# The Siskiyou Pass Traveler Information and Incident Management Early-Winner Project

## Final Report for Showcase Evaluation #1

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# Executive Summary

In 1998, the Western Transportation Institute began working with the California and Oregon Departments of Transportation (Caltrans and ODOT, respectively) on the Rural California/Oregon Advanced Transportation Systems (COATS) project. The goal of the project was to enhance safety, improve transportation and spur economic development in the region through the use of Intelligent Transportation Systems (ITS). In 2000, the COATS Steering Committee selected the Siskiyou Pass project as an "Early Winner" project for immediate implementation.

Siskiyou Pass is located on a mountainous stretch of Interstate 5, near the California/Oregon border. Interstate 5 is an important travel and trade corridor on the West Coast. However, travelers in the region of the Pass must contend with a variety of transportation challenges, including unpredictable weather, high elevations that increase the chance of snow and ice, steep grades, tight curves, and the need for frequent road maintenance. These conditions increase the potential for accidents; moreover, when accidents do occur, the relatively long distance between services may adversely affect emergency response times.

The Siskiyou Pass project attempts to address these challenges on Interstate 5 from Yreka, California to Medford, Oregon. The objectives of the project are to:

- Improve local incident management near Siskiyou Pass
- Improve traveler information services
- Enhance traveler mobility

Prior to the project, some ITS technologies had already been installed in the region. These "legacy" systems included one Closed Circuit Television System (CCTV), one Changeable Message Sign (CMS), five traveler information kiosks, one pre-clearance site, two Road Weather Information System (RWIS) stations, two Traffic Management Centers (TMC), and a Traffic Monitoring Center. As part of the Siskiyou Pass project, additional ITS technologies were deployed including highway advisory radio (HAR), and added CMS and CCTV. The project seeks to meet its objectives through an evaluation of all of these ITS deployments and through the development of an incident management plan for the region.

## Evaluation of Traveler Information ITS

The ITS deployments in the Siskiyou Pass region are designed to enhance information available to travelers about weather conditions and road situations, to increase safety by decreasing accidents and improve mobility by reducing congestion and delays. The effectiveness of these ITS applications was primarily measured using surveys conducted with the traveling public.

Four surveys were administered at four separate times from March 2000 through May 2003. Targeting travelers within the Siskiyou Pass project area, researchers distributed surveys at various truck stops and rest areas along Interstate 5, and at the California Border Agricultural Station. The surveys were designed to evaluate traveler acceptance and awareness of the new technologies in the Siskiyou Pass area, and included questions regarding:

- Traveler Characteristics
- ITS Functionality
- Demographic information

The responses to the surveys were analyzed using various summary statistics, including percentages, frequencies and means. To provide insight into differences between survey responses, t-statistic and chi-square analyses were used. However, in general, results from specific questions on the survey are qualitative and are intended to make general improvements and modifications to the ITS applications in the region.

Survey results indicate that travelers are using all the technologies available to them. Of the five ITS technologies evaluated (CMS, Highway Advisory Radio, Touch Screen Information Kiosks, Road Weather Information on the Internet and Camera Images on the Internet), Changeable Message Signs received the highest functionality rating, followed by Camera Images on the Internet, and Road/Weather Information on the Internet. The results also indicate that travelers are becoming increasingly aware of all five technologies, although more could be done to increase awareness of Internet information and Touch Screen kiosks.

The surveys also revealed useful information about how travel decisions are made. Survey participants indicated that they would be most likely to use radio, CMS, television or personal observations of conditions to influence their travel plans, and that road and weather conditions would be the most likely reason for changing those plans. In the case of a road closure or delay, participants responded that they would be most likely to leave later, take an alternate route, or stop in a nearby town, in that order.

Finally, survey participants made specific recommendations for improving traveler information in the region, including development of consistent chain requirements across the state border, and adding pass temperature information to the CMS.

## Development of Incident Management Plan and Winter Response Plan

Siskiyou Pass is jointly managed by a variety of agencies including the Oregon Department of Transportation, Oregon State Police, California Department of Transportation, and California Highway Patrol. The purpose of the Incident Management Plan was to develop an Operations Guide, Message Sets and Routing Plan that will assist with communication, coordination, and cooperation between all of the local and state, public and private sector organizations in the management of Siskiyou Pass.

To develop the Incident Management Plan, four inter-related tasks were identified:

- National Review of Similar Plans
- Determine Incident Scenarios
- Develop Operations Guide
- Determine Common Message Sets

From the national review of similar plans, it was learned that most states do not concentrate efforts on mountainous regions, but create Incident Management Plans for statewide use. This suggests that the Siskiyou Plan will advance the state-of-the-practice. Several documents and plans from other states and Canada were nonetheless collected for reference in the development of this plan.

Preliminary research included determining priority incident management scenarios that range in severity and impact and that need different levels of response by various agencies. In order to identify these scenarios, researchers conducted extensive data collection specific to the region regarding crash data, road closure data, tire chain requirements, travel time and delay, traffic volumes, and weather conditions. In addition, researchers interviewed many of these agencies involved in incident management to identify and compare their procedures for responding to an incident, their equipment and resources, and their efforts to coordinate their activities with other agencies.

The Incident Management Plan that resulted from this research consisted of an Operations Guide and a Message Guide. The Operations Guide provides brief, step-by-step procedures for the different phases of incident management; it includes sections on

- Incident Levels and Related Actions
- Agency Roles and Responsibilities
- Guidelines for Regional and Corridor Incident Management
- Detection and Verification
- Response
- Traffic Control
- Scene Management
- Motorist Information
- Traffic Diversion and Alternate Routes
- Incident Debriefing

The Message Guide contains specific message sets for Variable Message Signs (VMS) and Highway Advisory Radio (HAR), based on various situations. It also describes the methodology used for developing messages, and important considerations such as credibility and liability.

The preliminary Incident Management Plan was distributed to various response agencies in May 2001. One year later, WTI returned to several of the agencies to determine how implementation had progressed. Most indicated that the Plan, while thorough and concise, did not sufficiently address those transportation-related incidents related to winter weather.

As a result, a supplemental Winter Response Plan was created to respond to these needs. The Winter Response Plan focuses on managing Winter Related Events (WRE) only, and leaves the management of other events to existing procedures. Two main scenarios are used to cover the majority of WRE within the Siskiyou Pass region: winter-related road closures caused by vehicle crashes, and tire-chain requirements. The procedures for response operations for each scenario are detailed in the Plan, including communication and coordination protocol to be followed by each agency responding to WRE.

# Background

The California Oregon Advanced Transportation System (COATS) project is a joint effort by the California Department of Transportation, the Oregon Department of Transportation, and the Western Transportation Institute to address rural transportation challenges using Intelligent Transportation Systems. Previous COATS 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 information from Technical Memorandum One, and provided by members of the Steering Committee, Regional Team members, regional stakeholders, as well as the results from the "*Traveler Needs Survey*" report, potential development locations for ITS technologies were determined and outlined in the "*Project Infrastructure*" report. These proposed infrastructure locations were ranked by Steering Committee members and the results were used to establish six separate projects, as detailed in the "*Candidate Early-Winner Projects*" report. Candidate projects were then ranked by Steering Committee and Governing Board members to determine a single, top priority project. From these six potential project areas, the Siskiyou Pass project was selected for immediate implementation (i.e., Early-Winner).

## Description of Siskiyou Pass

Mountain passes create a variety of transportation-related challenges. These challenges include unpredictable weather, high elevations that increase the chance of snow and ice in the winter, steep grades, tight curves and the need for frequent maintenance. Travelers, including commercial vehicles, are affected by the operational challenges involved in crossing mountain passes.

The intensity of typical winter storms in the Siskiyou Pass area, combined with the restricted use of de-icing agents on the Oregon side of the pass due to environmental concerns, make it necessary to occasionally close the Pass to clear the road of snow and ice to enhance the safety of the traveling public. Conditional closures over Siskiyou Pass also may be a result of vehicle accidents. Communicating roadway and travel conditions for Siskiyou Pass and the expected delays to the travelers is also a challenge. Those in charge of maintaining the pass are required to coordinate with several agencies to decrease threats to the safety of the traveling public. The opportunity to address some of these challenges with advanced transportation systems was the impetus for this project, as well as other projects within the entire California-Oregon Advanced Transportation Systems (COATS) area.

Interstate 5 is a significant north-south route for the West Coast. It is an important corridor for California and Oregon, as well as internationally (i.e., between Canada and Mexico). Figure 1 shows Interstate 5 and Siskiyou Pass in relation to the greater COATS region. Siskiyou summit, which has an elevation of 1,314 m (4,310 ft), is located approximately two miles north

of the California-Oregon border. The Siskiyou Pass project boundaries extend from Yreka, California to Medford, Oregon, as shown in Figure 2. This represents approximately 51 miles of Interstate in each direction; 21 miles in California and 30 miles in Oregon. Data from the California Department of Transportation in 1998 indicated an Average Annual Daily Traffic (AADT) of 12,600 vehicles per day at the California-Oregon border (1). Traffic composition consisted of approximately 36% commercial vehicles and recreational vehicles (i.e., 2- to 5-axle trucks and motor homes) (2). By comparison, the two other main alternate California-Oregon border crossings in Northern California, Highway 101 and Highway 97, had a total AADT of 6,600 and 3,250 vehicles per day in 1998, respectively. (1)

