

Appendix F: User Needs Workshop

User Needs Workshop Invitation
User Needs Workshop Agenda
User Needs Workshop Minutes
User Needs Workshop Power Point Presentation
User Needs Workshop Handout

Regional ITS Operations & Implementation Plan for the Salem-Keizer Metropolitan Area

Expanded Stakeholder Workshop: User Needs



Date: March 17, 2005
Time: 9:30 am – 11:30 am
Location: Northwest Transportation Operations Center
 Large Conference Room
Address: 3225 State Street (NW Corner of State St/Hawthorne Ave)
 Salem, OR 97301

Please R.S.V.P by March 14, 2005 to Brandy Sularz at
bms@dksassociates.com or by calling (503)243-3500

- ❖ Are you interested in reducing your commute time?
- ❖ Are you concerned with freight mobility?
- ❖ Do you use TripCheck for road conditions?
- ❖ Did you know that approximately 50 percent of all traffic congestion is caused by “nonrecurring” events such as traffic incidents?

For the last several months, a group of stakeholders have been gathering input for the development of an Intelligent Transportation System (ITS) Plan for the Salem-Keizer Metropolitan Area. This project aims to get the most out of existing roadway facilities by preserving transportation system capacity, and enhancing regional transportation mobility, efficiency and safety for all modes.

Meeting Agenda

- 9:30 am: Welcome & Introductions**
- 9:35 am: Presentation by DKS Associates**
- Description of plan process, what ITS is, and why to use ITS
 - Summary of needs we have heard so far
- 10:00 am: Breakout Session**
- Poster stations will be set up around the room based on areas of interest and workshop participants will have the opportunity to ask questions and provide input on transportation needs.
- 11:00 am: Group Discussion**
- Group leaders will summarize poster station input and will lead a group discussion about potential projects to address the needs.
- 11:25 am: Next Steps**

Intelligent Transportation Systems:

- ❖ Use advanced technologies such as cameras, automatic vehicle detectors, message signs, and coordinated traffic signals to make traffic flow smoothly and safely
- ❖ Provide real-time information about construction work zones, weather conditions, public transportation and roadway congestion
- ❖ Have a wide array of applications and benefits to operators and users of the transportation system

Why Attend? Come see what ITS can do to help make your transportation system more efficient, safer and contribute to a sustainable community. You will have the opportunity to identify needs related to traffic management, traveler information, emergency management, and public

transportation. The result of this project will be a prioritized list of projects based in large part on the transportation system needs identified in this meeting.



Salem 9-1-1 Dispatch

Polk County

cityofsalem.

DKS Associates
TRANSPORTATION SOLUTIONS

Agenda

Regional ITS Operations & Implementation Plan For Salem Metropolitan Area

Expanded Stakeholder Workshop

Thursday, March 17, 2005
ODOT NW Transportation Operations Center
3225 State Street, Salem, OR 97301
Large Conference Room
9:30 a.m. – 11:30 a.m.

- | | | |
|------|---|------------|
| I. | Introduction | 5 minutes |
| II. | What is ITS? / Project Background | 15 minutes |
| III. | Group Discussion | 75 minutes |
| | A. User Needs | |
| | a. Modifications/additions to existing needs | |
| | b. Expand/discuss new transportation user needs | |
| | B. Matching User Services to User Needs | |
| IV. | User Needs/Project Scoring | 15 minutes |
| V. | Next Steps | 5 minutes |
| VI. | Next Expanded Stakeholder Meeting <i>Deployment Plan</i> : June 21, 2005? | |

Meeting Minutes

Regional ITS Operations & Implementation Plan For Salem Metropolitan Area

Expanded Stakeholder User Needs Workshop

Thursday, March 17, 2005
ODOT Northwest Transportation Operations Center
Large Conference Room
9:30-11:30

Attendees:

