

**Table 6-1. Deployment Projects**

Project # (Lead Agency)	Project Title	Project Description	Priority	Relativity to Planned Projects	Project Dependencies	Capital Costs/ O&M Costs <sup>1</sup>	Expected Benefits	Technical and Institutional Feasibility
<b>Travel &amp; Traffic Management (TM)</b>								
RV-TM-01 (ODOT & Medford)	Integration Between ODOT Region 3 Transportation Operations Center (TOC) and Local Transportation Operations Systems	Project will determine the functional requirements for systems interfaces to traffic and transit management agencies, emergency management agencies, the ODOT Region 3 TOC, and regional field devices. Once the functional requirements have been determined, the local transportation operations systems will be integrated with the ODOT TOC.	H, M, L	ODOT Statewide TOC Software Project; This project relates to most of the Travel & Traffic Management projects included in this plan.	Depends on center-to-center communication and communication installed to field devices.	\$205,000	<ul style="list-style-type: none"> <li>Information sharing capabilities</li> <li>Back-up capabilities</li> <li>More effective traffic management, incident management, and maintenance management</li> <li>Safety and efficiency improvements</li> </ul>	Requires communications between the ODOT Region 3 TOC and local transportation operations centers
RV-TM-02 (ODOT, Jackson County, Medford, Central Pt, Ashland, J-ville)	Network Surveillance	Provide network surveillance on the following corridors: <ul style="list-style-type: none"> <li>I-5 [ODOT]</li> <li>Rogue Valley Highway (Hwy 99) [Medford, Central Pt, Ashland]</li> <li>Crater Lake Highway (Hwy 62) [ODOT, Medford]</li> <li>Pine Street/Biddle Road [Central Pt, Medford]</li> <li>Jacksonville Highway (Hwy 238) [ODOT, Jacksonville]</li> <li>Crater Lake Avenue [Medford]</li> <li>North Phoenix Road/Foothill Road [Medford]</li> <li>Table Rock Road [Jackson Co]</li> <li>Blackwell Road/Kirtland Road/Antelope Road [Jackson Co]</li> <li>McAndrews Road [Medford]</li> <li>Stewart Ave [Medford]</li> <li>Kings Highway [Medford]</li> </ul>	H, M, L H, M, L H, M H, M, L L H, M L L L M, L M M	STIP Key #10838, 10964, 10841 STIP Key #12328 STIP Key #10838, Draft Jackson Co TSP Key #69 and #70 None None RTP Project #473 None STIP Key #08485, RTP Project #215 RTP Project #222, Draft Jackson Co Key #1 RTP Project #400 & #490 RTP Project #465 RTP Project #403	Requires communication to the agency with jurisdiction over the roadway.	\$6,780,000/ \$250,000	<ul style="list-style-type: none"> <li>Integration of multi-jurisdictional systems</li> <li>More effective traffic management, incident management, and maintenance management</li> <li>Improve real-time signal timing adjustments</li> <li>Increase in information available to travelers through the TripCheck website</li> </ul>	Parts of this project can be incorporated with planned capital improvements. ODOT staff have significant experience with CCTV camera deployments.
RV-TM-03 (ODOT, Jackson County, Medford, Central Pt, Ashland, J-ville)	Traffic Data Collection System	Deploy automated traffic data collection systems for corridor management and incident detection on the following corridors: <ul style="list-style-type: none"> <li>I-5 [ODOT]</li> <li>Rogue Valley Highway (Hwy 99) [Medford, Central Pt, Ashland]</li> <li>Crater Lake Highway (Hwy 62) [ODOT, Medford]</li> <li>Pine Street/Biddle Road [Central Pt, Medford]</li> <li>Jacksonville Highway (Hwy 238) [ODOT, Jacksonville]</li> <li>Crater Lake Avenue [Medford]</li> <li>North Phoenix Road/Foothill Road [Medford]</li> <li>Table Rock Road [Jackson Co]</li> <li>Blackwell Road/Kirtland Road/Antelope Road [Jackson Co]</li> <li>McAndrews Road [Medford]</li> <li>Stewart Ave [Medford]</li> </ul>	H, M, L H, M, L H, M, L H, L L M L H L L H	STIP Key #10838, 10964, 10841 STIP Key #12328, 12380 STIP Key #10838, Draft Jackson Co TSP Key #69 and #70 STIP Key #12338, 12337, 12323 None STIP Key #12326 None STIP Key #08485, RTP Project #215 RTP Project #222, Draft Jackson Co Key #1 RTP Project #490 None	Requires communication to the agency with jurisdiction over the roadway.	\$785,000/ \$85,000	<ul style="list-style-type: none"> <li>Integration of multi-jurisdictional systems</li> <li>Increase in staff efficiency</li> <li>More effective traffic management and incident management</li> <li>Availability of additional volume, speed, and occupancy data</li> <li>Enhanced management of roadway operations</li> </ul>	Parts of this project can be incorporated with planned capital improvements. ODOT and Medford staff have significant experience with data collection systems.