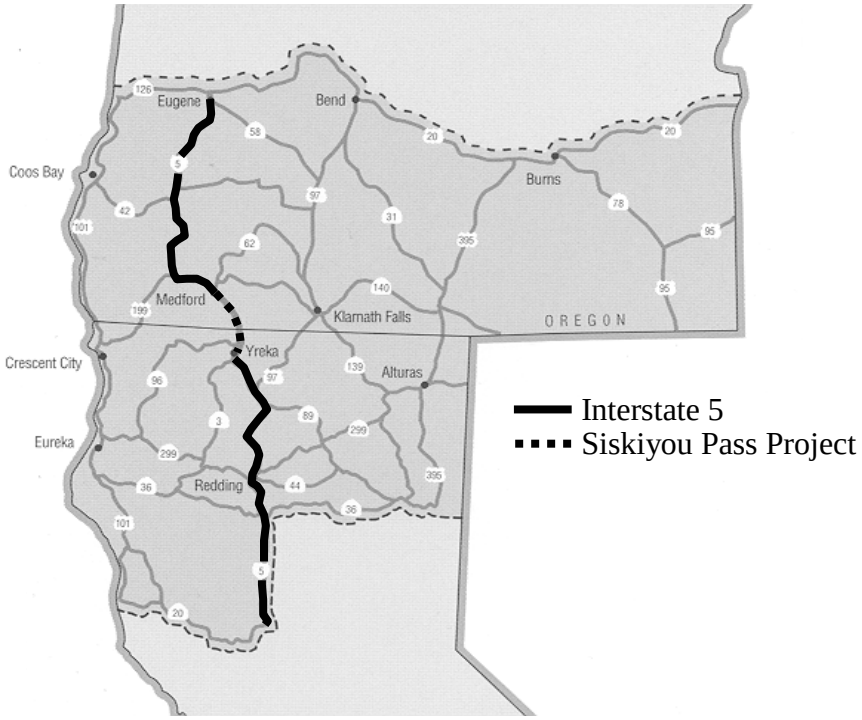



**Figure 1: Greater COATS Region, Highlighting Interstate 5 and the Siskiyou Pass Project**

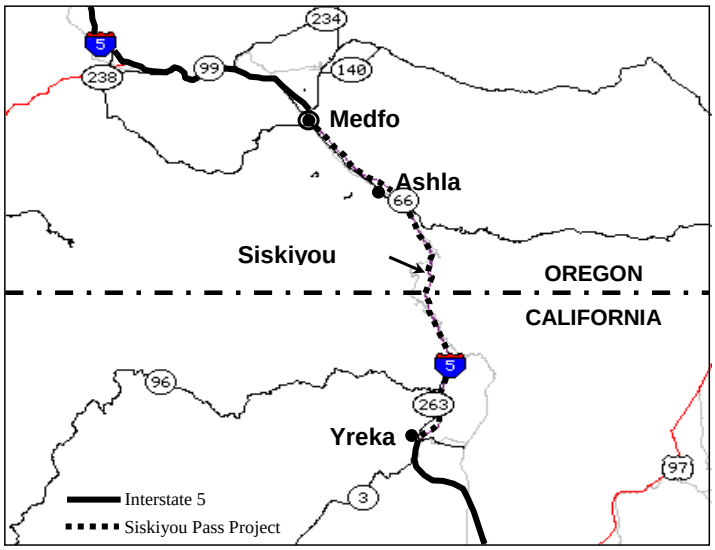



**Figure 2: Siskiyou Pass Project Area**

## Motivation

Results from the Regional Needs Assessment conducted as part of the overall COATS project provided insight into some of the transportation challenges faced within the Siskiyou Pass region. These challenges included:

- travel delays,
- chain requirements,
- road closures,
- increased potential for accidents,
- inclement weather,
- limited cellular coverage,
- communication to and from motorists regarding highway conditions,
- multi-jurisdictional communication, and
- incident management.

In particular, traversing Siskiyou Pass in winter can be challenging due to reduced visibility from rain, fog, snow or a combination thereof, and rapid temperature fluctuations that often result in slippery roads. Slippery road surfaces generally warrant the use of chains on all commercial haulers and vehicles towing trailers. These added challenges combined with steep grades and tight curves increase the potential for accidents. When an accident does occur in the Pass, the relatively long distance between services may adversely affect emergency response times.

The Siskiyou Pass project attempts to address three general challenges on Interstate 5 extending from Yreka, California to Medford, Oregon. The first objective is to improve the local incident management near Siskiyou Pass. This will ensure that the agencies responsible for

maintenance, enforcement, towing, media notification, emergency services and dispatch centers are working toward a common goal using an efficient communication procedure. The second aim of the Siskiyou Pass project is to improve traveler information services. Specifically, ITS technologies will be used to provide more timely and relevant information to the traveling public, both pre-trip and en-route. The third objective is to enhance traveler mobility in the area. Traveler mobility is dependent on both traveler information and the incident management plan. Depending on the nature of the delays associated with Siskiyou Pass, alternate routes may be suggested or drivers may be made aware of the problem situation before they reach a bottleneck at Siskiyou Pass. Ideally, this will allow traffic to move more smoothly and, thereby, reduce overall delay.

To address these challenges, specific ITS technologies were deployed. Unfortunately, some of the originally scheduled technologies were never installed. Installed technologies included:

- changeable message signs,
- highway advisory radio,
- an incident management plan, and
- closed-circuit television cameras.

Prior to this project, legacy ITS technologies within the project boundaries include:

- one CCTV;
- one CMS;
- five kiosks;
- one pre-clearance site;
- two RWIS stations;
- a Traffic Management Center in Medford, Oregon;
- a Traffic Management Center in Redding, California; and
- one Traffic Monitoring Station.

# Introduction

The purpose of the overall Siskiyou Pass early-winner project was to evaluate specific ITS deployments as well as enhance incident management within the Siskiyou Pass region. This section provides an overview of the project, an outline of the goals, objectives, measures of effectiveness, corresponding data sources, and the types of analyses to be used to analyze the data.

The evaluation of the Siskiyou Pass project will focus on three main goals through which the benefits of deploying ITS technologies will be quantified. The measures of effectiveness (MOEs) and corresponding data sources associated with each of these project goals are discussed in the paragraphs that follow and summarized in Table 1. Specifically, the goals of the Siskiyou Pass project are to:

- improve incident management,
- improve traveler information services, and
- enhance traveler mobility.

**Table 1: Goals, Objectives, Measures of Effectiveness and Corresponding Data Sources**

| Goals | Objectives | Measures of Effectiveness | Data Sources |
|---|---|---|---|
| Improve Incident Management | • Reduce detection, notification and response time<br>• Improve interagency communication<br>• Improve winter maintenance response | • Queue length, delay, travel times<br>• Emergency detection, notification and response time<br>• Interagency interaction/cooperation<br>• Winter maintenance effectiveness<br>• Frequency and duration of road closures<br>• Chain requirements frequency | • Traffic Monitoring Stations<br>• DOT Dispatch<br>• Emergency service records<br>• Agency surveys |
| Improve Traveler Information Services | • Improve timeliness of information<br>• Increase traveler awareness | • Information timeliness and accuracy<br>• Traveler awareness | • Agency surveys<br>• Traveler surveys |
| Enhance Traveler Mobility | • Reduce congestion<br>• Reduce delay<br>• Improve winter maintenance response | • Congestion<br>• Queue length, delay, travel times<br>• Winter maintenance effectiveness | • Traffic Monitoring Stations<br>• Agency surveys<br>• Traveler surveys |

## Incident Management

Enhancing incident management near the Siskiyou Pass area is very important. Severe winter storms can increase the likelihood of being involved in an accident. When an accident occurs, the mobility of the traveling public will be affected. An incident management plan will help minimize the impact by helping eliminate unnecessary delays. Generally, five tasks are necessary to ensure that proper action is taken, and that the safety and mobility of the traveling public are not excessively compromised when an accident occurs. These five tasks are 1) incident detection and verification, 2) incident response, 3) incident site management, 4) incident clearance, and 5) motorist information. The Incident Management Plan also should improve communication and interaction between agencies responsible for managing Siskiyou Pass.

The three main objectives necessary to improve incident management near Siskiyou Pass were to:

- reduce detection, notification, verification and response times,
- improve communication between the various agencies in charge of maintaining and providing services for the Siskiyou Pass area, and
- improve winter maintenance response during storms.

Much of the needed data came directly from Dispatch Centers operated by Caltrans and ODOT. Other data was collected via surveys or interviews with those responsible for maintaining the pass, including such information as agency response times, frequency and duration of road closures, congestion, traveler awareness, and information accuracy.

## Traveler Information Services

Enhancement of traveler information services was measured primarily in terms of the level of traveler awareness to certain situations on or near Siskiyou Pass. Traveler information near Siskiyou Pass is generally distributed using Closed-Circuit Television Cameras (CCTV), Highway Advisory Radio (HAR), a Variable Message Sign (VMS) or static signing. The ITS systems outlined in the previous section are intended to enhance the current methods of traveler information, as well as provide a warning for possible danger. The effectiveness of these types of ITS applications was measured using surveys conducted with the “traveling public” and with those in charge of operating and maintaining this section of the Interstate.

## Traveler Mobility

Traveler mobility may be affected by several variables in the Siskiyou Pass area. Severe winter storms often slow traffic over the pass or can cause the pass to be closed. During these storms, when there is traffic build-up or a road closure, communications between various agencies needs to be rapid. Fast changes in weather conditions may warrant stricter or more relaxed chain requirements. These requirements need to be communicated to the public as soon as possible to ensure travelers comply with the specified requirements. Chain requirements also

need to be communicated between agencies. Typically, any traffic bottlenecks are located near the chain control point where vehicles are checked to see if drivers have properly installed their chains. At times, even vehicles not towing trailers are required to have chains.

The main objective of this project in terms of enhancing traveler mobility is to reduce congestion, which translates into a decrease in traveler delay. Specific measures include congestion levels and travel delay, travel times or queue length. Data will be collected using interviews or surveys of agencies involved with maintenance and enforcement as well as the "traveling public."

## Data Collection

Data collected as part of the evaluation of Siskiyou Pass ITS included both quantitative and qualitative information. The specific data elements collected and the respective sources for each type of information are described in the paragraphs to follow. Baseline data was collected by the Western Transportation Institute (WTI) beginning the winter of 1999-2000. Comparison data was collected during the winters of 2000-2001, 2001-2002, and 2002-2003. This provided a short-term comparison of limited "before" and "after" data.