<input checked="" type="checkbox"/> Anderson, Edward (ODOT ITS Salem)	<input checked="" type="checkbox"/> Jackson, Ray (SKATS/MWVCOG)
<input checked="" type="checkbox"/> Bender, Dean (Polk County Emergency Mgmt)	<input type="checkbox"/> LaFreniere, Joe (Cherriots)
<input checked="" type="checkbox"/> Brock, Joel (ODOT ITS Region 3)	<input type="checkbox"/> Kissler, Rob (City of Keizer)
<input checked="" type="checkbox"/> Christopher, Lore (City of Keizer)	<input checked="" type="checkbox"/> McCarthy, Mike (Marion County)
<input checked="" type="checkbox"/> Dollar, Dan (ODOT Region 2)	<input checked="" type="checkbox"/> McGill, Galen (ODOT ITS Unit)
<input checked="" type="checkbox"/> Erickson, Bruce (ODOT Region 2 Traffic)	<input checked="" type="checkbox"/> Peters, Jim (DKS Associates)
<input type="checkbox"/> Geisler, Aaron (Polk County)	<input checked="" type="checkbox"/> Price, Nathaniel (FHWA Oregon)
<input checked="" type="checkbox"/> Hockett, Terry (City of Salem)	<input checked="" type="checkbox"/> Shaddix, Jason (ODOT ITS)
<input type="checkbox"/> Hottmann, Kevin (City of Salem)	<input checked="" type="checkbox"/> Sularz, Brandy (DKS Associates)

ITS INTRODUCTION	ACTION ITEMS
DKS provided a brief presentation on Intelligent Transportation Systems and how advanced technologies can be applied to the transportation needs of the Salem-Keizer Metropolitan Area.	
USER NEEDS GROUP DISCUSSION	ACTION ITEMS
<p>After the presentation, existing user needs were presented in a handout; they were organized according to the following areas of interest:</p> <ul style="list-style-type: none"> • Travel and Traffic Management • Emergency Management and Incident Management • Traveler Information and Information Management • Public Transportation Management • Maintenance and Construction Management <p>The existing needs were discussed and new user needs related to each</p>	DKS will update the User Needs Assessment Chapter based on the new input from the User Needs Workshop.

of the topics were identified. The new user needs are listed below.

Travel and Traffic Management

- Need mapped height and weight restrictions for possible diversion routes
- Need to communicate restrictions to the detour route (for incident or pre-planned construction)
- Emergency responders need to choose an alternate path
- Need to provide railroad crossing occupation information
- Need to communicate closures due to events at the Capitol
- Need to provide information on capitol closures to public and emergency responders
- Need parking management at the convention center
- Need advanced notification about parking for convention center
- Need a parking management plan and advanced signage
- Need to manage parking structures downtown
- Need to distribute information to the media
- Need signal interconnect on Cordon Road (switch to emergency timing plan)
- Need advanced information to E-W travelers (Cordon in the event of detour)
- Need a communication interoperability solution for contact with Salem Police Department
- Need for evacuation plan in case of an emergency rail event (hazardous material moving through Salem)
- Need to get air bag deployment data from private sector vendors
- Need count stations
- Need to use ATR for detour route plans

Emergency Management and Incident Management

- Need to generate an evacuation plan for emergency rail event
- Need to get data from Mayday systems (private sector data feed)
- Need to obtain air bag deployment information
- Need to be able to share digital video to first responders at the scene
- Need to have video at the dispatch center
- Need quick clearance process/laws
- Need to investigate crime scenes better/quicker speed up processes
- Need to define what the district attorney really needs for accident investigation
- Need to be able to call in the right people and tools to shoot scene in 20 minutes not 3-4 hours
- Need to share database information better (one database for all information)
- Need link between regions Emergency Operations Center and

