which will lead to mutually supportive investments. Public agencies will be able to make the best use of limited resources and, because the projects will be consistent with the national system

architecture, projects will be eligible for federal funding. Further, since the Deployment Plan will establish a regional architecture consistent with federal and statewide architectures, the traveling public will enjoy a seamless, interoperable, coordinated, inter-jurisdictional system.

Through the workshop sessions, Caltrans, ODOT and WTI gathered information from the stakeholders that was helpful in the selection of a Rural Intelligent Transportation Systems Showcase Project. ITS applications selected for demonstration will likely be those identified in the rural COATS effort as the most viable ITS candidates for early deployment. It was in the stakeholders' interest to participate in the outreach effort to ensure that their views and concerns are considered during the solution selection and project prioritization process.

Through these outreach workshops, it is hopeful that interest and support of the project will grow. Without the support of the local and regional decision-makers the Deployment Plan may not be implemented. Stakeholder workshops also help ensure that ITS elements are deployed in the study area with a long-term view to expansion, integration and interoperability.

WORKSHOP RESULTS

Stakeholder workshops were conducted in conjunction with regular Steering Committee meetings. Staff worked with state, local, and regional transportation planners to identify appropriate workshop attendees. Invitations to the workshops were issued by letter and followed up with phone calls to key persons to optimize workshop participation.

Workshops were held in:

    Medford, Oregon - December 10, 1998;
    Redding, California - February 4, 1999;
    Eureka, California - February 5, 1999 and;
    Bend, Oregon - March 31, 1999.

The workshop was generally consistent in each location. An example of a working agenda is provided.

Figure 1: Agenda

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<u>Agenda</u>

9:00 a.m.   **Welcome and Introductions**

9:10 a.m.   **Purpose and COATS Project Overview**

9:30 a.m.   **Introduction to Advanced Rural Transportation Systems**

9:50 a.m.   **Overview of Bi-State Transportation and Safety Challenges**

10:10 a.m. **Overview of Traveler Needs Survey**

10:30 a.m. **Discussion/ Questions and Answers**

10:45 a.m. **Break**

11:00 a.m. **Small Group Discussions on Rural Needs and Opportunities**

        <u>Breakout Groups</u>
- **Safety/ Emergency Assistance**
- **Traveler Information/ Tourism**
- **Public Transportation/ Mobility**

12:00 a.m. **Working Lunch**

1:30 p.m.   **Discussion of Workshop Summary Reports**

2:45 p.m.   **Adjourn**

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Participation in the workshops was diverse, and varied between each workshop (Attendance lists are included in the Appendix). For this reason, the breakout sessions varied slightly between areas, depending on the particular make-up and interests of the area's groups. In general the five breakout groups were:

Travel Safety and Emergency Services
Public Transit and Fleet Operators/Maintenance
Travel and Tourism
Infrastructure Operations and Maintenance
Commercial Vehicle Operations

The results of the breakout sessions and the proposed action items are discussed in the following section.

WORKSHOP RESULTS

This section provides the summary results of the various workshops in each location. Tables were created to summarize the feedback provided by stakeholders from the different workshops. Because the workshop's discussion were generated primarily by brainstorming, the results from the workshops were variable. Some of the line items in the charts were created to categorize specific concepts that were generated during the workshops. When a workshop generated an idea that fell into one of the line item categories of the chart, the cell corresponding to the workshop location and the issue identified was noted with an 'x'. Each line item was totaled into a 'Recurring Issues' cell. The number of times a particular issue was raised is represented by the number of x's in the 'Recurring Issues' cell. In summary, the following major comments were made by stakeholders and are shown in Tables 1 and 2. Table 1 summarizes the transportation challenges that were perceived to exist throughout the corridor while Table 2 demonstrates the various opportunities that were thought to exist for the remedy of the perceived challenges throughout the corridor.

TABLE 1: CHALLENGES

Category of Issues	Issues Identified	Workshop Location				Recurring Issues
		Medford,OR	Redding,CA	Eureka,CA	Bend,OR	x(low) > xxxx(high)
Safety and Emergency Services	Locations of emergency services	x			x	xx
	Lack of alternative routes	x		x		xx
	Incident management				x	x
	Interagency coordination and data sharing	x	x		x	xxx
	Routing inefficiencies	x	x	x		xxx
	Disaster management (Hazmat, natural)	x			x	xx
	Jurisdictional issues	x	x		x	xxx
	Bikers & Pedestrians		x	x		xx
	Funding Money		x	x	x	xxx
	Sub-standard geometric configuration	x	x	x		xxx
	Driver Inattentiveness, Alertness	x			x	xx
	Visibility - Fog, Weather	x		x	x	xxx
	Visibility - Signs, Obstructions	x		x	x	xxx
	Hazard Identification - Fixed & Variable	x	x	x		xxx
Travel and Tourism	Road closures and traffic delays	x		x	x	xxx
	Parking - facility, attractions	x	x	x		xxx
	Tourist traffic jams - pull-outs		x	x	x	xxx
	Pass through travelers		x			x
	Destination activity promotion		x	x		xx
	Signage - Agency issues		x	x	x	xxx
	Lack of public education		x			x
	Timeliness of Information		x	x	x	xxx
	Weather and road condition information	x	x	x	x	xxxx
	Information relating locations of construction zones or other events and associated detours	x		x	x	xxx
	Information targeted towards tourists within the area	x	x	x	x	xxxx
	Lack of communication services (cell & hard line)	x	x	x	x	xxxx
O & M	Pavement maintenance	x		x	x	xxx
	Landslides, Flooding	x		x	x	xxx
CVO & Transit	Inadequate HAR		x	x		xx
	Inadequate Pull-outs		x	x		xx
	Commercial vehicle management	x	x	x	x	xxxx
	Transponders not inter-operable	x	x		x	xxx
	Lack of transit services				x	x
	Icy bridges		x	x		xx
	Inclement weather - snow	x		x	x	xxx

