CALIFORNIA/OREGON ADVANCED TRANSPORTATION SYSTEMS

CANDIDATE EARLY-WINNER PROJECTS

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for the

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and

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INTRODUCTION

Purpose of Document

The purpose of this document is to propose candidate Early-Winner projects to be implemented as part of the California/Oregon Advanced Transportation System (COATS) study area. This document provides the results the ranking exercise in which various project participants ranked proposed infrastructure locations and the candidate early-winner projects. These results are detailed in the following sections. It should be noted that maps detailing legacy systems and proposed infrastructure are NOT included in this document and will be provided at the Spanish Springs Steering Committee meeting.

Previous efforts include the documentation of existing and planned transportation systems and analysis of the potential challenges in the bi-state area. The documents related to these tasks are included in Technical Memorandum One, Volumes 1 & 2; the "Review of Legacy Systems" report and the "Conditions and Performance" report, respectively. Using the information from these documents, potential locations for ITS infrastructure was developed and outlined in the "Project Infrastructure" report.

Project Rankings

General Infrastructure types and specific infrastructure locations were ranked using the Project Infrastructure document and ranking tables. The level of response to this exercise was that **60%** of those queried responded. A value was assigned to each of the responses (i.e., short-term, medium-term, long-term, delete or existing) in this exercise as shown below.

- Existing no value
- Delete 0
- Long-term 1
- Medium-term 2
- Short-term 3

In essence, locations having a higher score were ranked higher. The top 10% of the ranked infrastructure locations were considered in determining potential early-winner projects. Responses were also averaged for each particular infrastructure type. This allowed both the locations to be ranked AND the type to be ranked. The average number of project participants that ranked a particular infrastructure was also considered and is shown in Figure 1. This Figure also shows the average value of the responses made by these participants. Again, 3 is the highest score that any particular infrastructure type can receive. From this analysis, the top 12 infrastructure types listed below were determined.

1. Regional Incident Management Plan (RIMP)
2. Road Weather Information Systems (RWIS)
3. Highway Advisory Radio (HAR)

4. Closed-Circuit Television Cameras(CCTC)
5. Touch Screen Interactive Kiosks (TSIK)
6. Automated Flood Warning (AFW)
7. Dynamic Warning Variable Message Signs (DWVMS)
8. Advisory Television (AT)
9. Variable Message Signs (VMS)
10. 1-800 Travel Advisory Telephone Hotline (TATH)
11. Motorist-Aide Call Boxes (MACB)
12. Automated Visibility Warning (AVW)

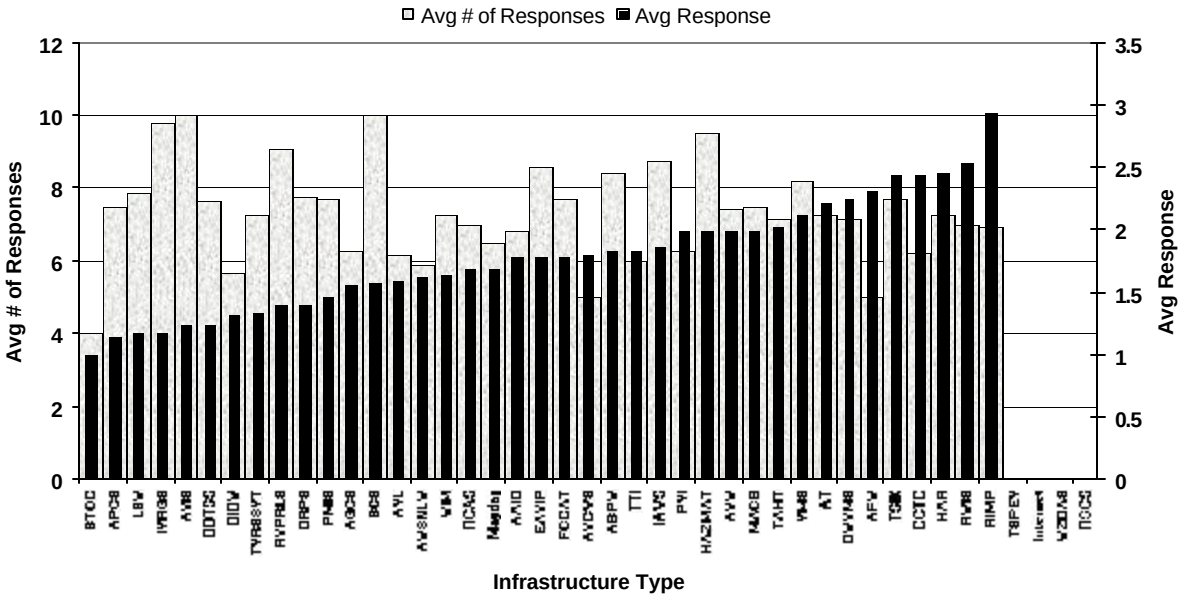

Figure 1: Average number of responses and average response of infrastructure ranking exercise.