To assess potential benefits associated with deploying ITS technologies near Siskiyou Pass, it is necessary to collect comparable data before and after deployment for comparison purposes. Five years of accident data preceding the initial deployment was requested from the California Department of Transportation (Caltrans) and the Oregon Department of Transportation (ODOT). Other quantitative data included road closure data; emergency service notification, verification, and response times; and traffic monitoring data. Road closure and chain requirement frequencies and duration was collected from the maintenance supervisor in the area. Emergency service times were collected from the dispatch center or the traffic management center in the area. Traffic monitoring data were supposed to be collected using the newly installed traffic monitoring stations (TMS), but they were not deployed during the project.

Because a reliable and statistically valid quantitative analysis requires a minimum of several years of data for a before/after study, qualitative data were collected from surveys and interviews of those in the area. Agency interviews were conducted to gather information regarding incident management and the traveler survey was used to collect traveler information service and traveler mobility data.

## Organization of Final Report

This report consists of two sections. The first section explains and summarizes the evaluation portion of the project while the second section explains and summarizes the work completed to address incident management within the Siskiyou Pass region.

# Section One:
# Evaluation of Traveler Information ITS

# Traveler Surveys

The purpose of this evaluation is to investigate motorist information needs and evaluate traveler acceptance and awareness in the use of new technologies in the Siskiyou Pass area. The results of this analysis will be used to improve the quality and timeliness of traveler information and to increase traveler awareness of ITS applications within the Siskiyou Pass area. Traveler surveys were used to gather the bulk of this information. The survey design, its evolution over time, means of distribution, and analytical techniques are described below. Subsequent sections detail the results of these surveys.

## Survey Design

The specific objectives of the surveys were to assess the accuracy and usefulness of ITS applications in the Siskiyou Pass area, as well as, determine highway users' travel habits and basic travel characteristics. The various sections of the survey solicited the following types of information.

- Traveler Characteristics
- ITS Functionality
- Demographic information

Three types of response options were used throughout the surveys: multiple-choice, ordinal ratings and open-ended questions. For the rated responses, survey respondents were instructed to select one of three values (Survey I) or one of five values (Surveys II, III and IV) they felt best represented their behavior or opinion regarding a particular topic. The ordinal nature of such a scale allows conclusions to be drawn on a relative basis only. Differences between response values cannot be quantified because each respondent's assessment of the intervals between the response categories will vary. In general, results from specific questions on this survey are qualitative and are intended to make general improvements and modifications to the ITS applications in the Siskiyou Pass area. More specific details and recommendations would need to come from additional investigations.

## Survey Design Evolution

Four surveys were conducted at four separate times. Survey I was distributed in March 2000, Survey II was distributed in May 2001, Survey III was distributed in April 2002 and Survey IV was distributed in May 2003. Surveys II, III and IV featured several changes from Survey I. These changes were made to provide added clarity to some of the questions. The biggest change in the surveys was increasing the scale of all ordinal questions from three to five responses. Providing five choices allowed respondents to respond to the question with greater precision.

In addition, the order of the questions differed between Survey I and Surveys II, III and IV. The questions evaluating the specific ITS technologies over Siskiyou Pass were moved to the front page of Surveys II, III and IV since they were of high importance to the evaluation. To further clarify this question, illustrations of each ITS technology were moved from the back (as in Survey I) and placed directly next to the question. Another change in the technology questions was the combining of responses related to the functionality of each technology. Based on results from the first survey, the mean values of the responses, related to usefulness and understandability, were very similar. In addition, responses related to accuracy and timeliness were very similar. This indicated that, in general, respondents did not distinguish between each pair of responses. Therefore, responses in Survey I labeled *'usefulness'* and *'understandability'* were combined into one response labeled *'usefulness'*. Similarly, responses labeled *'accuracy'* and *'timeliness'* were combined into one response labeled *'accuracy'*. Because of similarities in the results of Survey I, the combinations on Surveys II, III and IV were able to provide similar information to Survey I.

Furthermore, two questions were removed from Surveys II, III and IV. Based on the results of Survey I, responses regarding when travelers receive traveler information was directly related to what resources they used. Therefore, questions regarding when travelers receive information were omitted from Surveys II, III and IV because of the predictability of the results. Likewise, the question regarding the payment of traveler services (Survey I) was removed from subsequent surveys. Since results from Survey I showed that people indicated they would pay little for travel information services, it was not necessary to repeat it on future surveys.

The question regarding resources used in determining travel plans was changed. Based on information from Caltrans, the option of a road condition information phone number was added to Surveys II, III and IV. Also, because of the responses to *'other'* on Question 7 of Survey I, the option of "construction" replaced "other" on the next surveys.

Travel purpose, miles traveled, and income were removed from the demographic section of Surveys II, III and IV. Data from Survey I showed that these demographic questions provided little benefit in determining differences in responses to non-demographic questions, and were therefore deemed unnecessary to be included in subsequent surveys.

Evaluation of the functionality of the Touch Screen Information Kiosk was removed from Survey IV. Researchers learned that there are no Touch Screen Information Kiosks in the Siskiyou Pass region so evaluating them did not make sense. All four surveys can be seen in Appendix A.

## Survey Administration

Survey Administration was designed to target travelers within the Siskiyou Pass project area. To date, four surveys have been conducted as part of the evaluation process. The first

survey (Survey I), conducted in March 2000, was distributed to travelers along Interstate 5 at various truck stops and rest areas. Locations and dates are shown in Table 2. A second survey (Survey II), conducted in May 2001, was distributed at the same truck stops and rest areas, as well as to southbound travelers on Interstate 5 at the California Border Agricultural Station located near the California/Oregon border. The inspection station provided a natural stopping spot allowing a survey package to be handed directly to travelers. A third and fourth survey (Surveys III and IV), conducted in April 2002 and May 2003, respectively, were distributed to participants at only the California Border Agricultural Station. The survey package contained a cover letter explaining what was required, the survey, a postage paid return envelope, and a drawing card. Unlike the previous techniques where participants completed the survey immediately (i.e., Surveys I and II-a), participants of Surveys II-b, III and IV were asked to fill out the survey at their convenience and return it using the postage paid envelope before the specified deadline.

**Table 2: Survey Distribution Locations, Returned Counts and Percentages**

| Location | Survey I Count | Percent | Survey II-a Count | Percent | Survey II-b Count | Survey III Count | Survey IV Count |
|---|---|---|---|---|---|---|---|
| Ashland | 51 | 10.2 | 46 | 10.2 | - | - | - |
| Pilot | 216 | 43.4 | 173 | 38.4 | - | - | - |
| Redding | 41 | 8.2 | 23 | 5.1 | - | - | - |
| Weed NB | 52 | 10.4 | 59 | 13.1 | - | - | - |
| Weed SB | 35 | 7 | 51 | 11.3 | - | - | - |
| Yreka/Collier | 103 | 20.7 | 99 | 22 | - | - | - |
| Ag. Inspection Station | - | - | - | - | 1443 | 1452 | 1267 |

To compare results from Survey I and Survey II, responses from the Agricultural Inspection Station were analyzed separately from the ones handed out at the rest areas and truck stops. For clarification, responses to Survey II gathered from rest areas and truck stops are called Survey II-a, and responses collected from the Agricultural Inspection Station are called Survey II-b.

To improve the rate of response, incentives were used. Survey I respondents were given free road maps of Oregon and California, as well as the opportunity for respondents to request a copy of the results. Response rates were higher in Surveys II, III and IV with the addition of a $100 drawing. Five winners were selected from all respondents of Surveys II, III and IV.

## Analysis

The responses to Siskiyou Pass surveys were analyzed using various summary statistics, including percentages, frequencies, and means. Tabular results for Survey I and Surveys II-a, II-b, III and IV are detailed in Appendix B. To provide insight into differences between survey responses, t-statistic and chi-square analyses were used. Respondents had the option of not responding to any question on the survey. Percentages are based on total responses obtained for

each question, as opposed to the total number of survey respondents, thereby eliminating the need for an "unknown" or "no response" category for each question. In addition, if more than one option was selected for questions requiring only a single response, all responses from that individual to that particular question were omitted from the statistical analysis. This was done to avoid biasing the results by arbitrarily choosing which option among several selected by the respondent was to be included. Failure to comply with written instructions also resulted in omission of that respondent's particular response from the data analysis.

## Comparative Analysis

Differences in responses for each survey were investigated between respondents in selected demographic categories using the chi-square analysis. The analysis was performed on all responses with respect to specific demographic characteristics.

Differences in means between surveys where analyzed with the t-test. The number of questions answered was counted to determine which survey was filled out more completely. See Appendix C for results.

# Demographic Characteristics

Demographic questions were asked to ensure that responses to the survey were properly represented when the data were analyzed. The demographic questions asked in each survey are shown in Table 3. An "X" represents questions that were asked on each survey. The removal of the demographic questions regarding travel purpose, miles per trip, and household income is explained in the previous section ("Survey Design Evaluation").

**Table 3: Survey Demographic Questions Asked**

| Demographic | Survey I | Survey II | Survey III | Survey IV |
|---|---|---|---|---|
| Residence | X | X | X | X |
| Gender | X | X | X | X |
| Age | X | X | X | X |
| Type of Vehicle Normally Driven | X | X | X | X |
| Primary Purpose of Travel | X | | | |
| Average Number of Miles per trip | X | | | |
| Household Income | X | | | |

The chi-square analysis compared responses to particular questions with respect to each demographic category. Tables provided in Appendix C show the questions that were analyzed using the chi-square analysis. These tables show where the chi-square analysis passed, where it was invalid due to lack of data and where differences in responses were found. The results for surveys II-b, III and IV were very similar.

## Residence

Respondents were first asked their state of residence: Oregon, California, or other state. The largest number of respondents to Surveys I and II-a were from Oregon, while in Surveys II-b, III and IV more respondents were from California. Of the 14.2% and 20.3% of 'Other' respondents in Surveys III and IV, respectively, the greatest numbers were from Washington. Figure 3 shows the distribution of residency.