Challenges

TABLE 2: OPPORTUNITIES

	Opportunities Chart					
Workshop Breakout Groups	Opportunity for ITS Application	Workshop Location				Recurring Opportunities x(low) > xxxx(high)
		Medford, OR	Redding, CA	Eureka, CA	Bend, OR	
Safety and Emergency Services	Education	x	x	x	x	xxxx
	Pavement Riffles	x				x
	Signing - Warning			x		x
	Automated Bridge De-icing		x			x
	Turnouts			x		x
	Animal control - control vegetation, barriers			x		x
	Reader Boards	x	x			xx
	Internet	x	x	x	x	xxxx
	Variable Message Signs	x	x	x	x	xxxx
	Automated Enforcement - Cameras	x	x		x	xxx
	Railroad Technologies for Fleet Management		x			x
	Better Use & Coverage of Highway Advisory Radio	x	x	x	x	xxxx
	Remote Weather Information Systems		x		x	xx
	Full Cellular Phone Coverage		x	x		xx
	Lower Speed Limits on Narrow Highways			x		x
	Ice Detection System			x	x	xx
	Call Boxes - 1-800 Number		x	x	x	xxx
	In-Vehicle Mayday Devices		x	x	x	xxx
	Cross Jurisdictional Incident Response	x			x	xx
Travel and Tourism	Television, Newspaper	x	x	x		xxx
	Data Collection, Traffic Information	x	x		x	xxx
	Kiosks	x	x	x	x	xxxx
	Multi-Use Rest Areas - Information	x	x	x		xxx
	Remote Advertising		x			x
	Smart Card - Tracks Tourist Behavior	x	x		x	xxx
	Regional Server for Multiple Agencies		x		x	xx
	Off-Peak Rewards	x				x
	Bicycle Lanes Routing	x		x		xx
O & M	Automatic Maintenance	x				x
	Cooperation in Transportation Planning	x		x	x	xxx
CVO and Transit	Tecnology to Solve Tight Corners	x				x
	Rock Slide Warnings	x		x		xx
	HAZMAT - On Board Mayday	x	x	x	x	xxxx
	Interoperable Transponders	x			x	xx
	In-Vehicle Control- "Smart Vehicles"	x	x		x	xxx
	Merge Warnings	x	x			xx
	Dynamic Downhill Speed Signs	x	x			xx
	Road Closure Broadcasts	x				x
	Real Time Weather Conditions	x	x	x	x	xxxx
	Centralized Dispatch for Information		x		x	xx
	Time Stamping of Information		x			x
	CCTV on Web Site		x	x	x	xxx
	Partnering			x	x	xx
	Making Transit Attractive			x	x	xx
	Data and Resource Management			x	x	xx

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CONCLUSION

Four stakeholder workshops were held throughout the Northern California and Southern Oregon corridor. These workshops were intended to familiarize the stakeholders with the potential uses of ITS applications as well as to familiarize the sponsors and Western Transportation Institute with the issues that are perceived to be problematic throughout the corridor. The stakeholders were divided into groups based on their area of interest. The groups that were formed focused on Safety and Emergency Services, Travel and Tourism, Operations and Maintenance, or Commercial Vehicle Operations. The groups were asked to list the challenges that they perceived existed in their area. Based upon these challenges, the stakeholders were asked to list the opportunities that they felt existed for remedy of the various problems. The recurring challenges and opportunities that exist throughout the corridor have been extracted from this information and are listed below.

Communication and information challenges:
- Lack of cellular coverage and hard line services
- Timeliness of information
- Weather and road condition information
- Tourist information
- Road closure information
- Signage – visibility and hazard identification

Management challenges
- Commercial vehicle management
- Interagency coordination
- Jurisdictional issues
- Maintenance of pavement

From the challenges that were identified, a set of opportunities was developed that could potentially remedy the perceived problems. Some of the commonly recognized opportunities that were identified are listed below.

Communication and information opportunities
- Education
- Web site supported by regional server
- Variable Message Signs
- Highway Advisory Radio
- Kiosks
- Road Weather Information Systems
- 1-800 telephones and call boxes
- Smart Cards for tourist behavior
- CCTV web site
- Advisory television

Management opportunities:
- On board Mayday
- Automated enforcement
- Cooperation in transportation planning

In summary, a comparison was made from information provided by the stakeholders of the technology applications. The items were ranked based o n the number of times the technology applications were identified in the four workshops, as shown in Table 2. These opportunities were then modified as needed to relate to the National ITS Architecture market packages and are shown below.

The technology applications which were recognized as potentially applicable to attendees in *four of the four* workshops include:
> Variable message signs
> HAZMAT on-board mayday
> Road-weather information systems
> Highway advisor radio
> Kiosks
> Regional Internet server/ website
> Education

The technology applications which were recognized as potentially applicable in to attendees in *three of the four* workshops include:
> 1-800 Travel advisory telephone
> 1-800 Reporting Telephone
> Call boxes
> In-vehicle control
> In-vehicle mayday device
> Advisory television
> Closed circuit television
> Traffic Information
> Smart cards (tourism)
> Automated enforcement
> Regional transportation planning

In closing, information from this report will be used to provide input and a reality check to meeting public need. Data collected from the workshops is one data point and will be combined with other data to finally determine the most applicable short-term and long-term needs for this project.

Appendix

WORKSHOP DETAILS

The following lists comprise the information gathered during the workshops. Each breakout group listed their perceived challenges, opportunities, and other pertinent information on a white-board. The information was then assimilated by the Western Transportation Institute. The following information was recorded directly from the white-boards.