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RV-TM-04 (ODOT, Medford)	Dynamic Message Signs	Deploy dynamic message signs on the following corridors: <ul style="list-style-type: none"> <li>● I-5</li> <li>● Rogue Valley Highway (Hwy 99)</li> <li>● Crater Lake Highway (Hwy 62)</li> </ul>	M, L L L	RV-TM-03; RV-TM-11	Requires communication to the agency with jurisdiction over the roadway.	\$2,135,000/ \$25,000	<ul style="list-style-type: none"> <li>● Improve driver safety during incidents and events</li> <li>● More effective traffic management and incident management</li> <li>● Reduction in staff time needed to deploy temporary signs</li> <li>● Provide motorist information on incidents/events more quickly</li> </ul>	ODOT has successfully deployed numerous dynamic message signs throughout Rogue Valley and Oregon.
RV-TM-05 (ODOT, Medford, & Jackson County)	Traffic Signal Coordination	Implement traffic signal coordination and install traffic signal interconnect where needed on the following corridors: <ul style="list-style-type: none"> <li>● Rogue Valley Highway (Hwy 99)</li> <li>● Crater Lake Highway (Hwy 62)</li> <li>● Pine Street/Biddle Road</li> <li>● Crater Lake Avenue</li> <li>● Table Rock Road</li> <li>● McAndrews Road</li> </ul>	H, M, L	RV-TM-12  None None STIP Key #12338, 12337, 12323 STIP Key #12329 None RTP Project #490	Requires interconnect to traffic signals not currently interconnected. For advanced traffic signal coordination, traffic signals operated by ODOT and Jackson County need to be connected to a central signal system.	\$320,000	<ul style="list-style-type: none"> <li>● Improved safety and efficiency of each corridor, therefore reducing delay and emergency response times</li> <li>● Reduced stops and congestion</li> <li>● Improved travel times</li> </ul>	Parts of this project can be incorporated with planned capital improvements. Almost all traffic signals in the City of Medford already have interconnect and are connected to the City's central signal system.
RV-TM-06 (ODOT)	Curve Warning System	Deploy a curve warning system on I-5 in the Siskiyou Pass.	H	None	None	\$550,000/ \$11,000	<ul style="list-style-type: none"> <li>● Reduced vehicle speeds</li> <li>● Improved safety</li> <li>● Reduced collisions</li> </ul>	ODOT and CalTrans have successfully deployed several curve warning systems that have resulted in accident and speed reductions.
RV-TM-07 (Medford, Central Pt, Ashland)	Speed Monitoring System	Deploy an automated speed monitoring system with driver feedback signs on the following corridors: <ul style="list-style-type: none"> <li>● Rogue Valley Highway (Hwy 99)</li> <li>● Crater Lake Highway (Hwy 62)</li> </ul>	L	RV-TM-03	None	\$150,000/ \$6,000	<ul style="list-style-type: none"> <li>● Reduced vehicle speeds</li> <li>● Improved safety</li> <li>● Reduced collisions</li> </ul>	The Medford Police Department has found their speed enforcement vans effective in reducing speeds.
RV-TM-08 (ODOT & Medford)	Incident Response Program	Develop a multi-jurisdictional regional incident response program to support emergency management agencies with incident management on regional state, county, and city roadways. This program includes personnel, response vehicles, and dispatch.	L	RV-TM-02; RV-TM-10;	This project would require incident response vehicles and staff to patrol the regional roadways.	\$820,000/ \$37,000	<ul style="list-style-type: none"> <li>● Increased capacity and throughput during incident conditions</li> <li>● Improved integration of regional freeway systems with local signal systems</li> <li>● Reduction in congestion and delay due to incidents</li> <li>● Reduced incident response times</li> <li>● Improved safety and efficiency</li> </ul>	ODOT Region 1 and Region 2 have successfully implemented incident response programs in the Portland and Eugene-Springfield metropolitan areas, respectively.