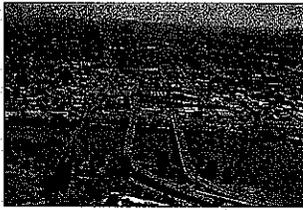
<p>Agency Operations Center</p> <ul style="list-style-type: none"> • Need to expand emergency response to share Agency stuff with police and fire. • Need to be standard basemap so everyone can get to it • Need to display video image on Cable TV. Possible to use with Channel 22 and 23 local cable channels <p>Traveler Information</p> <ul style="list-style-type: none"> • Need cameras on Salem Parkway • Need cameras on Willamette bridges • Need CCTV Coverage, better images for TripCheck • Need cable TV channel for traveler information (possibly use public television channel with no cost, just need good quality images for station • Need a quality image for TripCheck, current City of Salem cameras are black and white • Need to include parking information for highway advisory radio in Salem • Need to broadcast messages to cellular phones • TripCheck needs to send information to view image to cellular phone as jpeg • Link traffic information to xm radio because they have an xm traveler information channel <p>Public Transportation</p> <ul style="list-style-type: none"> • Need to know ferry is closed from town • Need ferry info on TripCheck • Need advanced signage for closures and ferry status • Need to manage security issues on ferry • Need a security camera with outputs to a remote location for safety management • Need traffic counts on the ferry <p>Maintenance and Construction</p> <ul style="list-style-type: none"> • Need more weather stations • Need to automate the collection and maintenance planning • Need better maintenance planning 	
PROJECT SCORING EXERCISE	ACTION ITEMS

<p>A list of transportation challenges and user needs were grouped according to their functional area. Each workshop participant was given seven dots and instructions to place the dots next to the categories that represents the most critical needs from their perspective. The results from this exercise are included in the table below.</p>	<p>DKS will incorporate priorities identified by expanded stakeholders into subsequent steps of the regional ITS plan for the Salem-Keizer Metropolitan Area.</p>
NEXT STEPS	ACTION ITEMS
<p>The next expanded stakeholder meeting will be the Deployment Plan Workshop. This workshop will utilize community input for selecting specific ITS projects for 20-year deployment in the Salem-Keizer region. It is tentatively scheduled for June 21, 2005.</p>	<p>DKS will send invitations announcing the date and location of the next expanded stakeholder workshop.</p> <p>Steering committee members will provide DKS Associates with additional contacts for the next expanded stakeholder workshop.</p>
NEXT MEETING	
<p style="text-align: center;">Steering Committee Meeting #4 Agenda: Operational Concept 2:00pm to 4:00pm April 21, 2005 City of Salem</p> <p style="text-align: center;">Expanded Stakeholder Deployment Plan Workshop Agenda: Deployment Plan June 21, 2005, tentative</p>	

Dots	Challenge	Problem Specifics
7	Traffic congestion from incidents	Limited transportation information available at the TOC (incident detection, video) Lack of incident classification information Improved agency coordination for incident response Need improved detour route management
9	Transportation during evacuation/terrorism	Need real-time traffic conditions at EOC Need to provide route information/road closures to evacuees Need plan for terrorist attacks and capitol mall security issues
7	Lack of transportation information	Lack of information for operations personnel ODOT TOC gets calls for traffic signal problems. Operators do not have access to traffic signal status information Need a central source for construction information Need real-time, accessible traveler information Need to integrate information from multiple sources (construction, incidents, transit) Need to have information related to road closures, major accidents and detour information available to 911 center
5	Need improved information for transportation planning	Data exists in some cases such as traffic counts, but it needs to be in a useable format Vehicle classification would be useful Data needs to be in a common format for real-time sharing of information and long term access to the information
17	Need ways to improve operations efficiencies	Common system software to access remote field devices (NTCIP protocol) Need common communication between agencies.
3	Ongoing operations/management issues	Data in same format Keeping information current Managing huge amounts of data collected Providing easy access to the information (e.g. maintenance personnel access to weather information)
2	Maintenance and Construction management	Information regarding flood and slide monitoring Vehicle maintenance management Need to provide a central source for construction information Improve safety in construction zone by providing video on site, better traffic control and advance signing in construction zones. Improve construction activity information (e.g. monitor delays, provide travel time information)
0	Public Transportation Management	Transit reliability Implement transit signal priority along bus routes Incorporate transit arrival information Need a uniform CAD interface between fixed route and paratransit
4	Need to maintain/improve emergency response times	Need to share incident information between 911, police, fire and transportation. Delays caused by traffic congestion Delays caused by road construction Delays caused by unforeseen events (railroad crossings) Delays caused by temporary closures Delays caused by traffic control devices (signal preemption)
1	Commercial vehicle delay	"Unrestricted freight mobility"