Using this ranking information, the top 10% of the infrastructure locations and any added infrastructure that was included in one of the top 12 infrastructure types was mapped within the corridor. General "hot spots" were located by observing where several infrastructure elements were grouped. These groupings became the geographic areas of focus from which six early-winner project areas were chosen.

Document Contents

From the analysis explained above, six candidate projects were chosen for consideration in the early-winner selection process. This document details the candidate early-winner projects within the project limits. Each section contains information regarding:

- Specific project limits,
- General project description,
- Related legacy systems,
- Ranked infrastructure types and associated locations and
- Estimated costs associated with each infrastructure element.

Project Limits

A map of the COATS area (Figure 2) is provided within this introductory section to show the project limits of each of the candidate early-winner projects. Again, there are six candidate projects within the area. Each project is assigned a roman numeral that will be used throughout the selection process to identify specific candidate projects. In the section describing the individual candidate projects, a general description of the area as well as a bulleted list of the Route and Milepost information is provided.

Project Description

This provides a general description of how individual project infrastructure may add value to existing ITS developments or fill needs/gaps in existing infrastructure. This section also gives a general description of the types of challenges that are faced in this area.

Infrastructure Location Details and Associated Costs

This section provides a list of the ranked and added infrastructure within the candidate project limits. Infrastructure that was ranked is listed first and is followed by an asterisk. Added infrastructure within the project limits is also listed. When a particular infrastructure type contained both ranked and added locations, the number of ranked locations (tabulated first) follows. Basis for associated costs can be found in Appendix A. Appendix A details cost breakdown, assumptions made, and the source for the number for each infrastructure type.

Related Legacy Systems

A list of legacy systems from the "Review of Legacy Systems" report corresponding to the candidate project area is provided. This bulleted list is intended to give the reader a general idea of the types of systems that are already in place or planned for deployment within the area. A more detailed table of legacy systems is given in Appendix B.