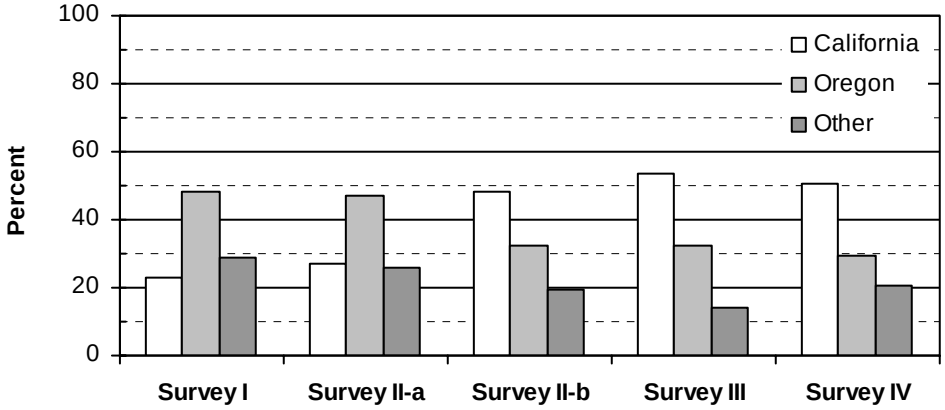



**Figure 3: Residence of Survey Respondents**

## Gender

Respondents were asked to state their gender. The majority of respondents were males. 74.1% of respondents were male in Survey I, the highest of all the surveys. In Surveys II-a, II-b, III and IV males responded 66.7%, 65.5%, 62.5%, 68.0%, respectively, of the time. Figure 4 shows the distribution of gender among survey participants.

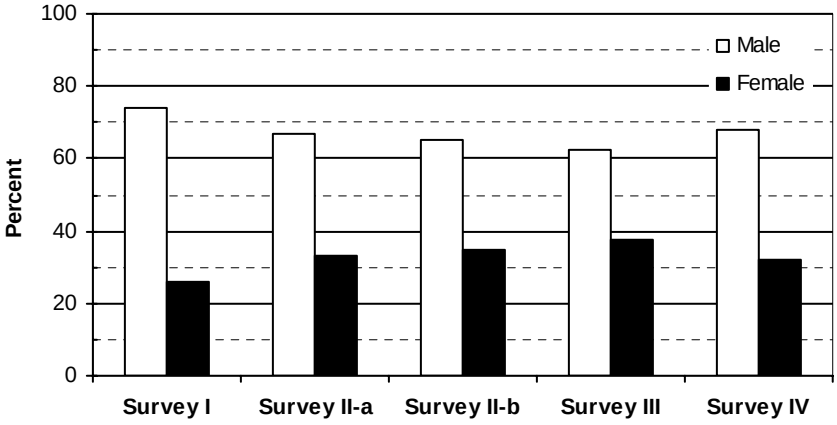



**Figure 4: Gender of Survey Respondents**

## Age

Participants chose from four age categories. People in the 45-64 year old category responded the most. The average age for respondents of Survey I was 47.4 years, Survey II-a was 46.6 years, Survey II-b was 50.5 years, Survey III was 53.4 years and Survey IV was 52.2 years. Figure 5 displays the age distribution of survey respondents.

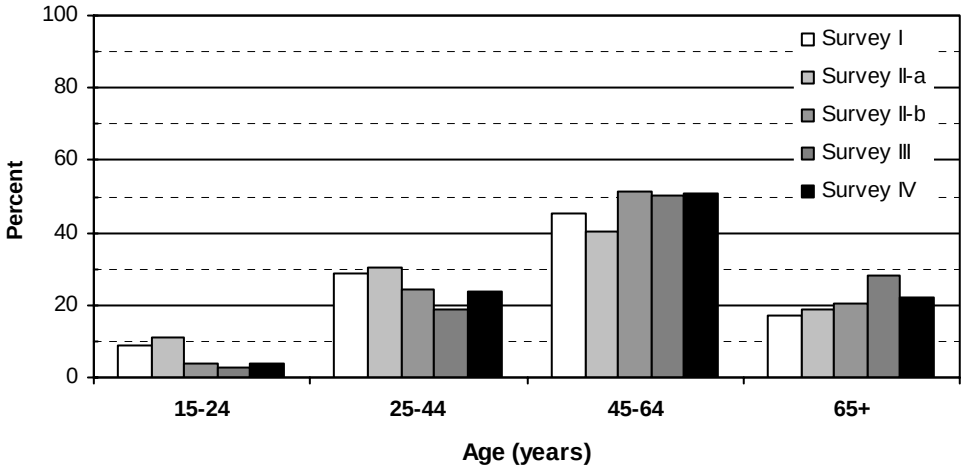



**Figure 5: Age of Survey Respondents**

## Vehicle Type

Respondents on all surveys had the option to choose: automobile, commercial vehicle (i.e., truck, bus), RV, or ride as a passenger only, as their vehicle type. Only Survey I participants could choose motorcycle but since there were no responses the option was eliminated in subsequent surveys. Automobiles were used by the majority of respondents in traveling over Siskiyou Pass. It was also a goal of the survey to include a representative sample of commercial vehicles in the area. This was achieved by distributing the survey at truck stops as well as the agricultural inspection station, where commercial vehicles can be accessed. The distribution of responses regarding vehicle type is shown in Figure 6.

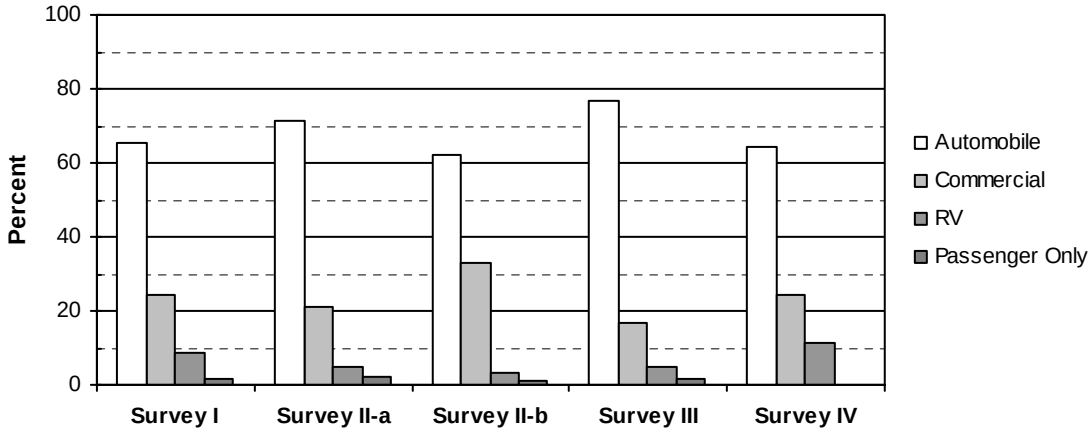



**Figure 6: Vehicle Type Normally Driven by Survey Respondents**

## Trip Purpose

Survey I respondents were asked to choose a category which best describes the purpose of the majority of their travel within the Siskiyou Pass area. The six categories from which respondents had to choose were work, school, shopping, medical, recreation, and other. Results show that the majority of the respondents utilize Siskiyou Pass for recreation or work. The results from this question are shown in Figure 7.

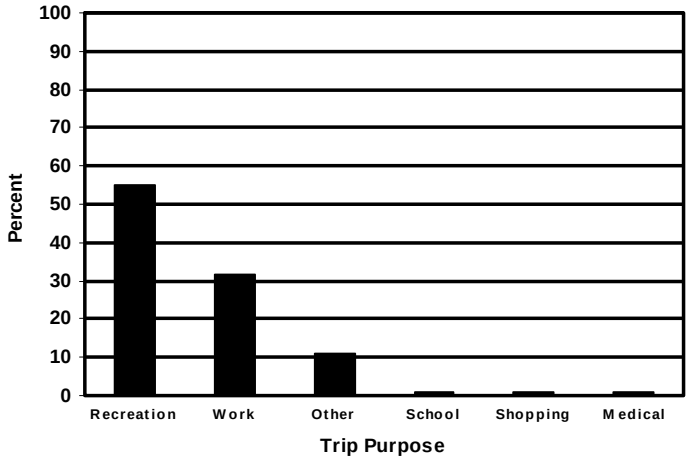



**Figure 7: Primary Purpose of Vehicle Travel by Survey I Respondents**

## Trip Length

Survey I respondents were also asked to estimate the average length of typical travel in the Siskiyou Pass area corresponding to the trip purpose selected in the previous question. Data from Survey I showed that most respondents indicated traveling 300 miles or greater for their respective trip purpose. These results are realistic for rural areas like that of Siskiyou Pass. The results from this question are shown in Figure 8.

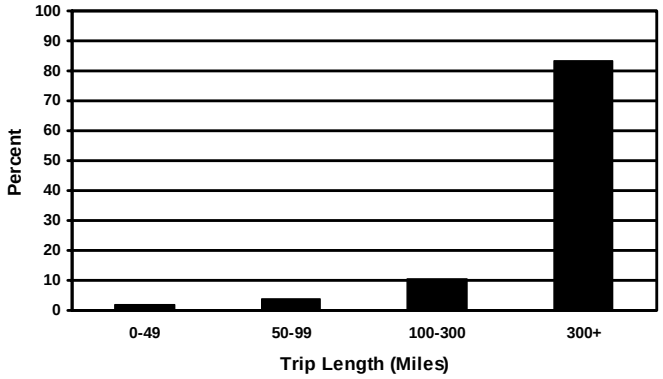



**Figure 8: Average Trip Length (in miles) of Survey Respondents**

## Income

The last demographic question included in Survey I was related to income. Each survey participant was asked to select from four categories that best describe their approximate annual income for their household. Results show a slightly higher percentage of respondents in the middle two income levels. Results are shown in Figure 9.