RV-TM-09 (ODOT, Medford, Central Pt, Ashland, Jackson County)	Incident Management and Operations	This project includes the development of incident management operational plans and the deployment of field devices to manage incidents. The field devices will include CCTV cameras, dynamic message signs, trailblazers, and system detectors to detect incidents, monitor conditions, and post traveler information. Coordinated traffic signal timing plans will also be implemented. The incident management operational plans will include the operational protocol for field devices	H, M, L	RV-TM-01; RV-TM-02; RV-TM-03; RV-TM-05; RV-TM-09	Requires deployment of field devices and communications infrastructure. Some field devices or communications equipment may be installed as part of other freeway and arterial surveillance and management projects.	\$2,735,000/ \$95,000	<ul style="list-style-type: none"> <li>● Ability to detect and monitor incidents</li> <li>● Availability of real-time freeway and arterial corridor information during incidents</li> <li>● Increased capacity and throughput during incident conditions</li> <li>● Improved integration of regional freeway systems with local signal systems</li> </ul>	ODOT Region 1 and the City of Portland have successfully developed and deployed an incident management operational plan on the I-5/Barbur Boulevard corridor.

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RV-TM-09A RV-TM-09B RV-TM-09C RV-TM-09D		(i.e. CCTV cameras, DMS, and system detection on mainline and alternate routes), the development of incident signal timing plans on alternate arterial routes, and clearly defined agency roles and responsibilities. The corridors for this project include the following: <ul style="list-style-type: none"> <li>● I-5: Exits 11 to 35 (Alt rtes previously identified by local agencies)</li> <li>● I-5: Siskiyou Pass</li> <li>● Crater Lake Highway (Hwy 62)</li> <li>● Lake of the Woods Highway (Hwy 140)</li> </ul>					<ul style="list-style-type: none"> <li>● Reduction in congestion and delay due to incidents</li> <li>● Reduced incident response times</li> <li>● Improved safety and efficiency</li> </ul>	Alternate routes and some operational procedures have already been established for I-5 as part of the Emergency Detour Contingency Manual. The operational plan for I-5 can expand on this and focus on the metropolitan area.
RV-TM-10 (RVTD)	Transit Signal Priority	Give priority at traffic signals only to buses that are behind schedule to support transit operations and schedule adherence. This project includes installing transit priority equipment on the transit fleet as well as upgrading equipment at traffic signals and traffic signal controllers (as needed). This project also includes staff time to design and implement the transit signal priority timings. <ul style="list-style-type: none"> <li>● Outfit transit fleet with transit priority emitters.</li> <li>● Route 1 (20 signals), Route 60 (15 signals)</li> <li>● Route 10 (28 signals), Route 4 (8 signals)</li> <li>● Route 40 (16 signals), Route 2 (10 signals), Route 60 (2 signals)</li> </ul>	H H M L	RVTD, ODOT, and the City of Medford will be implementing transit signal priority at two traffic signals on Hwy 62 as part of the North Medford Interchange Project and will be able to apply lessons learned to future deployments; RV-PTM-01	Equipment installations/upgrades at traffic signals will depend on the technology chosen as part of the North Medford Interchange Project. Also requires the installation of transit priority equipment on the transit fleet.	\$565,000/ \$22,000	<ul style="list-style-type: none"> <li>● Reduced transit delay</li> <li>● Improved schedule adherence and reliability</li> <li>● Reduced operational costs</li> <li>● Enhanced transit service</li> <li>● Increased ridership</li> </ul>	TriMet and the City of Portland have successfully deployed the technology on several corridors in the City of Portland.
RV-TM-11 (ODOT & Jackson County)	Central Signal System	Upgrade the City of Medford central signal system to provide additional functionality such as transit signal priority, congestion mapping, integrated camera control, and enhanced data collection reporting. This project also includes installing a central signal system for traffic signals owned by ODOT, Jackson County, the City of Central Point, and the City of Ashland. Ensure the system can be integrated with transit systems (ie. AVL) and emergency management systems (ie. AVL). Consider sharing the same central signal system with the City of Medford.	M, L	RV-TM-06; RV-PTM-03	Requires a communication connection between the central signal system and each traffic signal that will be connected to the system.	\$1,040,000/ \$4,000	<ul style="list-style-type: none"> <li>● Capability for advanced traffic signal operations and more flexible intersection control</li> <li>● Provides congestion mapping capability</li> <li>● Improved transit schedule adherence</li> </ul>	The City of Medford already has a central signal system in place and can pass on lessons they have learned.