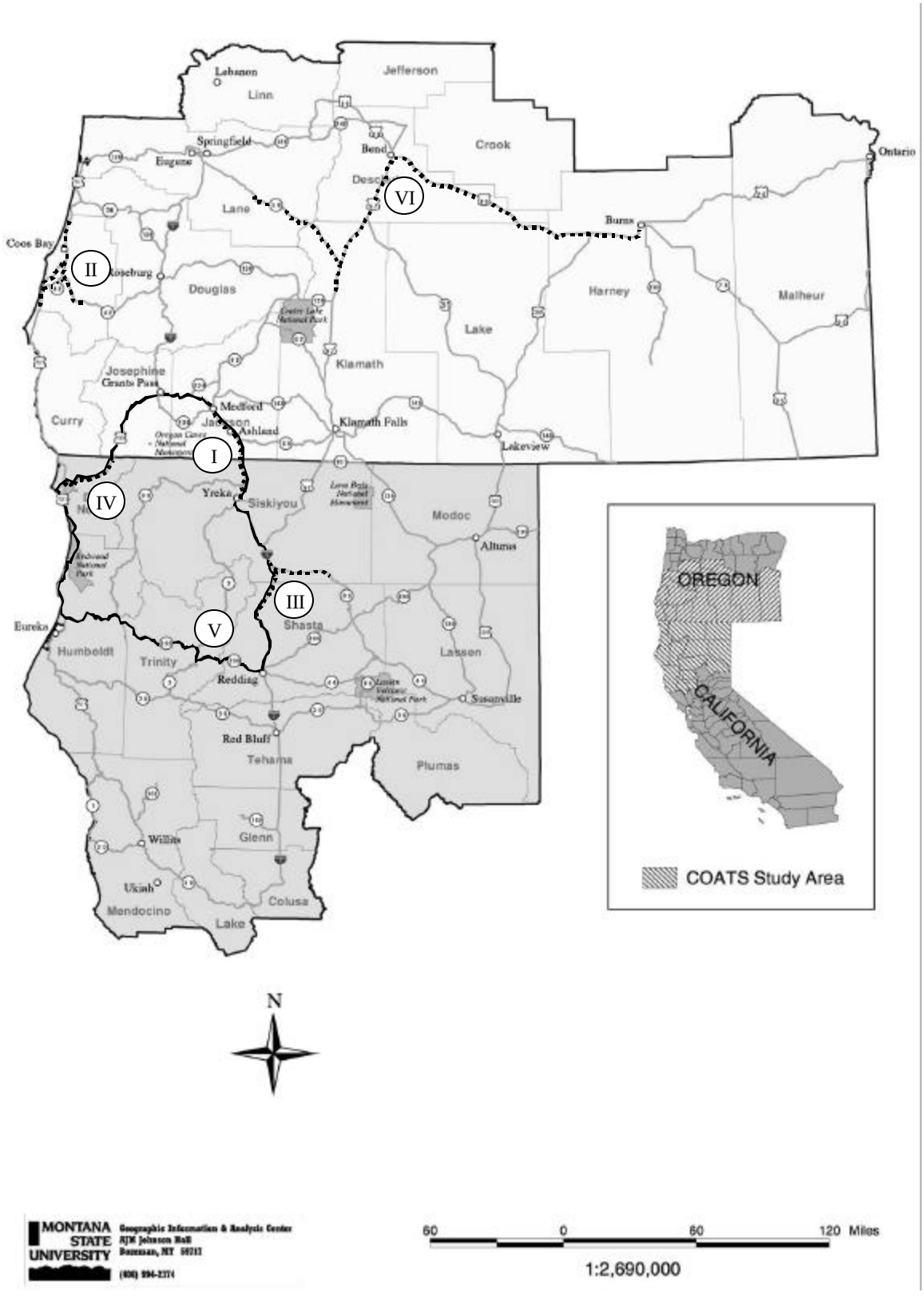

Figure 2: Map of study area showing six candidate early-winner focus areas.

I. BI-STATE TRAVELER SAFETY & INCIDENT MANAGEMENT SYSTEM

Project Limits: Interstate 5 from Yreka, California to Medford, Oregon

- Interstate 5, Postmile Sis-48 to Sis-69, California
- Interstate 5, Milepost 0 to 30, Oregon

Project Description

Interstate 5 from Yreka, California to Medford, Oregon is a major connecting route between these cities having an average daily truck traffic between 4000 and 6000. It crossed Siskiyou Pass near the California/Oregon border that frequently experiences inclement weather conditions. A Variable Message Sign (VMS) North of Junction 96, would help provide traveler information related to weather, road closures or other incidents. The nearby Medford Traffic Management Center would be able to assist in field data collection and distribution activities in the area.

From project participants' input it was determined that infrastructure that supports pre-trip traveler information through a cable advisory television channel may be beneficial. This channel may also display closed circuit television images of road conditions. These images can be used by the existing and planned Kiosks as well. This project will also provide a Regional Incident Management Plan for managing road closures and improving emergency notification and response times. The suggested Dynamic Speed-Warning Variable Message Signs would provide real-time information related to spot hazards. Suggested Motorist-Aide Call Boxes may be implemented to assist stranded motorists.

Infrastructure Location Details and Associated Costs:

Rank	Infrastructure Element	Approx. Cost ($K)	State	Hwy	From MP	To MP	Dir	Description
1	Variable Message Sign*	$155	CA	I-5	Sis-58		S	North of Junction 96/I-5
2	Regional Incident Management Plan	$50	CA/OR	I-5				Between Siskiyou Co. - CA and Jackson
3	Closed-Circuit Television	$43	OR	I-5	3			3 miles North of CA/OR border
4	Dynamic Warning VMS	$104	OR	I-5	4.6			Siskiyou Summit for runaway trucks
		$104	OR	I-5	27.9			Medford Viaduct curves
		$104	CA	I-5	Sis-23	Sis-38		high w ind warning
5	Advisory Television	$0	CA/OR	I-5				between Yreka, CA and Ashland, OR
6	Motorist-Aide Call Box	$5	OR	I-5	4.6			Siskiyou Summit (climbing lanes)
		$5	OR	I-5	28.7			Medford Viaduct (update existing)
	Total Cost:	**$570**						

Related Legacy Systems:

- CCTV – 1 existing, 2 planned
- CMS – 1 existing, 3 planned
- Touch Screen Information Kiosks – 5 existing, 1 planned
- Preclearance – 1 existing
- RWIS – 2 existing, 1 planned
- Traffic Management Center – 1 existing

II. COOS BAY TRAVELER INFORMATION SYSTEM

Project Limits: Junction 101/42 area near Coos Bay, Oregon

- Highway 101, Milepost 235 to 276
- Highway 42, Milepost 0 to 25
- Highway 42S, Milepost 0 to 17

General Description

The Coos Bay, Oregon area, located on the scenic byway 101, is a major route for tourist traffic with four major recreational destinations having between 200,000 and 400,000 visitors per year and three recreational destinations having between 400,000 and 900,000 visitors per year. High volumes of recreational traffic make it necessary to provide adequate traveler information. This project will provide traveler and tourism information through Highway Advisory Radio (HAR), additional Touch Screen Interactive Kiosks and Variable Message Signing (VMS) to benefit both familiar and unfamiliar transportation users. Travel and tourism service information could be managed locally while safety and traffic management activities would be handled from either the Bend or Medford Traffic Management Center.