Salem-Keizer Metropolitan Area ITS Plan

(Regional ITS Operations & Implementation Plan For The Salem-Keizer Metropolitan Area)



User Needs Workshop

DKS Associates
March 17, 2005

Salem-Keizer ITS Implementation & Operations Plan User Needs Workshop March 17, 2005

Workshop Agenda

- Workshop Goals
- What is ITS?
- Project Background
- User Needs
 - ✓ Modifications/additions to existing needs
 - ✓ Expand/discuss new transportation user needs
- Match User Needs to User Bundles
- Rank the User Needs

Salem-Keizer ITS Implementation & Operations Plan User Needs Workshop March 17, 2005

Workshop Goals

- Obtain stakeholder input
- Identify additions/modifications to needs
- Finalize user needs in Salem-Keizer Metropolitan Area
- Develop preliminary inputs for regional architecture

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What is ITS?

Intelligent Transportation Systems apply technological solutions including computer hardware and software, communications, electronics and safety systems to improve safety and transportation system performance.







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The Scope of ITS is Broad

- Traffic Signal Control
- Traveler Information
- Freeway Management
- Incident Management
- Transit Management
- Work Zone Management
- Emergency Response
- In-Vehicle Systems





Salem-Keizer ITS Implementation & Operations Plan User Needs Workshop March 17, 2005

Traffic Signal Control

Goal: Improve mobility and productivity



Signal Coordination



Dynamic Message Signs



System Detectors



Traffic Signal Systems



Cameras

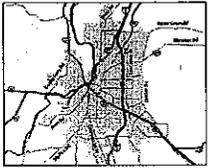
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Traveler Information

Goal: Provide up-to-date real-time information

- Internet: www.TripCheck.com
- Phone: 511
- In-Vehicle
- Personal Digital Assistant







Source: Trafficgauge

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Freeway Management

Goal: Improve safety, relieve congestion, increase reliability







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Incident Management

Goal: Reduce response times and incident durations

- Incident Response Vehicles
- Alternate Routes
- Multi-agency Coordination




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Transit Management

Goal: Improve transportation services, improve reliability

- Automatic Vehicle Location
- Real-Time Bus Arrival Information
- Transit Priority

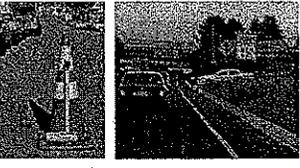



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Work Zone Management

Goal: Improve safety, efficiency and productivity

- Dynamic Lane Merging
- Work Zone Intrusion Alarms
- Variable Speed Limits

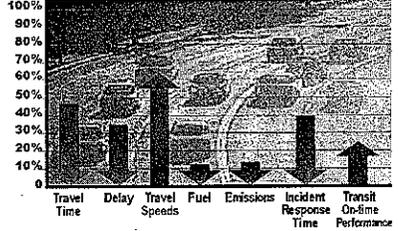



Source: International Road Dynamics

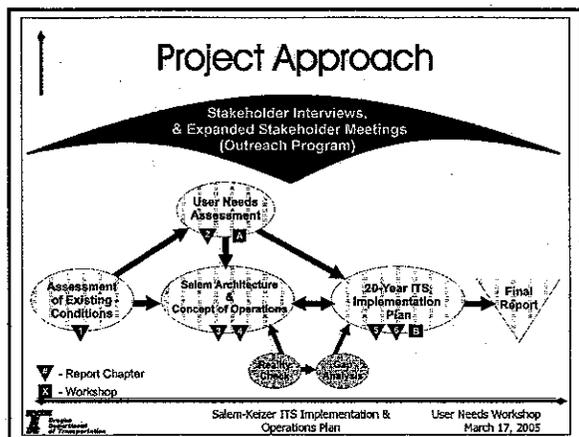
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How are ITS Benefits Measured?