RV-TM-12 (ODOT)	Advanced Traffic Management System (ATMS) Software	Implement ODOT's ATMS Software in the Rogue Valley metropolitan area. This software will provide functionality to automatically notify the media and other agencies of incidents, support remote camera control and sign control, support congestion mapping, and support travel time reporting.	H	RV-TM-01; ODOT's ATMS Project (Releases 1 and 2)	None	None (This project is currently underway and funded by ODOT)	<ul style="list-style-type: none"> <li>● Reduced staff time responding to incidents</li> <li>● Improved multi-agency coordination during incidents and special events</li> <li>● Reduced travel times and improved safety</li> </ul>	ODOT Region 1 has successfully installed ATMS Release 1 in the Portland TMO. They are currently developing ATMS Release 2 to enhance the existing system and add additional components.

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RV-TM-13 (ODOT)	Expand/Upgrade Highway Advisory Radio (HAR)	Expand and upgrade existing highway advisory radio system to cover a greater geographic area and to include more traveler information.	H, M, L	RV-TM-10; RV-TM-19	Depends on deployment of field equipment (CCTV cameras, system detectors, weather stations, etc...) to collect traveler information.	\$300,000/ \$10,000	<ul style="list-style-type: none"> <li>● Real-time traveler</li> <li>● En-route information that allows users to make informed travel decisions</li> <li>● Reduced congestion and delay</li> <li>● Customer satisfaction</li> </ul>	WSDOT has implemented highway advisory radio in southern Washington and can be used as a resource during design and construction.
RV-TM-14 (ODOT)	Integrate Regional Traveler Information with TripCheck, 511, and Highway Advisory Radio	Develop an integrated system for disseminating and posting traveler information to TripCheck, 511, and HAR. This should include the ability to disseminate information to web-based services such as PDA's and cell phone messaging.	H, M, L	RV-TM-02; RV-TM-03; RV-TM-04; RV-TM-05	Depends on deployment of field equipment (CCTV cameras, system detectors, weather stations) to collect traveler information.	\$500,000/ \$9,000	<ul style="list-style-type: none"> <li>● Real-time and static traveler information</li> <li>● Pre-trip planning capabilities and en-route information that allow users to make informed travel decisions</li> </ul>	Requires an interface between agencies in the Rogue Valley metropolitan area to TripCheck, the 511 system, and the HAR system.
RV-TM-15 (ODOT)	Integrate 511 with Northern California	When California expands their 511 system to northern California, integrate the California and Oregon systems so that travelers may access information from both states when they are near the state borders.	L	511 Deployment in Northern California	Depends on when California plans to deploy a 511 system in the northern part of the state.	\$100,000/ \$1,000	<ul style="list-style-type: none"> <li>● Reduced congestion and delay</li> <li>● Customer satisfaction</li> </ul>	Components for integration can be incorporated into the deployment of 511 in northern California.
RV-TM-16 (ODOT, Medford)	Traveler Information Television	Develop a dedicated television station for disseminating traveler information, such as camera images from the TripCheck website or congestion/ incident maps.	M	RV-TM-14	Depends on deployment of field equipment (CCTV cameras, system detectors, weather stations) to collect traveler information.	\$30,000/ \$80,000		Requires an interface between a television station and available traveler information.
RV-TM-17 (SOVA, ODOT)	Traveler Information Kiosks	Deploy computerized touch-screen kiosks that provide traveler information, including a link to TripCheck at the following locations: <ul style="list-style-type: none"> <li>● Airport</li> <li>● Rest Areas</li> <li>● Eagle Point Visitor's Center</li> </ul> ODOT plans to deploy a site specific weather forecast kiosk with a link to 511 that provides nearby site conditions at the Suncrest Rest Area near Talent.	H	None STIP Key #09436 Visitor's Center	None	\$220,000/ \$13,000		SOVA has installed a number of traveler information kiosks in southern Oregon including one at the Rogue Valley Mall in Medford.
RV-TM-18 (ODOT)	I-5 Siskiyou Pass Traveler Information	Develop a separate link on TripCheck for the Siskiyou Pass that includes a one-page profile view of I-5 with current and forecasted weather conditions and camera images along the entire length of the pass. Weather information shall be integrated with NOAA.	H	RV-MC-05	Depends on deployment of additional field devices to provide complete coverage of the pass.	\$110,000/ \$10,000	<ul style="list-style-type: none"> <li>● Improve safety due to real-time and forecasted weather information</li> <li>● Improved traffic management over Siskiyou Pass</li> </ul>	WSDOT has created website pages in this format that provide very clear and concise information in one location.