From project participants' input it was determined that infrastructure used for the detection of road and weather conditions and flood conditions through RWIS and automated flood warning systems should be included in this area. These systems would help with known visibility challenges in the area. The addition of a Motorist-Aide Call Box was also suggested.

Infrastructure Location Details and Associated Costs:

Rank	Infrastructure Element	Approx. Cost ($K)	State	Hwy	From MP	To MP	Dir	Description
1	Highway Advisory Radio*	$58	OR	42	0			Visibility problems highway 42 near 101
2	Touch Screen Kiosk*	$15	OR	101	251			Sunset Bay State Park
3	RWIS	$46	OR	101	258			South of Bandon
4	Automated Flood Warning	$42	OR	42S				
		$42	OR	35	0	5	E,W	Highway 42 approaching 101
5	Variable Message Sign	$155	OR	101	247		N	South of Hwy 35 junction (Ore 42)
6	Motorist-Aide Call Box	$5	OR	101	235	263	N,S	
	Total Cost:	**$363**						

Related Legacy Systems:

- Information Kiosks – 2 existing
- RWIS – 2 existing

III. REDDING AREA TRAVELER INFORMATION SYSTEM

Project Limits: Junction 89/ I-5 area North of Redding, California

- Highway 89, Postmile Sis-10 to Sis-35
- Interstate 5, Postmile Sha-50 to Sha-67
- Interstate 5, Postmile Sis-0 to Sis-19

Project Description

Interstate 5 near this junction is characterized by frequent road closures due to inclement weather in the region. The average daily truck traffic on Interstate 5 ranges from 4000 to 6000 trucks per day. Ranked infrastructure included Remote Weather Information Systems and Variable Message Signs. These proposed systems can be integrated with existing Kiosks, CCTV and RWIS to provide real-time weather and road condition information to travelers. Project participants indicated that Kiosks might also be used in addition to the HAR and VMS to disseminate pertinent traveler information. Traveler information and coordination would most likely be provided through the Caltrans District 2 office.

Infrastructure Location Details and Associated Costs:

Rank	Infrastructure Element	Approx. Cost ($K)	State	Hwy	From MP	To MP	Dir	Description
1	RWIS*	$46	CA	Sha-I-5	55			Road closure due to bad weather
2	Variable Message Sign* (2)	$155	CA	Sis-I-5	8		N	
		$155	CA	Sis-89	34		W	
3	Touch Screen Kiosk	$15	CA	Sha-I-5				Churn Creek Bottom truck stop
	Total Cost:	**$371**						

Related Legacy Systems:

- Automated Wind Advisory – 1 planned
- CCTV – 2 planned
- CMS – 2 existing
- EMS Communication – 1 existing
- HAR – 1 existing
- Information Kiosks – 1 planned
- Preclearance – 1 existing
- Dynamic VMS – 2 planned
- RWIS – 2 existing, 3 planned
- WIM – 1 existing

IV. DEL NORTE COUNTY TRAVELER SAFETY AND WEATHER INFORMATION SYSTEM

Project Limits: Highway 199, Del Norte County, California

- Highway 199, Postmile DN-0 to DN-36

Project Description

As a main route from Medford to the Pacific coast, i.e., Crescent City on Highway 101, this highway has frequent tourist traffic. The Jediah Smith Redwoods State Park has over 200,000 visitors annually. Data shows that visibility, narrow clear zone and intersection related crashes are significant issues. Additionally, there are several road closures due to slides. Notification and response times to crashes are relatively high as compared to other areas in the study area. As such ranked infrastructure included Touch Screen Interactive Kiosks, Remote Weather Information Systems, Highway Advisory Radio, Variable Message Signs and Automated Visibility Warning Systems. This project will attempt to coordinate RWIS information including visibility data to provide real-time traveler information. Related information would be distributed using HAR and Kiosks and existing VMS. Traveler information and coordination would most likely be provided through the Caltrans District 1 office.