Medford, Oregon

Travel Safety and Emergency Services

Problems
- Driver Inattentiveness
- Fog/Visibility
- Animal Collision
- Mixed Traffic/Different Speeds
- Fixed Hazards
    - trees, bridge ends
- Railroad Crossings
- Drivers ignore traffic/roadway signs
- Sign readability in all conditions
- Interagency Cooperation
- Change driver behavior
- Communication/radio deadspots
- Cross/multi-jurisdictional areas-incidents
- Emergency Vehicle routing efficiencies
- Inclusive Transportation Planning
- Service ends at county line
- Funding transit is Rural areas (cost/benefit or societal benefit)
- Insurance costs

Opportunities
- School system/educate users
- Pavement Riffles
    - Curves, intersections
    - Driver inattentiveness
- Reader boards at strategic locations
- Website/electronically controlled from TEC
- Variable speed signs
    - Potential Demo (Grants Pass-Roseburg)
- Automatic monitoring of compliance & ticketing
- Radio Information
    - cross geographical area

- Cross jurisdictional
    -emergency incident response plans
- Require cooperation to receive revenues
- Legislative changes to enable deployment
- Operational plan/forum to avoid duplication of effort LOC/AOC

Institutional Issues
Partnership
    -Logical partnerships to maintain entire system
Information Sharing
System wide pavement information system

Partners
National Weather Service
Fish & Game

Public Transit and Fleet Operators/Maintenance

Problem
Agreements w/railroad corporations for safety issues and transit technology
Transponder inter-operability
Access for communication lines/shared resource
Revenue sharing for communication service
Coordination between small transit providers
    -inter and intra jurisdictional service

Opportunities
Communication from users
    -timely/accurate
Vehicle heads up display
    -roadway warning & information
More relevant/dynamic signage
Better visibility of signs
Positioning-Location System
Rural Carpool Network
Coordinated association transportation services
    -senior citizens group, etc.
Insurance cost pooling for transit vehicles

Institutional Issues

Partners

Travel and Tourism

Problem
- Main access road closures-up to two weeks (101, I-5)
- Timely/appropriate information
- Geographic locations
    -Sis. Pass I-5
    -Highway. 199
    -Highway 38
    -Highway 101-slide area
- Disaster management
- Eagle Point rest area
- Weather
- Parking
- Alternate routes
- Linguistic issues
- When a delay with happen at an attraction
- Signing consistency
- RV parking
- Facility parking
    -I-5 & 84
    Attractions are dispersed/car oriented
    BRITT festival

Opportunities
- Newspaper, Television, Internet
- Organization information reception
    -person to person
- Techs to give info
- Data collection, traffic information
- Designate an individual to keep track of information
- Internet/Kiosks
- Integrate HAR's with Tourist/Traveler information
- Cross-state communications
- Information stops
- Incorporate other business with rest area to provide safety/info/security
- Coordinated fee collection
- Rewards for off-peak times
- Smart Card
- Bicycle Lanes-Routing

Institutional Issues
    efficiency of office

liability
public resistance
desensitization of public

Partners

Forest Service
Oregon Department of Transportation
BLM
Rural Economic Development
Parks
Recreation Department
Special event organizations
Chambers of Commerce
SOVA
Redwood Empire Association
Bicycle Clubs/Outdoor clubs
State/County/Local Departments of Transportation
Tribes
Banks

Infrastructure Operations and Maintenance

Problem

Landslides
Flooding
Pavement Maintenance

Opportunities

Monitor/notification systems for Roadway conditions
    -flood/drainage
Automatic Maintenance
    -inventory
Inclusive Partnerships in transportation planning
    -cooperation
    -leverage funds
    -share knowledge

Institutional Issues

Partners

Commercial Vehicle Operations

Issues
   Make transponder work
      -interoperable (Oregon & California)
      -California and Oregon systems are different
      -jurisdiction
   Truck Merging
   Trucker rest time
   VORAD
   Grades
   Driver fatigue
   Simple solutions
   Snow
   Glenndale, PM 80 on I-5 (road closed)
   "Dummying-down" society
   Road condition information
   Automobiles during bad weather
   Number of road closures (why are they increasing?)
   Techno approval to drive in bad weather
   Hwy 199 (Grants pass and Brookings)
      -~6 "bad" areas (provide truck alert)
   Hwy 140 (Medford and Winne.)
      -curves
   Hwy 97 (Klam. Lake)
      -black ice
      -rocks
      -need warnings
   Expand Coos Bay
   Hazmat response
      -mayday
      -quick identification of material
   Cellular network-coverage needs improvement

Opportunities
   Transponder pass to enter certain highways (199, 140, 97) for Motorhomes and Trucks
   Technology to solve tight corners
   Rock slide warnings
   Hazmat-on board mayday
      -not just hazmat related
   Ice warnings-detection
   Interoperable transponders (i.e. prepass and green light)
   In-vehicle control-"Smart Vehicles" to prevent accidents

Merge warnings
In-vehicle warnings
Dynamic downhill speed warnings
Broadcast road closures to trucking
Real-time weather conditions
Better weather data to those who close roads