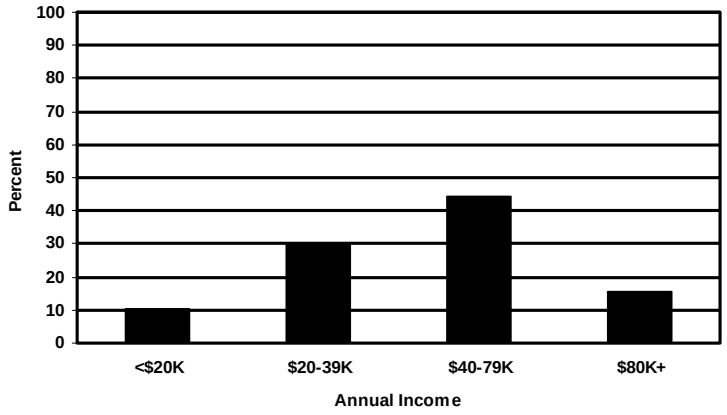



**Figure 9: Average Annual Household Income of Survey Respondents**

# Traveler Characteristics

Several questions were asked to gain an overall understanding of travel characteristics in the Siskiyou Pass area. More specifically, travelers were asked these questions to determine travel frequency over Siskiyou Pass, what seasons they travel, what resource they use to determine travel information, and the types of information that are most important to travelers. The results of these questions were tallied and a chi-square analysis was done to determine differences in responses with respect to demographics. Appendix A shows each question's format as they were originally asked on the surveys. Appendix B contains the tabulated results as well as means, medians, and standard deviations, where appropriate.

In the following section, mean values for each characteristic of each technology in Survey I were scaled to match the five-response scale used in subsequent surveys. This was done to more easily compare the results between all the surveys. Scaling results from out-of-three surveys cannot be directly compared with the results out-of-five surveys because of the different number of response options in the original survey. However, the general trend in results can be viewed by scaling. Scaling was done by taking the raw mean value from Survey I, determining its proportion out of three, then computing its value based on a scale of five.

## Frequency of Travel

The first question on each survey asked respondents to estimate how often they travel over Siskiyou Pass using one of the following categories: times per day, week, month, or year. All responses were then converted into the number of times traveled per year. Survey I and Survey II-a had similar means and standard deviations. The mean for Survey I was 40.4 times per year with a standard deviation of 109.4, while the mean for Survey II-a was 34.5 times per year with a standard deviation 96.1. The mean for Survey II-b was 92.1 times per year, with a standard deviation of 193.4. The mean for Survey III was 74.3 times per year, with a standard deviation of 202.7. The mean for Survey IV was 110.4 times per year, with a standard deviation of 284.9. Survey I and Survey II-a each had a median of 4, while Survey II-b had a median of 24. Survey III had a median of 10. Survey IV had a median of 18. The significant increase in mean and median for Surveys II-b, III and IV may be attributed to more local travelers receiving surveys at the Agricultural Inspection Station. Figure 10 shows a distribution of travel times per year.

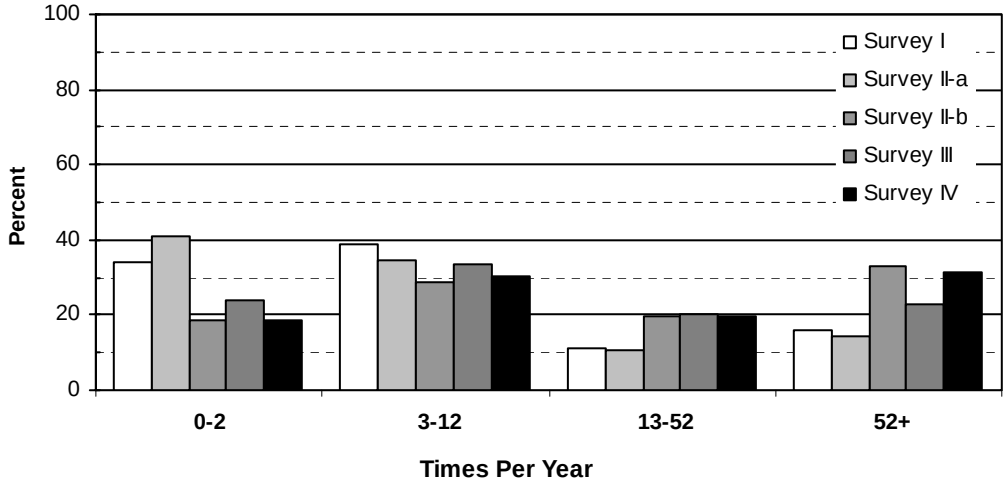



**Figure 10: Estimated Frequency of Travel of Survey Participants**

## Season of Travel

The second question on each survey asked respondents to designate the seasons in which they did most of their traveling over Siskiyou Pass. Respondents were asked to check all seasons that applied. Results indicate almost a majority of respondents (Survey I - 33.5%, Survey II-a - 24.4%, Survey II-b - 47.9%, Survey III - 40.6%, Survey IV – 49.1%) travel over Siskiyou Pass during all four seasons. Since participants could choose any combination of the four seasons, various other combinations of seasonal use were found. Figure 11 shows Siskiyou Pass use with respect to season of travel.

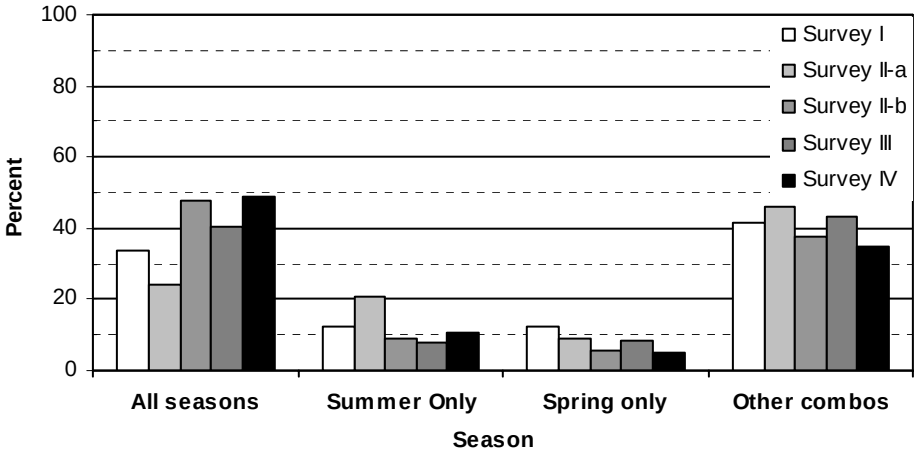



**Figure 11: Siskiyou Pass Use by Season**

## Road & Weather Information Resources Used

This question was asked to gain information about what types of resources are most frequently used by Siskiyou Pass travelers to determine road conditions and weather forecasts. The format of the question provided a list of potential resources, allowing respondents to choose all resources that apply. Based on the results of Survey I and discussions with the sponsor, the resources *CB Radio* and *1-800 Travel or Road Condition Information Phone Number* were added to subsequent surveys.

The resources used most often by travelers were radio (I-56.7%, II-a-47.2%, II-b-58.1%, III-58.0%, IV - 55.2%), television (I-43.2%, II-a-39.5%, II-b-41.3%, III-48.2%, IV - 38.8%), and personal observations of traffic conditions (I-38.1%, II-a-35.5%, II-b-51.6%, III-47.0%, IV - 50.4%). Respondents indicated using radio a majority of the time for accessing road and weather information. The use of Touch-Screen Information Kiosks was the least used resource by respondents in all surveys. For Surveys I, II-a, II-b, III, and IV only 1.41%, 0.89%, 0.69%, 0.63%, and 1.92% respectively, indicated having used Kiosks in the last year. Of the Survey III and Survey IV respondents who indicated 'Other', the most used 'Other' resource was contacting the local Highway Patrol for conditions. The results of this question are in Table 4.

**Table 4: Road Conditions and Weather Information Resources**

| Resource | Survey I Ranking | Survey II-a Ranking | Survey II-b Ranking | Survey III Ranking | Survey IV Ranking | Overall Ranking |
|---|---|---|---|---|---|---|
| Radio Station | 1 | 1 | 1 | 1 | 1 | 1 |
| Television | 2 | 2 | 6 | 2 | 7 | 3 |
| Observations of Traffic Conditions | 4 | 4 | 2 | 5 | 4 | 3 |
| Changeable Message Signs | 5 | 3 | 4 | 3 | 2 | 2 |
| 1-800 Travel | | 7 | 3 | 4 | 3 | 5 |
| Highway Advisory Radio | 3 | 6 | 5 | 6 | 5 | 6 |
| Cellular Phone | 8 | 5 | 9 | 7 | 6 | 7 |
| Communication with Others | 7 | 8 | 7 | 9 | 8 | 8 |
| Notices at Truck/Rest Stops | 6 | 10 | 11 | 11 | 10 | 10 |
| Road/Weather Info on Internet | 9 | 11 | 10 | 8 | 11 | 11 |
| CB Radio | | 9 | 8 | 12 | 9 | 9 |
| Camera Images on Internet | 10 | 12 | 12 | 10 | 12 | 12 |
| Other | 11 | 13 | 13 | 13 | 13 | 13 |
| Touch Screen Kiosks | 12 | 14 | 14 | 14 | 14 | 14 |

## Importance of Various Types of Information to Travelers

This question asked survey participants to rate the importance of each traveler information category, with respect to determining a change in their travel plans. Results from this question were used to determine what types of information Siskiyou Pass travelers find most important for considering changes in their travel. This is an important question since one of the goals of the Siskiyou Pass project is to improve traveler information. Results from this question should be considered by decision makers in the area.

Survey I differed from subsequent surveys. In Survey I, there were three response choices: not important, somewhat important, and very important while for Surveys II, III and IV there were five response choices: very unimportant, somewhat unimportant, neutral, somewhat important, and very important. Another difference was that *'construction'* replaced *'other'* in the responses. This was due to the number of respondents who indicated "construction" as "other" for this question on Survey I.