Infrastructure Location Details and Associated Costs:

Rank	Infrastructure Element	Approx. Cost ($K)	State	Hwy	From MP	To MP	Dir	Description
1	Touch Screen Kiosk*	$15	CA	DN-199	9			Jediah Smith Redwoods State Park
2	RWIS* (2)	$46	CA	DN-199	6			visibility challenge
		$46	CA	DN-199	34			road closures due to bad weather
3	Highway Advisory Radio* (2)	$58	CA	DN-101	30			visibility challenge, road closures, tourism
		$58	CA	DN-199	34			road closures
4	Automated Visibility Warning*	$21	CA	DN-199	0.6	1.9		visibility challenge
5	Variable Message Sign	$155	CA	DN-199	0			tourist information
	Total Cost:	**$399**						

Related Legacy Systems:

- Motorist-Aide Call Boxes – 8 existing
- CMS – 1 planned
- Traffic Management Center – 1 existing (near)

V. REGIONAL TRAVELER INFORMATION SYSTEM

Project Limits: ***Loop from Crescent City, CA to Medford, OR to Yreka, CA to Redding, CA to Eureka, CA back to Crescent City, CA***

- Highway 199, Postmile DN-0 to DN-36, California
- Highway 199, Milepost 42 to 0, Oregon
- Interstate 5, Milepost 58 to 0, Oregon
- Interstate 5, Postmile Sis-69 to Sis-0, California
- Interstate 5, Postmile Sha-67-Sha-17, California
- Highway 299, Postmile Sha-24 to Sha-0, California
- Highway 299, Postmile Tri-73 to Tri-0, California
- Highway 299, Postmile Hum-41 to Hum-0, California
- Highway 101, Postmile Hum-88 to Hum-137, California
- Highway 101, Postmile DN-0 to DN-30, California

Project Description

For travelers in Northern California and Southern Oregon, sporadic weather conditions, winding roads and high tourist population associated with recreational destinations warrants the need for an integrated traveler information system in this region. This project will attempt to provide traveler information to regional travelers using HAR, Touch Screen Interactive Kiosks and advisory television. This new infrastructure will add value to the existing systems on Interstate and non-Interstate roadways. Road-weather and traffic operations information would be managed from respective state DOT traffic management centers. Advisory television information will be managed by a local cable provider. Given that the area is a common network for those traveling from State to State and for those traveling to the coast, this project focuses on a common intercept point for transportation users in the COATS region. This project would attempt to initiate infrastructure deployment with the intent of integrating additional infrastructure in the future (i.e. Phase II Showcase).

Infrastructure Location Details and Associated Costs:

Rank	Infrastructure Element	Approx. Cost ($K)	State	Hwy	From MP	To MP	Dir	Description
1	Highway Advisory Radio* (3)	$58	CA	DN-101	30			visibility, road closures, tourist
		$58	CA	DN-199	34			road closure
		$58	OR	I-5	28.33			in conjunction with existing VMS
		$58	CA	Tri-299	52			Weaverville HAR for road conditions
		$58						
2	Touch Screen Kiosk* (3)	$15	CA	Hum-101	108.22			Humboldt Lagoons State Park
		$15	CA	Hum-101	126.1			Prarie Creek Redwoods State Park
		$15	CA	DN-199	9			Jediah Smith Redwoods State Park
		$15	OR	199				Oregon Caves Welcome Center
		$15	CA	Sha-I-5	31.1			Rest area near O'Brien
		$15	CA	Sha-I-5	43.1			Rest area near Lakehead
		$15	CA	Sha-I-5				Churn Creek Bottom truck stop
		$15	CA	Sis-I-5	25.6			Rest Area near Weed
		$15	CA	Sis-I-5	58.6			Rest Area near Collier
3	Advisory Television	$0	CA/OR	I-5				between Yreka, CA and Ashland, OR
	Total Cost:	**$425**						

Related Legacy Systems:

- Automated Wind Advisory – 2 planned
- Motorist-Aide Call Boxes – 20 existing
- CCTV – 1 existing, 4 planed
- CMS – 5 existing, 11 planned
- HAR – 4 existing, 1 planned
- Information Kiosks – 9 existing, 5 planned
- Preclearance – 2 existing
- Dynamic VMS – 5 existing
- RWIS – 6 existing, 6 planned
- Satellite Operations Center – 1 existing
- Traffic Management Center – 1 existing
- WIM – 2 existing

VI. RURAL INCIDENT MANAGEMENT CORRIDOR

Project Limits: Junction 58/97 South of Bend to Bend and Highway 20 – Bend to Burns

- Highway 97, Milepost 205 to 138
- Highway 20, Milepost 0 to 131
- Highway 58, Milepost 40 to 86

Project Description

This rural corridor experiences frequent road closures and above average notification and response times to crashes. Average daily truck traffic on this section of Highway 97 ranges from 500 to 2200 trucks per day and Highway 20 averages below 500 trucks per day. Implementing a Regional Incident Management Plan would help emergency services and maintenance personnel respond to accidents and road closure situations in this proposed corridor. Incident management activities would be coordinated in Bend at the Traffic Management Center. Highway advisory radio could be implemented at the intersection of Highway 97 and Highway 58 to provide pertinent traveler information and assist in distributing existing RWIS information. Project participants indicated that a VMS would be of assistance for traffic information and would help support HAR system. Finally, project participants also indicated Dynamic Speed-Warning VMS would provide high-wind speed warnings to high profile vehicles near Hines, Oregon.