Institutional Issues

Partners

Bend, Oregon

Tourism

Challenges
    Signing on Forest Service Roads
    Getting information to the user
        -Medium used
        -At rest stops
    Type of information provided
        -O&D
        -Who had the information-sharing info
        -Best route at specific time
        -Coordinate info
    Identify Local Needs
        -Get that information to the providers and decision makers
    Need for service info regarding fuel, food, lodging etc.
    More than one media
    Bilingual information to compensate for language barriers
    Lack of real-time info re closures and incidents
    Info coordination between DOT, county, states and forest service
    Distances between source of info and service and no alternative
    No mechanism to deliver pro-trip planning info
    Info not available in time or place to make choices
        -Locations between Burns and Bend, I-84, Idaho border, Siskiyous, Santiam Pass
    Old or conflicting info as to current road status (open or closed)
    Not enough opportunities to influence driver behavior
    How long will the traffic stoppage last (When will roads reopen)
    Congestion around/at rest areas
        -At capacity
    Tourism congestion in Bend, Sisters, Madras, Florence, Redmond, and other Coastal towns
    Weekend, Holiday, and other special events create excess traffic
    2 lane roads do not have adequate capacity (possible need for shuttle service for events)
    Commute congestion between Bend and Redmond
    Overloaded circuits at DOT during incidents

Incident Management
    PSAP Respondent
    Highway numbering system is confusing
    Rural addressing and positioning

Opportunities

Low powered radio station (HAR) used for used for service info (is currently opposed by radio operators because of revenue competition with private industry)

Visitor association disperse information

GPS addressing (CAD Commuter Aided Dispatch)

Emergency response teams support and drive technology

Regional server
- Push information to provider when incident happens
  - When situation changes
  - Across jurisdiction
  - Seamless

Public on road access to information
- Visitors center south of Bend on HWY 97 short on funds could partner with DOT to use as a rest stop and information center
- Provide equal access to all regardless of economics and language
- Kiosks at destinations (High Desert Museum, Batchelor, and Newport Aquarium)
- Phone access to information –preferably a person
- Advantage of camera view of the situation

Central Clearance House
- 1-800 number
- Access from distance

Where is visitor information center? Is it open? Is it staffed? Etc.

Universal access to info
- Letting travelers know accurate, timely and available information including weather and road information

Have a system for retrieving current road and weather information

Seamless pre-trip planning
- Internet sites, links
- Geographic

Value of prediction for pre trip planning

VMS good application

HAR

Maintaining information system
- Information Radio
- YATI
- Direct people to visitors center
- ADA access into phone tree

Personal Digital Assistant
- Future applications
- Current applications

In vehicle systems

Institutional Issues

Private Sector will deliver if there is a market

Kiosks-HAR

PDA-Beacon ready
Public Acceptability
    -Simple, easy to operate and understand
Rural America as a market needs jurisdictional partnerships to attract the private sector

Solutions
    Smart Card Concept
        -Congestion pricing
        -Enticement to off season usage
        -Transportation planning –O&D
    Shuttle Service
        -Bend to Sisters
        -Bend to Batchelor
        -Coordinated Services
        -Use school busses for rural transit and regular commute on "Deadhead" leg
    Lewis & Clark bicentennial
        -Mode to mode event smart card
        -Apply "Travelocity" to tourism regardless of mode
        -Trip planning
    Institutional C0-op
    Special event management

Safety and Emergency Services

Challenges
    Long Distances/Isolated areas
    Older Drivers
    Lack of law enforcement
    Lack of Communications
        -Technology
        -Agency to Agency operations/logistics
    Wildlife/Livestock (S-97, 140, 395 Primevillle County Roads)
    Inappropriate Signing
    Responding to Weather
        -Sanding/Plowing
        -Informing Public
    Forecasting Data
    High Water/ Flood conditions
    Driver Behavior
    Lack of funding/resources
    Diversity of users (language barriers)
    Unfamiliar motorists
    Overdriving conditions
    Jurisdictional issues/boundaries
    Driver behavior (ignoring traffic control)

Damaged/vandalized signing
Lack of Samaritism
Rock fall/slide/tree road blockage
Smoke/fog hindering visibility
Higher traffic
Higher expectations of transportation system
Truck traffic on Highways 58, and 97
High volumes compete with community safety
Environmental sensitivity to sanding and widening roads (adding lanes)
Lack of funding/resources
Historical crash data, i.e. cattle drives disturbing infrastructure
Large geographic area
Increased hazardous materials movement
Lack of medical training
Pavement conditions data
Structural/non-standard facilities
Lack of services (gas etc.)

Institutional Issues

Understanding needs of other agencies
Mutual aid
Legal authority across boundary
Liability
Turf protection
Political/legal
Funding competition
Technology barriers
    -Inter operability
    -Proprietary
Joint purchase
Lack of staff/skills
Different customers/priorities/missions
Highway versus local priorities
Fear of technology
Lack of information on ITS/tools

Solutions

Communication/coordination
    -Multi-jurisdictional
    -Data sharing
    -Radio System
Automated data collection
    -Pavement
    -Weather

-Incident Detection
Call Box
Education
Real time TV
Vehicle transponders/mayday
-Material info
Subsidize services in remote areas
Increased funding
-Coordination of information
-Allocation
Automated data collection on road conditions
Incident Detection through satellite imaging
Subsidize cellular coverage
Variable message signage
-More detail including alternative routes
Medical training for first responders
-Tools, supplies, and equipment
Translator/linguist
-Incentives to learn
Call boxes
Education on where to get information
Pavement sensors with warning
On board sensors
Increased law enforcement
Automated enforcement
Speed monitors/retarders
Touch screen kiosks at rest areas
More rest areas with real time info
Highway advisory radio
-Mobile HAR
-Common frequency
Widening clear zone
-Overpass and underpass
In-vehicle collision avoidance
Increased trucking safety

Transportation and Commercial Vehicle Operations

Transit Challenges
Differences between urban and rural transit
-Rural communities and remote areas lack transit (Lapine, Bend-Redmond)
-Need to define realistic representation for transit in these regions
Flexible fleet designs
Accessibility of vehicles (transit)
Liability of vehicle – who takes that on?