To analyze the ordinal (i.e., scaled) responses, numerical values were assigned to each of the response categories. With respect to Survey I, the "Very Important" response was assigned a value of 3, the "Somewhat Important" response a value of 2, and the "Not Very Important" response was assigned a value of 1. Since Surveys II, III and IV contained five ordinal responses, the "Very Important" response was assigned a value of 5, the "Somewhat Important" response – 4, the "Neutral" response – 3, the "Somewhat Unimportant" response – 2, and the "Very Unimportant" response –1. Results from Survey I have been scaled to match Surveys II, III and IV for ease of comparison. Results from this question are shown in Figure 12.

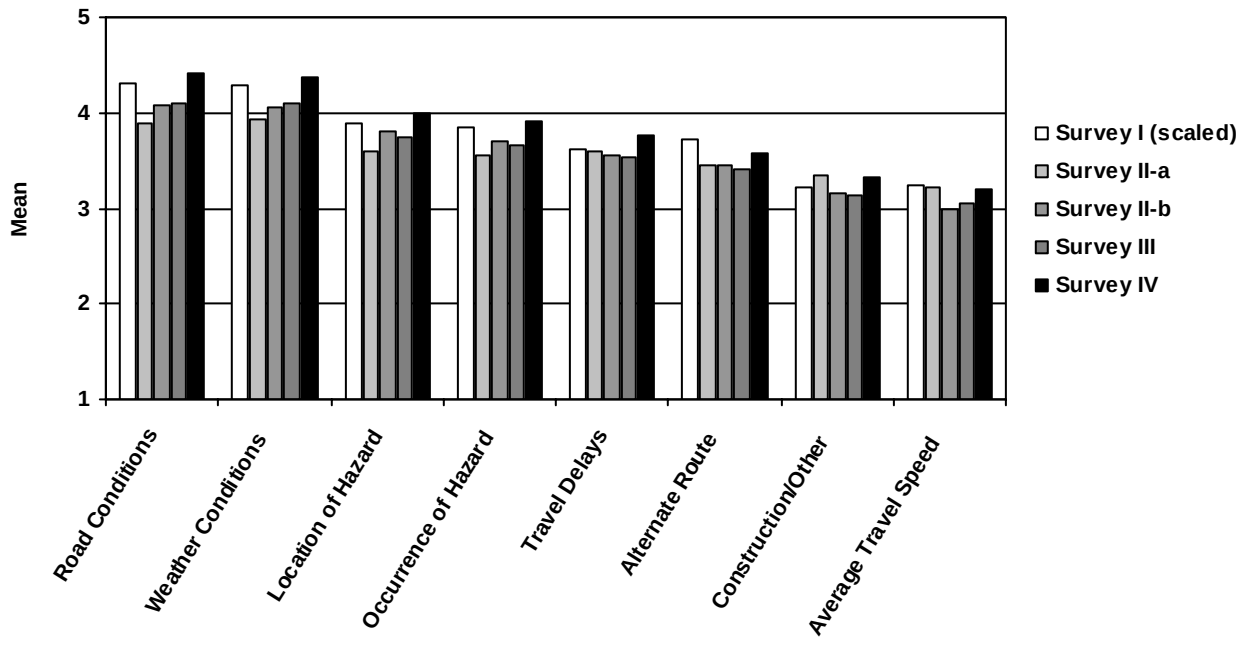



**Figure 12: Mean Values for Various Information Types**

Overall, travelers responses varied little between surveys. For example, travelers indicated that road conditions and weather conditions were the most important factors they would use to alter their travel plans. In all four surveys, respondents indicated average travel speed and construction were the least important factors in determining a change in travel plans.

## Alternate Route

Because there are occasional needs for alternate routes in the area due to weather, accidents, etc., it was necessary to determine traveler opinion regarding whether a reasonable alternate route exists over Siskiyou Pass. Respondents were given the opportunity to respond to this question with *'Yes'*, *'No'*, and *'Don't Know'*. In general, the results for this question were similar from year to year. The majority of respondents from Survey I, Survey II-b, Survey III and Survey IV indicated that no reasonable alternate route over Siskiyou Pass exists, while most respondents to Survey II-a did not know. Results from this question are shown in Figure 13.

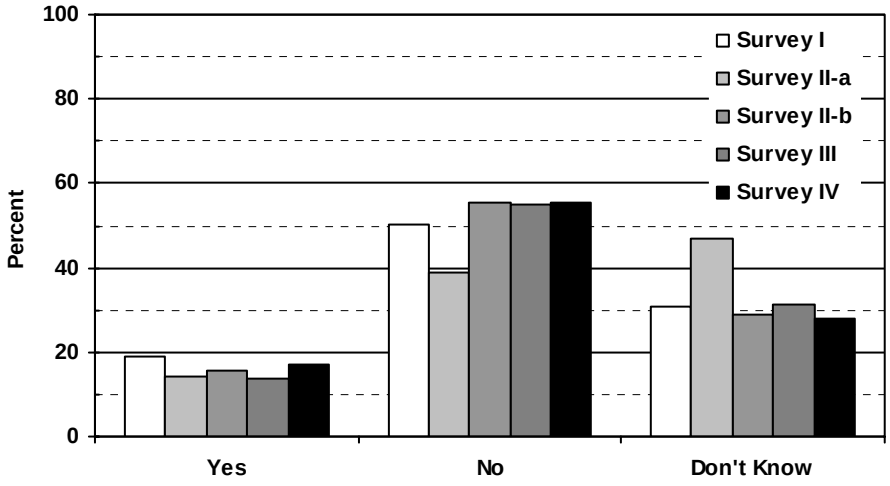



**Figure 13: Distribution of Alternate Route Responses**

This was the most frequently skipped question on Survey II. Only 55.2% of participants from Survey II-a responded to this question, while 77.6% responded from Survey II-b. Participation was higher in Surveys III and IV with 77.3% and 87.8%, respectively, of participants responding. It was the last question on the first page of the survey, which made it slightly less noticeable than the other questions on the first page.

## Response to Road Closure or Significant Delay

Road closures frequently occur in the Siskiyou Pass area. To find out typical behavior to road closures or delays, travelers were asked how likely they would be to wait on the roadway, stop at a nearby town, leave later, turn around, take an alternative route, cancel trip, continue on regardless, or seek an alternate mode of travel.

The mean value of responses from each survey was used to rank the traveler's options when faced with a road closure or delay. An overall ranking, based on the average of the rankings from each survey, indicated *'leave later'* was the most likely option for Siskiyou Pass travelers

faced with a road closure or significant delay. Secondly, travelers would *'take an alternate route'* or thirdly, *'stop at a nearby town'*. Respondents are least likely to *'cancel their trip'* or *'seek an alternate mode of travel'*. Results from this question are shown in Table 5.

| Response | Survey I Ranking | Survey II-a Ranking | Survey II-b Ranking | Survey III Ranking | Survey IV Ranking | Overall Ranking |
|---|---|---|---|---|---|---|
| Leave Later | 2 | 1 | 1 | 1 | 1 | 1 |
| Alternate Route | 1 | 2 | 3 | 3 | 3 | 2 |
| Stop at Nearby Town | 3 | 3 | 2 | 2 | 2 | 3 |
| Continue on Regardless | 4 | 4 | 6 | 5 | 5 | 4 |
| Wait on Roadway | 6 | 5 | 4 | 6 | 4 | 5 |
| Turn Around | 5 | 6 | 5 | 4 | 6 | 5 |
| Cancel Trip | 8 | 7 | 7 | 7 | 7 | 7 |
| Alternate Mode | 7 | 8 | 8 | 8 | 8 | 8 |

**Table 5: Mean Values for Various Closure or Delay Options**

# Functional Measures

One of the main purposes of this survey was to evaluate the usefulness and accuracy of each of the ITS technologies in the Siskiyou Pass area. The ITS technologies are used to improve the safety and efficiency of Siskiyou Pass. The ITS technologies being used are Changeable Message Signs, Highway Advisory Radio, Touch-Screen Information Kiosks, Internet weather information, and Internet camera images. Functionality of each technology was analyzed using statistics. Functionality is determined by averaging the means of the accuracy and usefulness for a particular ITS technology. The analysis included basic descriptive statistics, chi-square analysis, and t-statistics analysis. These statistics were used to assess the functionality of ITS technologies to determine any potential improvements.

Survey I travelers chose from a scale of "not very", "somewhat", and "very" for each of the following characteristics of each ITS technology: accurate, timely, useful, understandable, and accessible. Respondents who were not aware of the technology could check the not aware box. For Surveys II, III and IV only accuracy and usefulness of each technology were evaluated using one of five scalar responses, or indicating that they were not aware of the technology. This change is described previously in the Traveler Survey section ("Survey Design Evolution").

In the following section, mean values for each characteristic of each technology in Survey I were scaled to match the five-response scale used in subsequent surveys. This was done to allow ease of comparison between Surveys II-a, II-b, III and IV. Scaling results from out-of-three surveys cannot be directly compared with the results out-of-five surveys because of the different number of response options in the original survey. However, the general trend in results can be viewed by scaling. Scaling was done by taking the raw mean value from Survey I, determining its proportion out of three, then computing its value on a scale of five.

## Changeable Message Signs

Changeable Message Signs received positive responses in all surveys. A positive response is greater than three. The high and increasing average mean responses indicate Changeable Message Signs served their intended function and have improved in functionality. Respondents have consistently indicated they were more aware of Changeable Message Signs than any other ITS technology in the Siskiyou Pass area. Analysis indicates 66.0% of respondents from Survey I were aware of Changeable Message Signs, while 80.4% and 88.9% of respondents were aware of Changeable Message Signs from Surveys II-a and II-b, respectively, and an even higher 91.6% and 89.9%, respectively, were aware of Changeable Message signs from Surveys III and IV. Comments about CMS include placing more signs on the roadway in case one is missed, including the temperature and wind conditions on the CMS, and stressing the importance of keeping the information up to date. See additional comments in Appendix D. Figure 14 shows the mean values for Changeable Message Sign characteristics.