Infrastructure Location Details and Associated Costs:

Rank	Infrastructure Element	Approx. Cost ($K)	State	Hwy	From MP	To MP	Dir	Description
1	Regional Incident Management Plan*	$50	OR	20	0	65		Road closures
		$50	OR	97	138.1	170		Road closures
2	Highway Advisory Radio*	$58	OR	97	196			Road closures
3	Dynamic Warning VMS* (1)	$104	OR	20	128.3		W	High wind warning for mobile homes
		$104	OR	58	56.5		W	Visibility Challenge
4	Variable Message Sign	$155	OR	58	69		W	Begin snow zone / mountain corridor
	Total Cost:	**$521**						

Related Legacy Systems:

- RWIS – 7 existing, 2 planned
- CCTV – 1 planned
- Kiosks – 1 existing
- Traffic Management Center – 1 existing

Infrastructure	Capital Equipment ($K) (1)	Annual Maintenance Cost ($K) (2)	Total Cost	Cost Assumptions	Cost Origin
Regional Incident Management Plan	$ 50	$ 0	$ 50	-Inventory of resources -Operations Plan -Routing Plan	WTI
RWIS	$ 40	$ 6	$ 46	1. Asst. Chief Maint. Engineer 2. Routine maint. & calibration of detectors	1.Montana DOT 2. Caltrans
HAR	$ 50 per tower	$ 8	$ 58	1. Not including communication cost 2. Routine maintenance	1. ODOT ITS Strategic Plan 2. TxDOT/ FHWA
CCTV	$ 35	$ 8	$ 43	1. Not including communication cost 2. Routine maintenance for CCTV, camera controls, housing and/or support pole	1. ODOT ITS Strategic Plan 2. TxDOT
Kiosks	$ 10	$ 5	$ 15	2. Operations: power consumption; Maintenance; routine and repairs to vandalized kiosks	1. ODOT ITS Strategic Plan 2. TxDOT/ TTI/ FHWA
Automated Flood Warning	$ 40	$ 2	$ 42		ODOT
Dynamic Warning VMS	$ 100	$ 4	$ 104		Caltrans, District 2
Advisory TV	$ 0	$ 0	$ 0	Usually cable TV provide municipal access channel	ODOT ITS Strategic Plan
VMS	$ 150	$ 5	$ 155		ODOT
1-800 Telephone	$ 1,000			Hardware/software	ODOT ITS Strategic Plan
Call Boxes	$ 4	$ 0.5	$ 4.5	Operations: telephone, incl. Cellular airtime. Maintenance: routine and repairs to vandalism	FHWA/ TTI
Automated Visibility Warning	$ 20	$ 1	$ 21		Advanced Measurements & Controls

References:

- "Caltrans Transportation Management Center Standardization Plan", prepared for Caltrans, prepared by Odetics ITS, Inc., December 1998.
- "Oregon Department of Transportation ITS Strategic Plan (1997 – 2017)", prepared for ODOT, prepared by DKS Associates, January 1998.
- "Guidelines for Funding Operations and Maintenance of ITS/ATMS" research Report 1494-1F, prepared for Texas Department of Transportation by Texas Transportation Institute, November 1996.
- "Surveillance, Control, and Driver Information Implementation and Operations Plan", prepared by Washington Department of Transportation, September 1998.

I. Bi-State Traveler Safety and Incident Management System

Technology	Existing/ Planned	State	County	Route	From MP	Dir	Location
CCTV	P	CA	Sis	5	65.52	N	Bailey Hill Rd
CCTV	P	OR		5	5		
CCTV	E	OR		5	28.33		Medford
CMS	E	OR		5	28.33		Medford
CMS	P	CA	Sis	5	65.52	N	Bailey Hill Rd
CMS	P	OR		5	16.72		
CMS	P	OR		5	31.31		
Information Kiosks	E	OR		5	19.10		Ashland
Information Kiosks	E	OR		5	28.33		Medford
Information Kiosks	E	OR		5	28.33		Medford
Information Kiosks	E	OR		5	28.33		Medford
Information Kiosks	E	OR		5	28.33		Medford
Information Kiosks	P	CA	Sis	5	58	S	Collier Rest Area
Preclearance	E	OR		5	19.1	N/S	Ashland
RWIS	E	OR		5	5.02		Siskiyou Summit
RWIS	E	OR		5	28.33		Medford Viaduct
RWIS	P	OR		5	27		Medford Viaduct
Traffic Management Center	E	OR		5	28.33		Medford