State law limitations
- -School bus
- -Disabled

Language barriers/low income restrictions

Cost (subsidy) to pay for services, operators, etc.

Transit boundary limitations
- -Service stops at particular boundary

Political sensitivity to certain partnerships

Public opinion of services offered

Dial-a-ride difficulties
- -Turns down passengers
- -Small capacity
- -Multiple barriers

Efficiency problems (disbursed population and low income population)

Land use planning (state wide planing)

Bend-Redmond-Primevile high volume of commuters

Lack of transportation for low-income
- -Mobility management

CVO Challenges

Need an improved method for weight/mile collection
- -Current cost is too high

Differences in transponders

Security issues

CVO traffic through towns trying to ID as "tourist" areas
- -Ex: Sisters and Redmond

Access management issue

Amount of traffic and location of traffic

Lack of information (safety issue, perception issue)

Logging trucks

Transferring accurate data on road geometric
- -Conditions = communication issue = information sharing

Passive vs. active signs

Animal migration

Improved road pricing system
- -County roads
- -Logging (short term use = lower quality of roads)
- -Wet weather

Tire pressure on different roads

CVO community and state DOT differences

Lack of information and knowledge for CVO

Transit Opportunities

Coordinate or put all services under and "umbrella"

-Include casinos, privately operated systems, etc
Partnership opportunities
    -Schools (fleet sits unused for 12-14 hours per day and all summer)
Network casinos
Welfare to work funding
    -School initiatives 21st century school = movement from area to area
    -Synergize market to be created
Information technology = help with efficiency
    -Rural
    -Remote
    -Hospital
    -Emergency
    -Etc.
Statewide pass – Seamless network

CVO Opportunities

Utilize tourist/visitors centers, airports, etc.
    -Business partnership opportunities
Active signs (especially for special events)
GIS layers
    -Statewide database to be shared by all counties
    -Regular system of monitoring truck volumes
        *State
        *Regional
        *Use for economic impact
        *Resources
        *Look for and provide alternatives
Identify how shipping movements work (use technology to visualize)
Increase public awareness of need for freight
    -Coordinate state and regional
Educate public about the importance of CVO industry to the economy and our lives
(common ground between CVO and ODOT)
Identify realistic expectations about public transit and develop long term plans accordingly
    -All costs (people staying home due to lack of transportation, subsidies)
    -All benefits (educate employers on "what's in it for them"
Ex: Josephine City
    1. Clearing house/accurate database on who needs transit, their destinations, etc.
    2. Dynamic mapping to determine transit costs/benefits
    3. Coordinate existing providers – funds, schedules, insurance (if possible)

Institutional Issues Regarding Transit

Identify who rural transit users are (mobility) to plan for transit needs
    -Utilize databases
    -Schools do it every year
Can't use school buses (while not being used) for other purposes

State law liability
  -Oregon Transit Association, California Transit Association, State Bar Association, etc
Insurance industry
  -Barrier to providing transit beyond a certain point
  -Costs associated with #/limit of passengers
Funding variations, eligibility requirements. "strings" to funds
Rules established by different providers
  -Mix of public and private (city, county, non-profit, etc)
Competition between different operators
  -Taxi/private providers need profit
Bring "transit" representatives to even COATS Stakeholders Meetings
  -Central Oregon did needs assessment and could use info
  -Community Action Agency Network
  -City of Bend will be doing a survey on their dial-a-ride service
Coordinating (but not having control)
  -Employer (Brightwood)
  -Housing (affordable)
Transportation System Pans need to synchronize work shifts (prepared by city/county)to
make transit more cost effective
Ridesharing
  -Matching
  -Security measures

Actions
COATS provide for technical mapping GIS
  -Outreach to all communities
  -Avoid duplication
  -Start to prepare for 2000 census
Lobby to amend state law
  -Determine barriers to coordination/cooperation
Initiate pilot project for transponder/GPS application for weight/mile tracking (both states?)
Statewide info sharing plan
Need umbrella for transit interests-providers, businesses, government, users, and advocates
Better monitoring of freight movement
Identify areas of common interest between CVO and DOT's to start dialog and cooperation

Redding, California

Travel Safety and Emergency Services

Problems/Challenges
    Highway 3 & Highway 36
    Highway 299 Oregon Mt. to Big Bear – mountain passes
        No shoulders
        Slide material
        Lack of guard rails
        Blind spots
    Highway 20 – 4 mile death trap
    Timeliness of information
    Real-time information needs
        Make information usable
        Get it to the traveler
    Warning signs
    Jurisdictional issues
    Safety during incident response – Quick response
        Advanced notification
        Traffic control
    Recreational traffic
    Lack of turn-outs
    Funding money
    Geometry – sub standard
    Icy bridges
    Lack of agency communication
    Lack of public education
        User friendliness
    Lack of cellular coverage
    Turning evaluation into results
    Dispatching emergency vehicles
    Fleet management

Opportunities
    Possible use of call boxes
    RWIS Remote Weather Information System
    Variable message signing - changeable
    Traveler information
    Public education
    Cameras – strategically placed for surveillance
    Highway advisory radio
    Real-time information distribution

Real-time weather information
Priority communications
Bridges – automated de-icing
Railroad technologies for fleet management
Dynamic message signs
    Mobile or permanent
Passing maneuvers technology
Full cellular phone coverage
Traveler information
    Real-time
        Weather
        Incidents / emergency
Internet – Agency access to information
Mayday systems
Railroad crossing