RV-TM-19 (Airport)	Integrate Rogue Valley International-Medford Airport Traveler Information with ODOT Region 3 TOC	Provide traveler information about Rogue Valley roadways at the airport and provide airport information to travelers via TripCheck and dynamic message signs operated by the TOC.	L	None	Requires communications link and interface between the Airport and the TOC.	\$280,000/ \$5,000	<ul style="list-style-type: none"> <li>● Real-time and static traveler information</li> <li>● Pre-trip planning capabilities and en-route information that allow users to make informed travel decisions</li> <li>● Reduced congestion and delay</li> <li>● Customer satisfaction</li> </ul>	Other agency interfaces are being developed as part of the ITS Deployment Plan that can be used as models for interface development.

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RV-TM-20 (Event Organizers)	Special Event Management Systems	Project includes the deployment of traffic signal timing plans, portable dynamic message signs, and parking management for the following special events: <ul style="list-style-type: none"> <li>● Jackson County Fairground Events</li> <li>● Oregon Shakespeare Festival</li> <li>● Britt Festival</li> <li>● Other Regional Special Events</li> </ul>	L	None	None	\$350,000/ \$7,000	<ul style="list-style-type: none"> <li>● Improved safety and efficiency, therefore reducing delay and emergency response times</li> <li>● More effective traffic management and special event management</li> <li>● Increase in information available to travelers through DMS and the TripCheck web site</li> </ul>	Once traffic signal interconnect has been installed as part of RV-TM-07, special event signal timing plans can be deployed without having to install additional communication infrastructure.
<b>Communication (CO)</b>								
RV-CO-01 (ODOT & Medford)	Document Communication Design Standards	Document design standards for communications in the following areas to ensure standardization, compatibility, connectivity, and reliability between multiple jurisdictional agencies: <ul style="list-style-type: none"> <li>● Conduit construction</li> <li>● Cable plant description</li> <li>● Minimum number of fibers</li> <li>● Network technology</li> <li>● Junction boxes</li> <li>● Fiber termination panels</li> <li>● Fiber connectors</li> <li>● Communication hub design</li> <li>● Fiber optic testing specification</li> <li>● Fiber optic installation specification</li> <li>● End electronics</li> </ul>	H	This project is essential for ensuring that the communications deployed with other projects in this ITS plan are consistent throughout the metropolitan area and with other regional agencies.	None	\$75,000/ \$3,000	<ul style="list-style-type: none"> <li>● Set of standards ready for implementation on all new projects or reconstruction projects</li> <li>● Standardization for multiple regional agencies</li> </ul>	This documentation will establish the technical aspects required for establishing a communications network.
RV-CO-02 (ODOT, Medford, Jackson County)	Communication Network	Expand the communication network to support additional field devices and connect operations centers to the regional communications network.	H, M, L	This project is relative to most of the projects included in this ITS plan.	While the communication network can be expanded independent of the other projects in this plan, it is more likely that the infrastructure will be installed as part of other projects in this plan.	\$4,000,000/ \$150,000	<ul style="list-style-type: none"> <li>● Connection between agencies will allow for multi-jurisdictional control, management, coordination, and information sharing</li> <li>● Connection to ITS field devices allows for innovative strategies such as arterial management and incident management</li> </ul>	The City of Medford and ODOT already have a significant fiber optic communications network in the City.
<b>Public Transportation Management (PTM)</b>								
RV-PTM-01 (RVTD)	Automated Vehicle Location (AVL)/Computer Aided Dispatch (CAD) Transit Management System	Install an automated vehicle location (AVL) system on the RVTD fleet and install a computer aided dispatch (CAD) system at the RVTD dispatch center. RVTD plans to put 10 new buses, which are designed to accommodate an AVL system, into service in the fall of 2004. AVL should be deployed on these 10 buses, and the rest of the fleet should be outfitted with AVL as vehicles are replaced. Integrate the CAD system with the AVL system so that dispatchers may track the fleet in real-time and monitor on-time performance.	H	RV-TM-12	None	\$620,000/ \$20,000	<ul style="list-style-type: none"> <li>● More efficient allocation of transit resources</li> <li>● Operating cost savings</li> <li>● Improved transit reliability</li> <li>● Ability to automate data collection process, which enhances planning efforts</li> </ul>	TriMet and Lane Transit District (LTD) can be used as resources. TriMet has already successfully implemented AVL and CAD and LTD is currently researching systems for acquisition.

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RV-PTM-02 (RVTD)	Integrate Real-Time Transit Traveler Information with ODOT Regional Trip Planner Project	Provide ODOT's Regional Trip Planner Project with real-time transit schedule information. Real-time information will be searchable by route and stop location and indicate the amount of time until the next arrival.	H	RV-PTM-01; ODOT Regional Trip Planner Project	Automated vehicle location (AVL) must be installed on the transit fleet to enable real-time tracking and schedule information.	\$350,000/ \$2,000	<ul style="list-style-type: none"> <li>Real-time transit information to aid travelers with pre-trip planning</li> <li>Removal of traveler uncertainty</li> <li>Improved customer satisfaction</li> </ul>	ODOT is developing an interface with RVTD as part of its Regional Trip Planner Project.