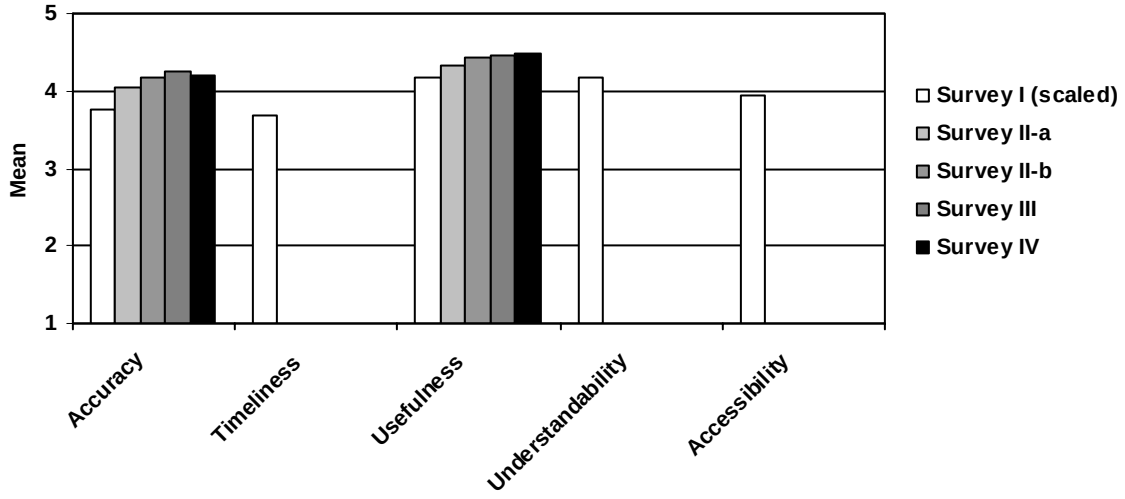



**Figure 14: Mean Values for Changeable Message Sign Characteristics**

## Highway Advisory Radio

Highway Advisory Radio also received positive responses. Overall functionality ranking of Highway Advisory Radio was better than the Touch-Screen Information Kiosks, but not as good as Changeable Message Signs or Internet. Again, the majority of respondents were aware of Highway Advisory Radio. Results indicate 58.9%, 77.9%, 87.9%, 85.4% and 87.9% of respondents from Surveys I, II-a, II-b, III and IV respectively, were aware of Highway Advisory Radio. Respondents comment that the HAR needs to be kept current. See additional comments in Appendix D. Figure 15 shows the mean values for Highway Advisory Radio characteristics.

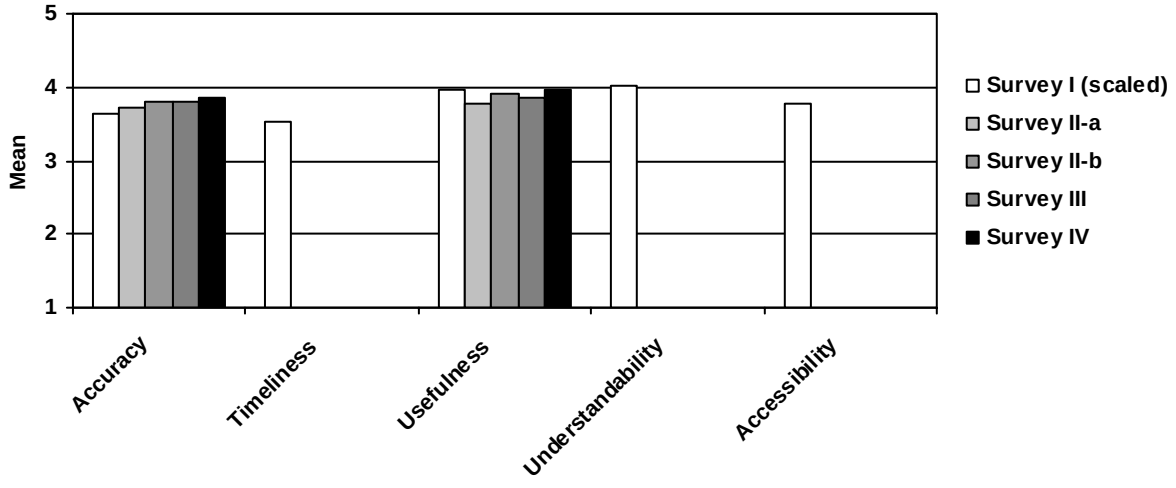



**Figure 15: Mean Values for Highway Advisory Radio Characteristics**

## Touch-Screen Information Kiosks

Touch Screen Information Kiosks received a positive response, meaning that its functional rating was greater than three out of five. However, respondents are least aware of Touch-Screen Information Kiosks. Altogether, 15.2% of respondents from Survey I, 25.4% of respondents from Survey II-a, 11.7% of respondents from Survey II-b, and 13.4% of respondents from Survey III indicated being aware of the Kiosks. Touch Screen Information Kiosks received the lowest functionality ranking which indicates respondents considered this technology to be the least useful and least accurate of all the ITS technologies used in the Siskiyou Pass area. Survey IV participants were not asked to evaluate the functionality of this technology. Touch Screen Information Kiosks were intermittently available in the Siskiyou Pass area at the time of the surveying. Figure 16 shows the mean values for Touch-Screen Information Kiosk characteristics.

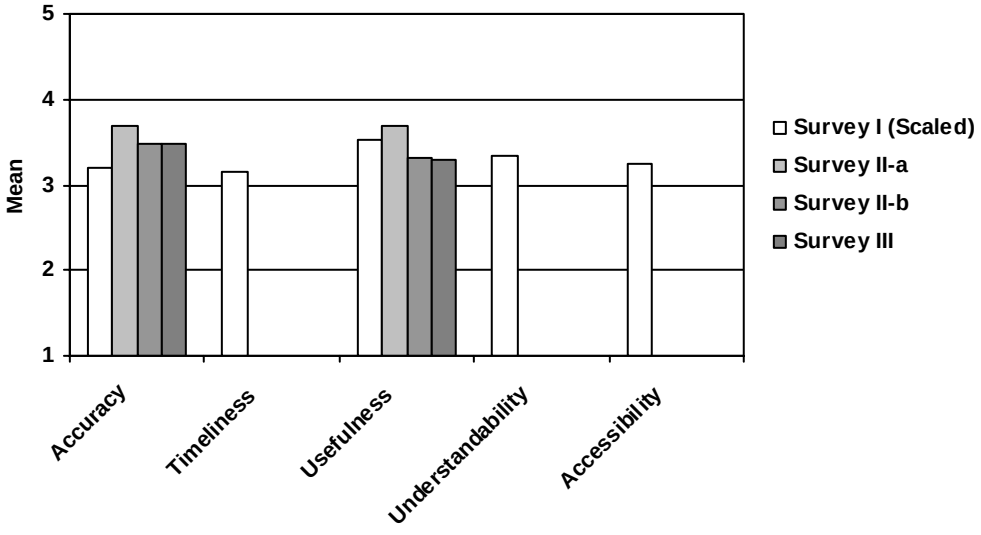



**Figure 16: Mean Values for Touch-Screen Information Kiosks**

## Road/Weather Information on the Internet

Road and weather information for the Siskiyou Pass area is available on the Internet. Only 38.4% of respondents from Survey I indicated being aware of this service, while a majority of respondents (54.3% and 53.7%) from Surveys II-a and II-b, respectively, were aware of the road/weather information provided on the Internet. Surveys III and IV showed an even higher percentage of respondents, 59.2% and 60.4%, respectively, who were aware of the information. Road and Weather Information on the Internet received the middle, third, functionality ranking for all ITS technologies. Changeable Message Signs and Internet Cameras received higher rankings while the Highway Advisory Radio and Touch-Screen Kiosks received lower rankings

indicating both usefulness and accuracy being moderate for this technology. Results from this question are shown in Figure 17.

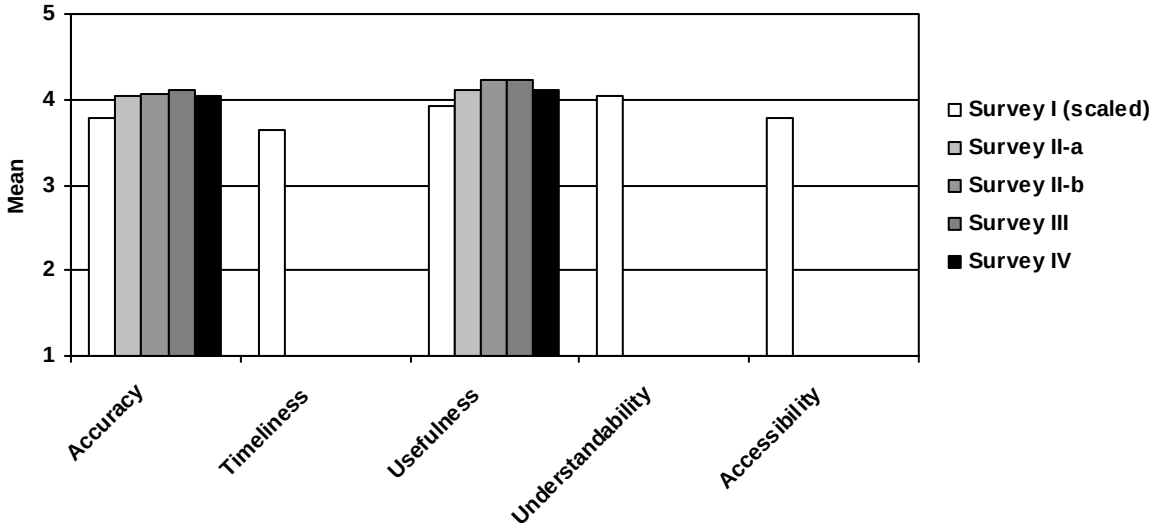



**Figure 17: Mean Values for Road/Weather Information on the Internet**

## Siskiyou Pass Camera Images on the Internet

Travelers are able to access real-time camera images of Siskiyou Pass using the Internet. The majority of respondents, 73.1% from Survey I, 56.2% from Survey II-a, 55.4% from Survey II-b and 50.7% from Survey III were not aware of the Siskiyou Pass camera images on the Internet. However, the majority of Survey IV participants, 52.0%, were aware of this technology. Based on this trend of increased awareness over time, potentially more people will become aware of and begin using the Internet as a resource for their travel plans. This technology was ranked second to last in the awareness category, in front of Touch-Screen Kiosks. Those who were aware ranked this technology second in accuracy and usefulness behind Changeable Message Signs. Respondents commented that they really like this technology but are not able to use this technology while on the road. See additional comments in Appendix D. Results from this question are shown in Figure 18.