Institutional Issues

Partners

Travel and Tourism

Problem/Challenges
Information to people
Communication gaps
Travelers pass through community
    Need people to stay in community - $$
Newly incorporated cities
    Starting from ground up
    Highway 151 passes through city
    More promotion to city
        Public information regarding services
    Tourist bus service to dam
Tourist activities and services in city need to be published better
Long approval process for public information signs - Reservations
Signage issues with government agencies (Caltrans)
    Criteria for destination signs
    Follow up signage
Casinos – Reservations
    Who is responsible for signs
    Appropriate placement of signs
    Highway 20 – Robinson – safety issue
Safety
    Road conditions information is not timely or accurate

Provide real time road condition information on Internet
Are we providing information that travelers are not using?
Provide information with further advanced notice – miles
Weighting of information dissemination methods – brochures, Internet
What are tourist points of interest on a regional basis?
Itinerary travelers vs. non-itinerary travelers
Through trips vs. destination trips
Information to leisure travelers
Trinity County
Highway 299
Highway 36
Mountain ranges travel conditions
Curved roads
Signage
Long distances between services
Caltrans signage criteria seems strict – not enough notice for travelers
Obtaining corporate demographics for study area
Fast food and gas station demographics
Redding is a regional hub
Needs better signage
Local and special event congestion
Lacking man power and equipment to manage special – local events
Information dissemination regarding special events
Local events may have regional impacts – e.g. Reno's "Hot August Nights"
Reader board on Highway 299 for traffic diversion
More advanced notice of snow warnings – e.g. chain requirements
Upstream signs for tourist destinations
Insufficient funds for projects – O&M
Vandalism of rest areas and kiosks
Signage of preferred routes

Opportunities
Highway Advisory Radio and Changeable Message Signs for non-emergency or road condition purposes
Remote promotional signs
Tax Interstate businesses for Highway Advisory Radio funding
Road conditions and tourist information recordings played at rest areas
Information Kiosks
Road conditions
Weather conditions
Tourist activities
Recommended locations
Fast food clusters
Weaverville

Susanville
Big parking lots – shopping centers
HAR locations
Upstream of Baughart
I-395
Highway 20 from I-5 to 101
Lassen to Red Bluff – especially last 8 miles
Bank Smart Cards for recording of purchases and transportation uses
Transit dependent
Regional server for multiple agencies
Regional calendar of activities, events, festival
Centralized database – neutral champion
Contributions from regions to develop and maintain database
Golden Triangle tourist map

Institutional Issues
Caltrans signage
Caltrans communications and priorities with counties
Caltrans – better use of 1610 AM
Shasta Lake – step child
Economically depressed, high poverty
TDA funding
ADA access in Redding is poor
Streets and Roads vs. Transit
City vs. County
City incorporation
Declining timber $ for the Forest Service impacts roads
Local control issues over ISTEA & TEA21 money for tourism

Partners
Recommended
Hotel associations
AAA
Grant administrators and resource people
FHWA
Federal Lands
Scenic Byways people
California Department of Tourism
Auto Industry
Cell phone companies
Sheriff's Department
Chambers of Commerce
Yreka
Mt. Shasta

Lassen & Modoc
Red Bluff
Palicesdro

Commercial Vehicle Operations

Problem

Information accuracy and timeliness on Highway 96 and alternative routes
Bicyclists on two lane highways without bike lanes
    Especially – 299
                  -44
                  -89
                  -96
                  -97
Motor home/trailer drivers cause congestion, traffic delays, and safety hazards
Inadequate signage and use of pullouts
Difficulty returning to road from pullouts
No parking available in Redding, Yreka, Medford and Bend
WIM regulations for purely non-interstate truckers
No current centralized COATS location for travel info in both states
Lack of cellular coverage
CB radios are unreliable over long distances
Inadequate HAR (highway advisory radio) and signage
Weigh station backups into highway
Multiple types of operators have different needs
May need intermodal facilities coordinated with rail

Opportunities

Centralized dispatch for info (covering both states) through an "800"number and or kiosks
User friendly, internet-like kiosks with current and relevant road and weather info
Kiosks should be available at relevant decision making points where trucks are able to pull off, find parking etc.
Utilize dispatch and brokers to spread info
Long term "heads-up" display
Information should be marked with a time stamp
Accommodation for multiple types of operators
Kiosks should be partnered with truck stops
Need CCTV images on webpage

Institutional Issues

Deal with multiple government agencies
Different state laws/limitations
Paperwork
Shippers impose unrealistic timelines resulting in safety issues
Rail is federally subsidized. 'Competition' with rail makes cooperation difficult (inermodal)

CTA does not adequately represent smaller CVO companies
65/55mph zones for cars/trucks are not safe for passing or for loaded trucks to stop
State laws may prevent some technologies from being used
Little enforcement in rural areas
Interference of hazmat regulation (lethal vs. non-lethal cargo)E.P.A.

Actions
Devise accurate info dissemination
Streamline rules/limits in area
Communication: gaps, consistent info numbers
Sensitivity towards CV industry and their importance to the economy

Summary

Problems:
Information accuracy and timeliness (time stamp)
Communication gaps in cell coverage
Parking and pullout availability
Too many WIM rules and regulations
Lack of inetermodal facilities
Different operators create varied needs and solutions

Solutions/Opportunities:
Centralized dispatch/ 800 number
User-friendly kiosks with relevant info (ie truck stops vs. rest areas)
Heads-up display info (long term)
CCTV images on kiosks partnered with truck stops

Institutional:
Too many agencies creating too many rules
CTA representation not adequate for small companies
Too much EPA/hazmat regulation
State laws limit some technologies