- Safety
- Cost Savings
- Delay/Time
- Environment
- Quality of Life



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ITS Plan – Why is it Needed for Salem-Keizer Metropolitan Area?

- Over half of traffic delay is non recurring, attributable to:
 - ✓ Traffic incidents
 - ✓ Weather
 - ✓ Work zones
 - ✓ Special events
 - ✓ Poor signal timing

Reasons for Congestion

Source: IAA

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ITS Plan – Why is it Needed for Salem-Keizer Metropolitan Area?

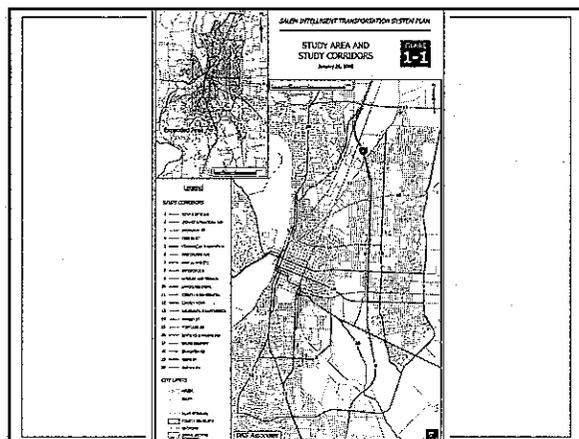
- Maximize efficiencies and improve safety of existing infrastructure
- Demand from public for better information about traffic delays
- IT'S the LAW!
 - ✓ FHWA issued a rule on ITS Architecture that requires ITS projects funded by the Highway Trust Fund to conform to the National ITS Architecture, and to USDOT adopted ITS Standards. Each region must have a regional architecture by April 8, 2005

Salem-Keizer ITS Implementation & Operations Plan User Needs Workshop March 17, 2005

Cooperative Effort

- ODOT
- City of Salem
- City of Keizer
- Mid Willamette Valley COG
- Marion County
- Polk County
- Cherriots
- Mid Willamette Valley 911
- Oregon State Police
- FHWA
- DKS Associates

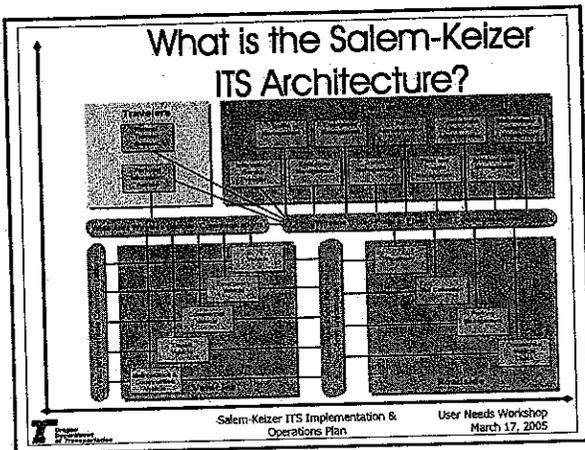
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Workshop Agenda

- Workshop Goals
- What is ITS?
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 - ✓ Modifications/additions to existing needs
 - ✓ Expand/discuss new transportation user needs
- Match User Needs to User Services
- Rank the User Needs

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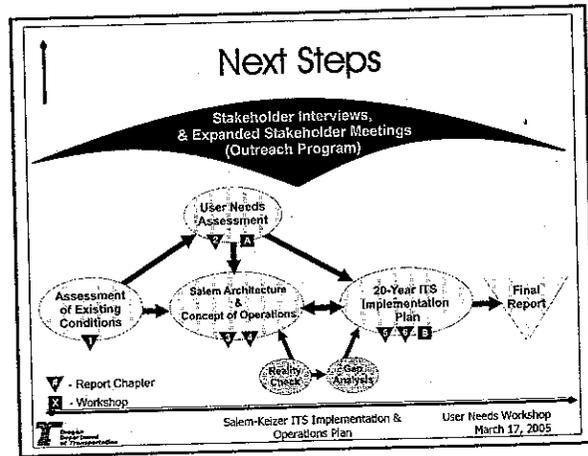