II. Coos Bay Traveler Information System

Information Kiosks	E	OR		101	234.03		North Bend
Information Kiosks	E	OR		101	260.64		Bandon
RWIS	E	OR		101	233.00		
RWIS	E	OR		101	258.00		
Traffic Management Center	E	OR		5	28.33		Medford
Traffic Management Center	E	OR		20	18.51		Bend

III. Redding Area Traveler Information System

AutomatedWind Advisory	P	CA	Sis	5	18.5	N	Weed Airport
CCTV	P	CA	Sis	5	14.45	N	Black Butte Summit
CCTV	P	CA	Sis	89	29.2		McCloud Summit
CMS	E	CA	Sis	5	9.68	N	Ream Rd
CMS	E	CA	Sis	5	13.19	S	Abrams Lake Rd
EMS Communication	E	CA	Sis	89	24.75		McCloud
HAR	E	CA	Sis	5	13.19	S	Abrams Lake Rd
Information Kiosks	P	CA	Sis	5	7.1	S	Truck Scales
Preclearance	E	CA	Sis	5	7.1		Dunsmuir Scales
RCMS	P	CA	Sha	5	49.1	S	N of Lamoine OC
RCMS	P	CA	Sha	5	58.1	N	N of Sima Rd
RWIS	E	CA	Sis	5	7.1	S	Truck Scales
RWIS	E	CA	Sis	5	14.45	N	Black Butte Summit
RWIS	P	CA	Sis	5	18.5	N	Weed Airport
RWIS	P	CA	Sis	89	3.23		Deadhorse Summit
RWIS	P	CA	Sis	89	29.2		McCloud Summit
WIM	E	CA	Sis	5	7.1		Dunsmuir Scales

IV. Del Norte County Traveler Safety and Weather Information System							
Technology	**Existing/ Planned**	**State**	**County**	**Route**	**From MP**	**Dir**	**Location**
Call Box	E	CA	DN	199	1	Right	Del Norte County
Call Box	E	CA	DN	199	3	Right	Del Norte County
Call Box	E	CA	DN	199	8	Left	Del Norte County
Call Box	E	CA	DN	199	10.81	Right	Del Norte County
Call Box	E	CA	DN	199	20.07	Right	Del Norte County
Call Box	E	CA	DN	199	23.13	Right	Del Norte County
Call Box	E	CA	DN	199	26.12	Right	Del Norte County
Call Box	E	CA	DN	199	33.32	Left	Del Norte County
CMS	P	CA	DN	199	36.2	S	S OF STATE LINE
Traffic Management Center	E	OR		5	28.33		Medford
V. Regional Traveler Information System							
Automated Wind Advisory	P	CA	Sis	5	18.5	N	Weed Airport
Automated Wind Advisory	P	CA	Sis	5	44.3	N	Walters Rd
Call Box	E	CA	DN	101	14.8	Left	Del Norte County
Call Box	E	CA	DN	101	18.97	Right	Del Norte County
Call Box	E	CA	Hum	101	97.5		Humboldt County
Call Box	E	CA	Hum	101	97.6		Humboldt County
Call Box	E	CA	Hum	101	107.2		Humboldt County
Call Box	E	CA	Hum	101	107.3		Humboldt County
Call Box	E	CA	Hum	101	131.6		Humboldt County
Call Box	E	CA	Hum	101	131.7		Humboldt County
Call Box	E	CA	DN	199	1	Right	Del Norte County
Call Box	E	CA	DN	199	3	Right	Del Norte County
Call Box	E	CA	DN	199	8	Left	Del Norte County
Call Box	E	CA	DN	199	10.81	Right	Del Norte County
Call Box	E	CA	DN	199	20.07	Right	Del Norte County
Call Box	E	CA	DN	199	23.13	Right	Del Norte County
Call Box	E	CA	DN	199	26.12	Right	Del Norte County
Call Box	E	CA	DN	199	33.32	Left	Del Norte County
Call Box	E	CA	Hum	299	12.6		Humboldt County
Call Box	E	CA	Hum	299	21.1		Humboldt County
Call Box	E	CA	Hum	299	27.8		Humboldt County
Call Box	E	CA	Hum	299	37.7		Humboldt County
CCTV	E	OR		5	28.33		Medford
CCTV	P	CA	Sis	5	14.45	N	Black Butte Summit
CCTV	P	CA	Sis	5	65.52	N	Bailey Hill Rd
CCTV	P	OR		5	5		
CCTV	P	OR		199	16.1		
CMS	E	CA	Sha	5	20.98	N	Pine Grove
CMS	E	CA	Sis	5	9.68	N	Ream Rd
CMS	E	CA	Sis	5	44.3	N/S	Walters Rd
CMS	E	CA	Sis	5	13.19	S	Abrams Lake Rd
CMS	E	OR		5	28.33		Medford
CMS	P	CA	DN	101	28.5	N	S OF 101/199 SEP
CMS	P	CA	DN	199	36.2	S	S OF STATE LINE
CMS	P	CA	Hum	101	87.7	N	S OF 101/299 SEP
CMS	P	CA	Hum	101	56.5	N	S OF JCT 36
CMS	P	CA	Hum	101	89.4	S	N OF 101/299 SEP