RV-PTM-03 (RVTD)	Real-Time Customer Information Displays	Deploy real-time dynamic message signs at key locations such as transit centers and bus stops where multiple routes pass through, and at stops with large bus headways.	M, L	RV-PTM-01	Automated vehicle location (AVL) must be installed on the transit fleet in order to provide real-time schedule information.	\$440,000/ \$83,000	<ul style="list-style-type: none"> <li>Real-time transit information to aid travelers with en-route planning</li> <li>Better information during service disruptions</li> <li>Reduction of perceived waiting times</li> <li>Removal of traveler "uncertainty"</li> <li>Improved customer satisfaction</li> </ul>	TriMet has successfully implemented real-time customer information displays in the Portland metropolitan area using simple wireless communications.
RV-PTM-04 (RVTD)	Online Route Assignment	Develop an online route assignment program accessible by customers on the Internet and personal digital assistants that enables the user to determine the appropriate transit route to take between two locations. The system includes selecting the route based on quickest trip, fewest transfers, or shortest walk.	M	RV-PTM-01	Automated vehicle location (AVL) must be installed on the transit fleet in order to provide real-time schedule information.	\$75,000/ \$2,000	<ul style="list-style-type: none"> <li>Information to aid travelers with pre-trip and en-route planning</li> <li>Improved customer satisfaction</li> </ul>	TriMet has successfully implemented online route assignment and can be used as a resource.
RV-PTM-05 (RVTD)	Automated Passenger Counting (APC)	Install an automated passenger counting (APC) system that electronically records the number of passengers boarding and deboarding at each transit stop as well as the location and the time.	M	RV-PTM-01	In order to determine when and where passengers board and de-board, automated vehicle location (AVL) must be installed to support real-time operations.	\$138,000/ \$6,000	<ul style="list-style-type: none"> <li>More efficient allocation of transit resources</li> <li>Ability to automate data collection process, which enhances planning efforts</li> </ul>	This system can be added as a component of the AVL system (RV-PTM-01).
RV-PTM-06 (RVTD)	Automated Stop Announcements	Provide automated stop announcements prior to each scheduled stop along a transit route.	L	RV-PTM-01	Automated vehicle location (AVL) must be installed on the transit fleet to enable announcements to be coordinated with real-time route location.	\$450,000/ \$15,000	<ul style="list-style-type: none"> <li>Improved service and customer satisfaction</li> </ul>	This system can be added as a component of the AVL system (RV-PTM-01).
RV-PTM-07 (RVTD)	Electronic Fare Collection with Smart Cards	Update the electronic fare collection system on the RVTD fleet to include the use of "smart" cards that allow for electronic payment of fares based on fare type (i.e. adult, senior) and zone.	M	None	This project should be coordinated with other transit agencies throughout Oregon to determine the feasibility of integrating this system throughout the state.	\$1,000,000/ \$5,000	<ul style="list-style-type: none"> <li>Ability to automate data collection process, which enhances planning efforts</li> <li>Improved service and customer satisfaction</li> </ul>	RVTD will need to research the existing technologies to determine what works best with their fleet.
RV-PTM-08 (RVTD)	Paratransit Scheduling with Mobile Data Terminals (MDT's)	Install mobile data terminals (MDT's) in paratransit vehicles so that dispatch may provide updated schedule and route information to each paratransit vehicle.	L	None	None	\$120,000/ \$5,000	<ul style="list-style-type: none"> <li>More efficient allocation of transit resources</li> <li>Improved customer mobility</li> <li>Customer satisfaction</li> </ul>	Local emergency management agencies have successfully deployed mobile data terminals in years past and can be used as a resource.
RV-PTM-09 (RVTD)	Periodic Transit Fleet Maintenance System Upgrades	As technology evolves, upgrade the existing transit fleet maintenance system to continue the integration between of the on-board system with the vehicle diagnostics system.	M, L	None	None	\$100,000/ \$5,000	<ul style="list-style-type: none"> <li>More efficient allocation of transit resources</li> <li>Improved maintenance management</li> </ul>	RVTD has a transit fleet maintenance system today and periodic upgrades will help enhance the existing system.