- ### ITS Terminology: User Services
- User Services- A service that can be provided to transportation system users and operators to address those users' problems or needs.
 - Bundles- Groups of User Services:
 - ✓ Travel & Traffic Mgmt
 - ✓ Public Transportation Mgmt
 - ✓ Electronic Payment
 - ✓ Commercial Vehicle Operations
 - ✓ Emergency Mgmt
 - ✓ Advanced Vehicle Safety Systems
 - ✓ Information Mgmt
 - ✓ Maintenance & Construction Mgmt
- Salem-Keizer ITS Implementation & Operations Plan User Needs Workshop
March 17, 2005

- ### User Services Defined
- A broad range of users are considered:
 - ✓Travelers
 - ✓Traffic operators
 - ✓Emergency managers
 - ✓Public Transportation operators
- Salem-Keizer ITS Implementation & Operations Plan User Needs Workshop
March 17, 2005



- ### Workshop Agenda
- Workshop Goals
 - What is ITS?
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 - Match User Needs to User Services
 - Rank the User Needs
- Salem-Keizer ITS Implementation & Operations Plan User Needs Workshop
March 17, 2005



Next Meeting

Expanded Stakeholder Workshop #2:

Deployment Plan

June 20, 2005



Salem-Keizer ITS Implementation &
Operations Plan

User Needs Workshop
March 17, 2005

Regional ITS Operations & Implementation Plan for the Salem-Keizer Metropolitan Area

Expanded Stakeholder Workshop
March 17, 2005



Oregon Department of
Transportation

DKS Associates
TRANSPORTATION SOLUTIONS



cityofsalem.

Polk County

Cherriots
SALEM AREA TRANSIT



Mid Willamette Valley
Council of Governments



U.S. Department of Transportation
Federal Highway Administration

Salem 9-1-1 Dispatch Center

Traffic Operations and Management

User Needs Identified to Date

- ▶ Need ability to automatically collect vehicle counts with classification
- ▶ Need more count stations
- ▶ Need to install cameras
 - at all new intersections
 - Interstate 5 interchanges
 - West Salem bridges
 - Mission Street
 - Cordon Road
 - Lancaster Road
- ▶ Need means to show traffic congestion on key corridors.
- ▶ Need the ability to share access to video images and data devices
- ▶ Need traveler information for the Willamette River Bridges due to limited alternate route options
- ▶ Need to set up an incident management plan/tool for using Willamette River Bridge for reverse traffic in the event of one bridge closure.
- ▶ Need real-time construction mapping information
- ▶ Need to integrate systems between local transportation and emergency agencies
- ▶ Need to support “unrestricted freight mobility”
- ▶ Need to address safety and blocking issues at rail crossings
- ▶ Need to provide additional information regarding flood monitoring and slide monitoring
- ▶ Need advanced traffic control



Questions to Address

- ▶ Do you agree with the transportation user needs on the list?
- ▶ Are there any obvious transportation user needs missing?
- ▶ Are there any specific corridors you would suggest as a diversion route during incidents?
- ▶ Are there any specific arterial roadways where traffic management tools should be applied?
- ▶ Are there any specific at-grade railroad crossings that need improvements? If so, is there anything that would be useful to improve the safety of these crossings and/or reduce delay to emergency and private vehicles?
- ▶ Are there any specific locations throughout the metropolitan area with parking problems?
- ▶ What type of information should be provided to travelers? How should it be provided?
- ▶ Who do you need to interact with if there is an incident and signal timing should be adjusted? What tools are needed?