Eureka, California

Travel Safety and Emergency Services

Problem
  Accurate info (route 199)
  Communications ie. call box vandalism, cell phone/radio reception, and 800 numbers
  Rock and mud slides
  Narrow clearance on two lane roads with out shoulders
  Animal migration causing animal/vehicle damage,RNP collisions
  Road closures limiting access to services
  Locating and accessing accidents (critical areas rte.199, 162,299,36,96,&169)
  Tourist viewing wildlife causing road hazards (ex. McDonald Creek)
  Construction sites
  Ice on RNP bypass (Laytonville to Willits, Legget
  Fog – 101 Laytonville and Willits
-    The Bluff north of Klamath
-    Last chance grade
-    Eureka to Arcata
-    Blue Lake rte.255
  Pedestrian and Bicyclist accidents in Eureka
  Pedestrians congesting intersections Willits, Broadway, RNP
  Roads with narrow or no shoulder
-    Pedestrian accidents in Covelo and Mendo Counties
-    Bicyclists following vehicle rules
-    Slippery conditions such as debris and oil
-    Visibility of roadway lines
-    Logging and gravel trucks on two lane highways
-    Tourists viewing scenery without turning off main road
-    Shortage of road turnouts
-    Road damage or instability

Opportunities
  AM radio signal/ HAR placement
  Electronically controlled changeable message signs
  Mayday devices in vehicles
  Increased cell phone /short wave radio coverage
  Call boxes in urban and rural areas
  Cable TV road conditions updated frequently by CT and CHP
  Web page on 800 number
  Rock/mudslide detectors at problem locations
  Ice detectors in pavement as part of rehab projects
  Reduced speed limits on narrow highways
  Warning devices at accident prone areas (guardrails and signage)
  Education
      -Number of fatalities at given locations

-Animal migration habits
Animal detection/warning/signage
Devices to keep animals off of roadways
Control vegetation along highways to deter animals from roadways
Provide areas (turnouts) for tourists to view wildlife
Route 96 "open range" fences
Identify/Post migration corridors
Communication to emergency services to get to sites
Train ER teams re hazardous material spills
    -Volunteer fire crews
    -CHP to train First Response personnel
Communication: cell phones, radio, public and private partnership
Educate travelers, CT and CHP of communication gap locations
Mayday devices in vehicles

Institutional Issues

Environmental constraints
Terrain
Location of highways near rivers, loose banks etc.
Get CTS/RTPAS to prioritize ITS projects
Funding between various agencies for improvement
Technology-lack there of/funding of
Laws impacting reducing speeds
Lack of legislative support of ITS projects
Lack of education regarding ITS projects
Licensing of RV drivers
Lack of private interest contributions
Sharing of data between decision makers
Regulatory barriers

Summary:

Problems

Communication
-Cell phone coverage
-Real time, accurate info
-Inability to convey hazards
-Availability of public information
-Notification of events
Engineering
-Roadway alignment and width
-Geology
-Intersections
-Accommodations for pedestrians and bicyclists
-Lack of turnouts
-Clear recovery zones for vehicles
-Animals on or near roadways

Legislation
-Conflicting data
-Conflicting goals and laws between agencies
-Lack of info for politicians regarding ITS
-Higher maintenance costs result in lack of new project money
-Environmental constraints

Opportunities
Communication
-Electronically controlled changeable message signs
-Public/Private partnerships in information sources
-Call boxes
-Radio stations
-800 number/web site
-Cable TV message
-Mayday devices
-Warning devices at high accident areas
Engineering
-Sensors for ice, fog and slides
-Barriers along roadway or underpasses
-Striping
-Include bike lanes
-Increase signage
Legislation
-Education
-Joint funding of projects
-Research into additional/alternate sources of funding
-Public/Private partnership

Public Transit and Fleet Operator/Maintenance

Problem
Limited services do not include evenings or weekends
Rest areas on 101 south to San Francisco
Stop signs
Transit to trails – Pedestrian and cyclist integration
Intermodal connectivity – Optimize system
County/city service coordination
Student services
-No service north of Trinidad
-Eureka/Redding services – public/private operation
Air quality impacts
-City fixed route schedule
-1 hour headway during off commute hours and weekends (nonexistant)
Farebox ratio requirements

-Less frequent service results in reduced usage
-No service between 101 and I-5
Lack of safety at bus stops
Poor fleet maintenance
Fuel access (clean fuel)
Not user friendly to cyclists

Opportunities
    Smaller vehicle serving direct routes
    Getting demand data
    Connecting with potential partners
    Combine funding sources
    Making transit attractive to non-dependant users
    Initiative
    Multiple destination trips
    Student subsidized pass
    Accessing bus stops
    Safety at bus stops
    Infrastructure MTCE for non motorized transportation
    Alternative fuel vehicle
    -Getting the fuel here
    -Retool maintenance
    Bike racks on buses (currently require permits)
    Efficient system to load bikes
    Utilize existing rail R/W
    Demand responsive service-know when riders are waiting
    On board safety (automatic vehicle location system)
    Life cycle costs amortization
    Special event service or intermittent service
    Computer aided dispatch
    Expanded personalized public transit funding/farebox ration
    Piggyback with welfare to work providers
    Involve private sector
    Land use planning

Summary

Problems
    Expand service geographically and schedule
    User does not know when bus will arrive
    Need for efficient bike loading and unloading
    Funding

Opportunities
    Coordination between agencies
    Automatic vehicle location system

Automatic passenger locator/demand
Notification back to passengers of bus location and arrival time
Interactive kiosks for info