RV-PTM-10 (RVTD)	Transit Security System Integration of Video Images with RVTD Dispatch	Develop a system to transmit video from buses and the transit station back to RVTD dispatch for real-time surveillance capabilities.	M	None	Requires communications connectivity between buses and the transit station and the RVTD Dispatch system.	\$1,500,000/ \$25,000	<ul style="list-style-type: none"> <li>Improved surveillance and monitoring capabilities</li> <li>Increased security for passengers both on-board and waiting at the transit station</li> </ul>	RVTD is in the process of acquiring an on-board transit security system at the same time they add additional buses to their fleet later this year.

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<b>Emergency Management (EM)</b>								
RV-EM-01 (ODOT, SORC, RVCCOM)	Integration Between Traffic/Transit Management Systems and Emergency Management Systems	Provide a two-way information flow (ie. CCTV camera images, congestion flow map, emergency calls) between transportation management systems and the metropolitan area 911 and emergency dispatch centers.	H	RV-TM-01	A software interface will be required at the 911 and emergency dispatch centers, the traffic management centers, and the transit management systems for access between systems.	\$1,350,000	<ul style="list-style-type: none"> <li>Improved real-time traffic conditions information</li> <li>Information sharing between agencies</li> <li>More efficient allocation of emergency response resources</li> <li>Reduced emergency response times</li> </ul>	ODOT and the Bureau of Emergency Communications (BOEC) are currently working on a proof-of-concept for 911 center integration. Evaluation of this proof-of-concept will help with 911 and emergency dispatch center integration in the Rogue Valley metropolitan area.
RV-EM-02 (ODOT)	Provide Interface Between Traffic Management Systems and Emergency Operations Centers (EOC's)	Provide an interface between the Regional Virtual TOC or other traffic management systems and each of the regional emergency operations centers to allow access to traffic control devices during emergency situations at the EOC's as well as to share information between agencies. This project includes workstations, monitors, and a communications interface at the EOC's.	M	RV-TM-01; RV-EM-01	A software interface will be required at the emergency operations centers, the traffic management centers, and the transit management centers for access between systems.	\$75,000	<ul style="list-style-type: none"> <li>Improved real-time traffic conditions information</li> <li>Information sharing between agencies</li> <li>More efficient allocation of emergency response resources</li> <li>Reduced emergency response times</li> </ul>	The RV-EM-01 project regarding public safety integration will provide the basis for the deployment of regional emergency operations center integration.
RV-EM-03 (Medford Police Dept)	Traffic Adaptive Emergency Response	Deploy an integrated emergency response system that provides for pre-trip planning, en-route guidance (static route plan), and dynamic route guidance (traffic-adaptive route plan) for emergency vehicles.	L	RV-EM-01; RV-EM-05	Depends on real-time traffic information availability and also requires a communication connection between the regional traffic management centers and the 911 centers. Automatic vehicle locators included in RV-EM-05 are required for dynamic route guidance.	\$420,000/ \$10,000	<ul style="list-style-type: none"> <li>Improved static and real-time information tailored to emergency management purposes</li> <li>Reduced emergency response times</li> </ul>	As RVCCOM 911 and SORC 911 are connected to the regional communication network, real-time traffic information will be readily available.
RV-EM-04 (Medford Police Dept)	Provide Real-Time Traffic Information to Mobile Data Terminals	Provide real-time traffic information to mobile data terminals housed in emergency response vehicles. Inventory existing emergency vehicle fleet to determine how many additional mobile data terminals need to be installed and install these as necessary.	M	RV-EM-03	None	\$150,000/ \$5,000	<ul style="list-style-type: none"> <li>Improved real-time traffic conditions information</li> <li>Reduced emergency response times</li> </ul>	A number of emergency response vehicles already include in-vehicle mobile data terminals.
RV-EM-05 (SORC, RVCCOM)	Emergency Vehicle Fleet Management System	Installation of automated vehicle locators (AVL) on emergency vehicles and dissemination of real-time emergency vehicle locations to dispatchers at the 911 centers for resource allocation.	H	None	Depends on linking vehicle locations to the mesh network currently installed in Medford that is planned for expansion throughout the Rogue Valley.	\$450,000/ \$15,000	<ul style="list-style-type: none"> <li>More efficient management of emergency vehicle fleet</li> <li>Reduced emergency response times</li> </ul>	Some local emergency management agencies have already installed AVL on their vehicles.
RV-EM-06 (Mercy Flights, Medford & Ashland Fire & Rescue)	Ambulance-Hospital Information System	Enable the exchange of real-time information (video, audio, and data) between regional ambulances and hospitals through the regional communication network.	H	None	Requires communications to be in place throughout the region.	\$250,000/ \$25,000	<ul style="list-style-type: none"> <li>Improved public safety</li> <li>More efficient allocation of medical resources</li> </ul>	San Antonio, Texas created the LifeLink System as a Model Deployment Initiative, which can be used as a resource.