Emergency Management

User Needs Identified to Date

- ▶ Need to facilitate preemption by vehicle ID
- ▶ Need to share incident information between 911, police, fire and transportation
- ▶ Need to deploy vehicle tracking on fire department vehicles
- ▶ Need to provide real-time information to mobile data devices
- ▶ Need to enhance evacuation management
- ▶ Need to have information related to road closures, major accidents, and detour information available to 911 center
- ▶ Need to share incident information between computer aided dispatch (CAD) systems.
- ▶ Need some plan for terrorist attacks and capitol mall security issues
- ▶ Need to notify public about road closures, affects on rail etc. for terrorist attacks



Incident Management

User Needs Identified to Date

- ▶ Need improved detour route management
- ▶ Need a common communication link
- ▶ Need to provide advanced information to travelers (variety of media and provide other choices)
- ▶ Need to enhance the incident management program
- ▶ Need to provide additional video coverage
- ▶ Need to provide traveler information for incidents on Commercial Ave
- ▶ Need to provide incident classification information (fender bender vs. major)
- ▶ Need to separate severity of accidents to filter the page notification
- ▶ Need to provide incident detection
- ▶ Need to provide infrastructure to support detection/traveler information
- ▶ Need to have tool to indicate traffic speeds on the roadside so that a page can be sent when traffic slows or stops



Questions to Address

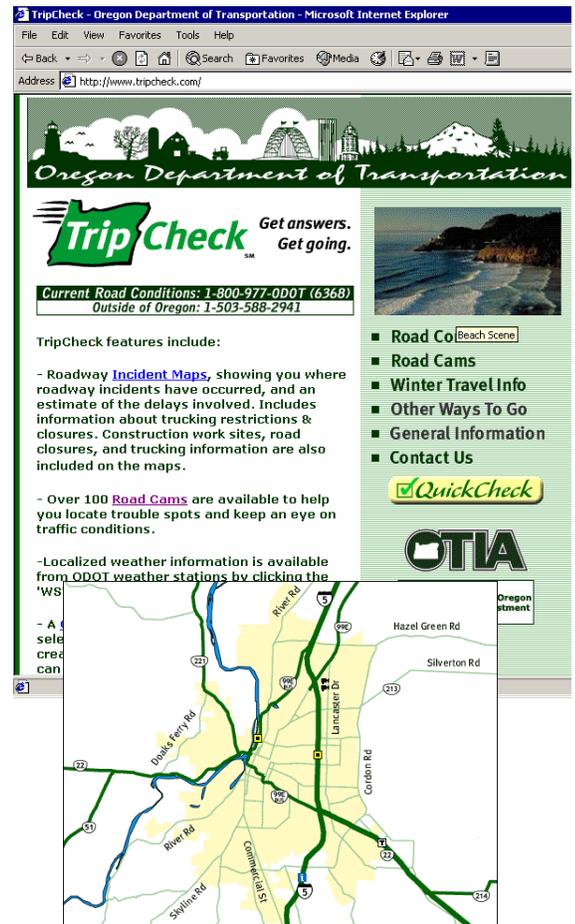
- ▶ Do you agree with the incident management needs on the list?
- ▶ Are there any obvious incident management needs missing?
- ▶ What tools could you use for better on-scene traffic management?
- ▶ What tools could you use to improve multi-agency coordination and communication?
- ▶ Is there a need for multi-agency communications during incidents?
- ▶ Is there a need for traffic information en-route to an incident site?

- ▶ Imagine you are a 911 dispatcher and someone calls in on a cell phone to report a crash on I-5 but they do not know their exact location or travel direction. What information would be useful to you?
- ▶ Do you agree with the emergency management needs on the list?
- ▶ Are there any obvious emergency management needs missing?
- ▶ Imagine you are an emergency dispatcher. What information would be useful to you for incident identification and directing emergency response personnel?
- ▶ What kinds of things cause delays in response time? What is needed to reduce response times?
- ▶ Imagine there is a serious crash on I-5. Who will respond? Who needs to coordinate with whom? What information should be provided to motorists? What information would be useful to responders en-route?
- ▶ Imagine you are responding to an incident in Salem and you turn left onto a roadway only to stop behind a queue waiting for a train to move through an at-grade crossing. What information could be provided to avoid this situation? Where should the information be provided? Can you think of specific locations this information would be useful?