Technology	Existing/ Planned	State	County	Route	From MP	Dir	Location
CMS	P	CA	Hum	101	58.7	S	N OF JCT 36
CMS	P	CA	Sha	5	43.5	S	Lakehead Rest Area
CMS	P	CA	Sha	299	22.1	W	Redding
CMS	P	CA	Sis	5	65.52	N	Bailey Hill Rd
CMS	P	OR		5	16.72		
CMS	P	OR		5	31.31		
HAR	E	CA	Hum	101	77.3	N	EUREKA SHOP YARD
HAR	E	CA	Hum	101	77.3		EUREKA-DIST OFFICE
HAR	E	CA	Sis	5	13.19	S	Abrams Lake Rd
HAR	E	CA	Sis	5	44.31	S	Walters Rd
HAR	P	CA	Tri	299	58.2		Douglas City
Information Kiosks	E	OR		5	19.10		Ashland
Information Kiosks	E	OR		5	28.33		Medford
Information Kiosks	E	OR		5	28.33		Medford
Information Kiosks	E	OR		5	28.33		Medford
Information Kiosks	E	OR		5	28.33		Medford
Information Kiosks	E	OR		5	35.44		Central Point
Information Kiosks	E	OR		5	55.38		Grants Pass
Information Kiosks	E	OR		5	58.06		Grants Pass
Information Kiosks	E	OR		199	27.71		Cave Junction
Information Kiosks	P	CA	Sha	5	31.1	N	Obrian Rest Area
Information Kiosks	P	CA	Sha	5	43.5	S	Lakehead Rest Area
Information Kiosks	P	CA	Sis	5	25.8	N/S	Weed Rest Area
Information Kiosks	P	CA	Sis	5	7.1	S	Truck Scales
Information Kiosks	P	CA	Sis	5	58	S	Collier Rest Area
Preclearance	E	CA	Sis	5	7.1		Dunsmuir Scales
Preclearance	E	OR		5	19.1	N/S	Ashland
RCMS	P	CA	Sha	5	58.1	N	N of Sima Rd
RCMS	P	CA	Sha	5	29.9	S	N of Side Hill Viaduct
RCMS	P	CA	Sha	5	31.9	S	N of Obrian UC
RCMS	P	CA	Sha	5	36.7	S	N of Upper Salt Creek
RCMS	P	CA	Sha	5	49.1	S	N of Lamoine OC
RWIS	E	CA	Sis	5	14.45	N	Black Butte Summit
RWIS	E	CA	Sis	5	23	N	Edgewood
RWIS	E	CA	Sis	5	7.1	S	Truck Scales
RWIS	E	CA	Hum	101	128.95		
RWIS	E	OR		5	5.02		Siskiyou Summit
RWIS	E	OR		5	28.33		Medford Viaduct
RWIS	P	CA	Sis	5	18.5	N	Weed Airport
RWIS	P	CA	Sis	5	44.3	N	Walters Rd
RWIS	P	CA	Sha	299	68.17		Hatchet Mt. Summit
RWIS	P	CA	Tri	299	72.2		Buckhorn Summit
RWIS	P	CA	Tri	299	48.5		Mtn Oregon
RWIS	P	OR		5	27		Medford Viaduct
Satellite Operations Center	E	CA	Hum	101	75.91		Eureka
Traffic Management Center	E	OR		5	28.33		Medford
WIM	E	CA	Sha	5	22.14		N of N. Jct 151/I-5
WIM	E	CA	Sis	5	7.1		Dunsmuir Scales

VI. Rural Incident Management Corridor							
Technology	**Existing/ Planned**	**State**	**County**	**Route**	**From MP**	**Dir**	**Location**
RWIS	E	OR		97	142.27		Lava Butte
RWIS	E	OR		20	80.77		Santiam Pass
RWIS	E	OR		20	104.62		Riley Junction
RWIS*	E	OR		20	20.00		Horse Ridge
RWIS	P	OR		97	150		
RWIS	E	OR		58	62.07		
RWIS	E	OR		58	53.00		
RWIS	E	OR		58	72.63		
RWIS	P	OR		58	62.5		
CCTV	P	OR		97	135.97		
Information Kiosks	E	OR		58	62.07		
Traffic Management Center	E	OR		20	18.51		Bend