**Table 6-1. Deployment Projects**

Project # (Lead Agency)	Project Title	Project Description	Priority	Relativity to Planned Projects	Project Dependencies	Capital Costs/ O&M Costs <sup>1</sup>	Expected Benefits	Technical and Institutional Feasibility
<b>Information Management (IM)</b>								
RV-IM-01 (RVCOG)	Regional Data Management System	Create a data management system for archiving data, collecting real-time data, and accessing data. The system should have geospatial capabilities and data should include at a minimum traffic counts, speed data, accidents (vehicles, pedestrians, and bicycles), traffic enforcement data, incident information, and transit information.	M	RV-IM-02; This project closely relates to projects that deploy field devices and systems to collect transportation related data.	This project is dependent on interagency communications and the deployment of field devices to collect data.	\$560,000/ \$20,000	<ul style="list-style-type: none"> <li>Improved resources for regional modeling, research, analysis, planning, and design</li> <li>Reduced cost of data collection</li> </ul>	This project will make use of data already collected or planned for collection by agencies in the Rogue Valley metropolitan area. ODOT has been working on an information brokering system as part of their TOCS software project.
RV-IM-02 (RVCOG)	Regional Data Standardization	Determine as a region the preferred format for data collection, reporting, and storage for consistency throughout the region.	M	RV-IM-01; RV-TM Projects	None	\$50,000	<ul style="list-style-type: none"> <li>Ease of data sharing</li> <li>Improved resources for regional modeling, research, analysis, planning, and design</li> </ul>	Agreements will need to be reached amongst regional agencies to develop standards that work well for all agencies involved.
<b>Maintenance &amp; Construction Management (MC)</b>								
RV-MC-01 (ODOT, Jackson County, Medford)	Maintenance, Construction, and Special Event Coordination System	Develop an information management system that contains details about regionwide maintenance and construction activities by public agencies, utility companies, and private contractors as well as special event information, including location and event duration.	L	None	Requires data and information from public and private agencies throughout the region.	\$540,000/ \$10,000	<ul style="list-style-type: none"> <li>Construction and maintenance scheduling capabilities</li> <li>Improved resources for planning</li> <li>Cost savings through project coordination</li> </ul>	The system must allow for quick and easy data input and retrieval to make it efficient for affected agencies to use.
RV-MC-02 (ODOT, Jackson County, Medford)	Winter Maintenance Scheduling	Deploy a system that monitors environmental conditions and weather forecasts and uses the information to schedule winter maintenance activities, determine the appropriate snow and ice control response, and track and manage response operations.	L	RV-MC-05	Requires communication between field devices and winter maintenance personnel.	\$250,000/ \$5,000	<ul style="list-style-type: none"> <li>Real-time weather and pavement conditions</li> <li>More efficient allocation of maintenance resources during winter and inclement weather</li> </ul>	Midwest states, northern states, and Canada have deployed similar systems that can be used as models for the region.
RV-MC-03 (ODOT, Medford)	Roadway Weather Information Systems (RWIS or "Weather Stations")	Deploy roadway weather information sites that provide temperature and road conditions at the following locations: <ul style="list-style-type: none"> <li>Siskiyou Pass [ODOT]</li> <li>Jacksonville Hill [ODOT]</li> <li>McAndrews Rd on Hill [Medford]</li> </ul>	H L L	None	None	\$560,000/ \$10,000	<ul style="list-style-type: none"> <li>Real-time weather and pavement conditions</li> <li>More efficient allocation of maintenance resources during inclement weather</li> </ul>	ODOT has previous experience with weather stations in the Rogue Valley and other regions.
RV-MC-04 (ODOT, Jackson County, Medford)	Develop Work Zone Management Standards	Develop standards for safety enhancements and management techniques in work zones such as the <ul style="list-style-type: none"> <li>Variable speed limits</li> <li>Incident detection and management</li> <li>Lane merge controls</li> <li>Queue detection and electronic driver feedback signs</li> </ul>	M	None	None	\$40,000	<ul style="list-style-type: none"> <li>Improved construction zone safety and efficiency</li> <li>Heightened safety awareness through driver feedback</li> </ul>	The development of regional work zone management standards, that incorporate other statewide efforts, will make implementation easier during major construction projects. ODOT has acquired portable changeable speed limit signs that may be available for use in the region.

<sup>1</sup> The estimated operations & maintenance (O&M) costs listed in this table are for an annual basis once the project has been deployed.