Traveler Information

User Needs Identified to Date

- ▶ Need real-time, accessible traveler information
- ▶ Need to install VMS at:
 - Lancaster
 - Cordon (I-5 detour route)
 - Silverton Road
 - Highway 22 East
 - River Road northbound at Brooklake Road
 - 99W/Highway 22 intersection
- ▶ Need to utilize and implement dynamic message signs, highway advisory radio, Internet, Cable TV, in-vehicle, 511, radio for distribution of traveler information.
- ▶ Need to integrate information from multiple sources (construction, incidents, public transit, congestion, alternate routes)
- ▶ Need to be able to access information about operational status of ferry systems
- ▶ Need to be able to post images on internet (ODOT TripCheck)
- ▶ Need weather stations at:
 - West Salem Hill
 - Fall City
 - Grand Ronde



Questions to Address

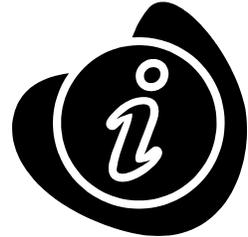
- ▶ Do you agree with the traveler information needs on the list?
- ▶ Are there any obvious traveler information needs missing?
- ▶ Imagine you are considering taking public transportation instead of driving this morning. What information would be useful to you to make that decision? Where should the information be provided?
- ▶ Are there locations within the study area where weather information would help you plan your trip? What information would be useful and where should it be provided?



Information Management

User Needs Identified to Date

- ▶ Need to install sufficient communications infrastructure to support future bandwidth requirements
- ▶ Need to install communications over the bridges
- ▶ Need to provide the NWTOC with access to all weather stations
- ▶ Need a cable channel dedicated to travel/incident management
- ▶ Need an automatic notification system for the media
- ▶ Need communication between City of Salem and ODOT TOC
- ▶ Need a filter mechanism to filter out “extra” information so that you only see/hear the information you need.



Questions to Address

- ▶ Do you agree with the information management needs on the list?
- ▶ Are there any obvious information management needs missing?
- ▶ Imagine you are a planner at MWVCOG. What type of information would be most useful to you when developing models and addressing transportation demand management techniques? How should this information be provided?
- ▶ What type of information collected by other agencies would be useful to your agency? How would this information be shared?

Public Transportation Management

User Needs Identified to Date

- ▶ Need to utilize automatic vehicle locaters (AVL) on Cherriotics fixed-routes
- ▶ Need to implement Mobile Data on paratransit
- ▶ Need to support the High Priority Transportation Corridor
- ▶ Need to implement transit signal priority along bus routes
- ▶ Need to incorporate transit arrival information
- ▶ Need a uniform CAD interface from fixed route to paratransit
- ▶ Need to provide support for the regional trip planner
- ▶ Need to disseminate information about the operational status of ferry



Questions to Address

- ▶ Do you agree with the public transportation needs on the list?
- ▶ Are there any obvious public transportation needs missing?
- ▶ What would make public transportation more desirable?
- ▶ What information about transit should be provided and where should it be provided?

Maintenance and Construction Management



User Needs Identified to Date

- ▶ Need to implement in-vehicle geo-coding of maintenance items (potholes, tree-limbs, signs)
- ▶ Need to provide a central source for construction information/construction zone coordination
- ▶ Need to enhance construction zone management to improve safety (video on site)
- ▶ Need to improve construction activity information (e.g. monitor delays, provide travel time information)
- ▶ Need better traffic control and advance signing in construction zones

Questions to Address

- ▶ Do you agree with the maintenance and construction needs on the list?
- ▶ Are there any obvious maintenance and construction needs missing?
- ▶ Is there any need to know the location of maintenance vehicles?
- ▶ Imagine there is a large flood. Do you need to coordinate road closures with anyone? What information do you need to share with other agencies?
- ▶ What are some ways to improve coordination of construction and maintenance projects?