Travel and Tourism

Problem
ITS uses for disabled
Access roads off of I-5 (to Covelo)
County roads in rural communities
Tourism and linkage to state highways
Economic growth
Lack of tourism promotion
Arcata /Welcome center kiosk
    -Best routes, traveler information, road report
Signage
    -Service information
    -Improve signage in Arcata area between Highway 101 and Highway 299
    -A CMS is needed to state road conditions at the 101-299 interchange
    -Indication of Indian Reservation Locations along Hwy 101
Lack of information on road conditions on Hwys101 and 299
Slides along Hwys 101and 299
Availability and time of road conditions
Upstream information regarding road conditions
Information is needed for disabled regarding transit and traveler services
Isolated residents along Hwy 162 and 101 need signage re. seasonal access roads
Tourist destinations need better signage
I-5 has steered travelers away from Hwy 101 and decreased the number of tourists to the
Redwood Empire from 3-4 million (1978) to 700,000 (current). It has also changed the
national and regional origins of the visitors
800# and CT internet site are not accurate. Road closures and reopenings are not being
reflected on site and are affecting tourism.
ODOT and CT sites are not cross linked
800# and internet sites are controlled by Sacto HQ rather than maintained locally
National Park Road closures are difficult to detect, transmit and convey to public
    -ex. Newton Beach in Redwood National Park
Invisible barrier between NPS and surrounding gateway communities; need better
communication system
Poor road conditions on city, county, and access roads on reservations
Tourism information regarding reservations needs improvement
    -Currently reservation information is distributed by TV, radio, and newspaper
Pass information is not timely (199 and I-5 interchange lacks road condition information)
Reopenings are not posted
Slow moving vehicles on two lane highways
CT and local jurisdictions generally do not allow signage

Scenic corridor/byways do not allow signage although this would help economics

Increase in number of RV's on the roads with inadequate number of collection centers and RV parking

Radio HAR is maintained by government and has a limited range

    -HAR is used 5% of the time

    -Private organizations should have some control over HAR

    -Lack of tourist information on HAR

    -If HAR is used for tourist information less signage would be required

Elk herds on parts of Hwy 101

Lack of controls and signage on "Narrows" (common site of accidents) on Hwy 199

Environmental constraints on Highway modifications

Parking issues along roadside

Lack of parking at HSU

Need for interregional tourist planning as some sites are spread out

Ice on NP roads

Overhanging trees on Hwy 101 near Richardson's Grove

Fog conditions in Del Norte county and Redwood National Park at Last Chance Grade

Wilson Creek Bluffs falling into the ocean

Lack of cell phone coverage throughout the region

Opportunities

Detection

    -Visibility

    -Slides

    -Wide loads

    -Breakdowns

    -Travelers do not know where they are

    -Automatic location by call box

Kiosks

    -Audible information

Improve HAR

VMS

Broadcast FAX

Sensors

    -Paratransit

    -Local/Regional information advisory

    -Invisible fence for animal warning

Regional tourism coordination

Regional services-to connect regional tourism information

CC TV for mountain pass conditions and other road conditions

No to "Smart Cards"

Remote "CAM" display of pass or general conditions

Display on kiosk at visitor center for pass conditions

Portable digital assistance devices targeted at RV users

"Traveler Radio" for road and travel conditions at rest stops

800# for local conditions

Weather radio channel

Summary

Problems
Accurate and timely info
Road conditions with verification of clearance
Local vs. regional info
Improvement of HAR
    -Broadcast
    -Only used 5% of the time
    -Tourism services
Need for better service/attraction information
Geographical challenges
    -Slides
    -Pass conditions
    -Fog/visibility
Environmental constraints

Opportunities
VMS
VMS with Adverts
HAR with tourism services
CCTV Mountain passes etc
Kiosks
Detection
    -Wide loads
    -Road conditions
    -Slides
    -Incidents
    -Call box (auto)
Broadcast FAX
Regional server/Local adv.
800#
Internet
Weather radio channel
Portable digital assistance
Animal/vehicle warning

Commercial Vehicle Operations

Summary

Problems
Restricted access to external markets

-Hwys 199,101,and 299 can not accept interstate rigs

Weather related highway problems
Over-length/restricted rules and regulations
Lack of information (real time and future)
    -Weather
    -Events
    -Construction
    -Road Closures
    -Incidents
    -Maintenance
Unfamiliar travelers/RV tourists
Conflict of vehicle types (trucks, school buses, bicycles)
No common focal point in this area

Challenges
    Access for large trucks
    Bottlenecks
    Length restrictions (Highways 199,299,and 101)
    Road closures
    Communication/cellular coverage
    Construction delays
    Timely information
    Tourists/travelers

Opportunities
    Communication
    Real-time information
    Someone to speak for rural communities at state and federal levels
    System of access and funding
    "User friendly" options

Institutional Issues
    Funding Sources for proposed solutions
    Reluctance to automate/change
    Lack of cab space
    Language/communication
    Training needs/capable drivers
    Solutions should be user friendly
    Multiplicity of single truck operators
    CTA (may not address small/rural operators)
    Logging/shipping
    RWIS
    Construction/Maintenance
    Incident response info
    Centralized communication distress to dispatcher
        -Information as needed

-Efficient weigh scales etc/automated
-Mountain passes
Collision warning systems
Reflective pavement markings
Improved visibility in fog
Interstate vs non-interstate CVO
Uniform policy between states
Hazardous material
-On board kits
-Emergency response communication
Non-Caltrans maintenance

Focus Areas
Brushy mtn.
Redwood bypass
Redwood Creek 299 Ellis to Beary
199 Del Norte Ct.
Campers/pullout
-Unfamiliar drivers
Intermodal hubs necessary
Weight restrictions
State to state differences
-Weight laws
-Hours of service

Summary

Problems/Challenge
See above

Institutional Issues
Funding
Reluctance to change
Lots of single truck operators
Lack of cab space
Training needs/capable drivers

Actions
Improved communication
-Technical and institutional
Infrastructure based solutions that are environmentally acceptable
Access to funding-timely system for addressing needs
Get impaired driver off of the road