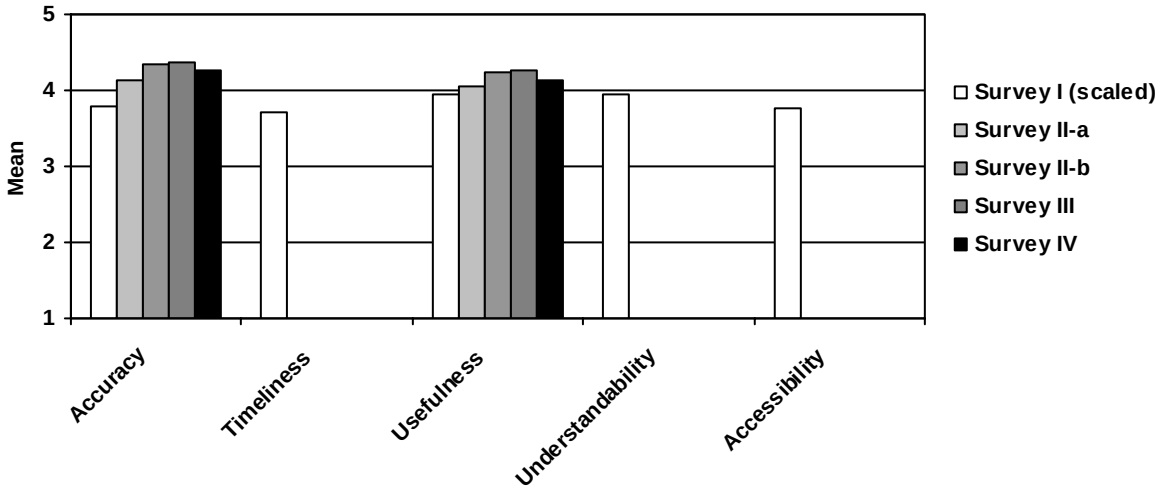



**Figure 18: Mean Values for Camera Images on the Internet**

## Summary of ITS Functionality

Five different ITS technologies on Siskiyou Pass (Changeable Message Signs, Highway Advisory Radio, Touch-Screen Information Kiosks, Road/Weather Information on the Internet, Camera Images on the Internet) were evaluated. All responses to accuracy and usefulness were positive, although respondents indicated that some technologies were more useful and accurate.

Direct comparisons between results from Survey I and Surveys II, III and IV are difficult due to the different number of response options. Survey I offered one positive response, one somewhat neutral response, and one negative response. Subsequent surveys offered participants one more response between the neutral and the positive, and between the neutral and the negative responses. The increase in the number of response options in Surveys II, III and IV may be the reason why average response means were, in general, higher.

Functionality ranking is a combined measure of accuracy and usefulness. It was calculated by averaging the combined means of usefulness and accuracy from each survey. The overall functionality ranking was determined by averaging the functionality rankings of each survey. Awareness rankings were obtained by ranking the percentage of respondents who were aware of the technology and averaging the ranking across all surveys.

Overall and for each separate survey, Changeable Message Signs received the highest functionality ranking, meaning it was the most accurate and useful technology. Camera Images on the Internet and Road/Weather Information on the Internet followed in second and third, respectively. It is significant to note that these two technologies are being ranked higher in terms of functionality than the other technologies available. Use of the Internet is increasing rapidly and based on these results is becoming a resource travelers use in their daily traveling lives.

Respondents from all surveys indicated that they were most aware of the Changeable Message Signs, followed by Highway Advisory Radio, Road/Weather Information on the Internet, Camera Images on the Internet, and finally Touch-Screen Information Kiosks. Table 6 shows rankings for the functionality and awareness of these particular ITS technologies within the Siskiyou Pass area.

**Table 6: Functionality and Awareness of ITS Technologies**

| ITS Technology | Awareness | Functionality Survey I | Functionality Survey II-a | Functionality Survey II-b | Functionality Survey III | Functionality Survey IV | Overall Functionality |
|---|---|---|---|---|---|---|---|
| Changeable Message Signs | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Highway Advisory Radio | 2 | 4 | 4 | 4 | 4 | 4 | 4 |
| Touch Screen Information Kiosks | 5 | 5 | 5 | 5 | 5 | NA | 5 |
| Road/Weather Information on the Internet | 3 | 3 | 3 | 3 | 3 | 3 | 3 |
| Camera Images on the Internet | 4 | 2 | 2 | 2 | 2 | 2 | 2 |

## Evaluation Conclusions

What technologies are travelers using in the Siskiyou Pass region? What will help them travel more safely? In addition, what will allow them to reach their destination in a timely manner? To answer these questions, four surveys were distributed over four years and the results indicated that travelers are using all the technologies available to them to travel safely and in a timely manner in the Siskiyou Pass region.

Participants of subsequent surveys have become increasingly aware of Camera Images and Road/Weather Information on the Internet. Survey I participants were only 26.9% and 38.4%, respectively, aware of these technologies while the number of participants aware of these technologies increased to 52% and 60.4%, respectively, for Survey IV. The awareness of Kiosks did not increase across surveys. This technology is only visible to people who used the visitor center in Medford, which may explain why very few people were aware of them and which is why they were not studied in Survey IV. Comments from participants indicate that travelers would like to use the Internet more but don't have the Internet addresses. They would like the addresses available and suggest having local radio stations advertise the sites. Those that have used the camera images on the Internet stated that sometimes the camera is obscured by ice preventing them from seeing the area.

In rating the accuracy and usefulness of the technologies, all technologies received an average rating above neutral. This indicated users felt that the technologies were at least somewhat accurate and somewhat useful to them.

When asked to rate how likely they were to perform a given action in case of a road closure or delay, respondents of all surveys indicated they would most likely leave later, take an alternate route, or stop at a nearby town, in that order. Results from the surveys also indicated that respondents were least likely to cancel their trip or seek an alternate mode of travel. The low likelihood to use alternate modes in rural areas is most likely due to their scarcity.

Survey participants were asked which resources they normally use to influence their travel plans. Overall, they would most likely use the radio, changeable message signs, television, or personal observations of existing conditions to influence their travel plans. All four surveys also indicated that travelers were least likely to use traveler information from a Touch-Screen Information Kiosk or the Internet to influence their plans.

To further analyze travel characteristics of travelers in the Siskiyou Pass area, a question was asked to rate how important certain items were for determining a change in travel plans. Results from all surveys indicated that road and weather conditions were the most important items for determining a change in travel plans. This is probably because undesirable road and weather conditions pose a more serious safety risk to drivers than other items. Results also

showed that construction and average travel speed were the least important factors in determining a change in travel plans.

The results from these surveys indicate that travelers are becoming more aware of the ITS technologies within the Siskiyou Pass area, although more can still be done to increase awareness of the technologies, especially regarding the Internet and Touch-Screen Information Kiosks. It also indicated that travelers are satisfied with the accuracy and usefulness of the ITS technologies in the area, although incorporating modifications in the future will improve their functionality.

It was determined that the mail-in technique of survey distribution was more effective; and was used in Surveys II-b, III and IV. In addition, this method was much more cost effective and provided more complete results. The surveys distributed using this methodology also captured more truck traffic and provided significantly more anecdotal comments from Siskiyou Pass travelers.

Several comments were made repeatedly. Respondents want the information updated more frequently and want to know the time it was last updated. If traveler information is not updated frequently, users will tend not to trust the source and possibly stop using the resource in the future. Frequent information updates in the future will improve the effectiveness of Siskiyou Pass ITS.

Users were unhappy with the chain requirements in the area. Drivers mentioned that they are required to chain up by state regulations even when they are still on dry pavement, causing harm to their vehicles as well as the pavement. Differences in chain requirements between the two states (California and Oregon) are also a source of frustration for truckers. A possible solution might be to create an agreement with respect to chain requirements in the area.

Others commented that they would like to see the pass temperature included on the Changeable Message Sign. In addition, they would like to have more signs and signs further from the pass in case one is obscured while passing a truck or larger vehicle.

The trend in the chi-square results across surveys has been an increase in differences in successive surveys. Further investigation would be required to determine exactly why this is happening.

# Section Two:
# Development of Incident Management Plan and Winter Response Plan

# Incident Management Plan Development

Siskiyou Pass is jointly managed by a variety of agencies including Oregon Department of Transportation, Oregon State Police, California Department of Transportation, and California Highway Patrol. While coordination between multiple jurisdictions has improved in recent years through the Snowflake meetings, there was still a need to develop standard operating procedures for interagency coordination, and incident conditions warranting notification and diversion. Researchers collected information from various agencies throughout the area to put together an incident management plan for the region. The deliverables for this task was distributed to these agencies in May 2001. The following sections describe the process by which these documents were produced.

The purpose of the Siskiyou Pass Incident Management Plan was to develop an Operations Guide, Message Sets and Routing Plan that will assist with communication, coordination and cooperation between local and state, public and private sector organizations in the management of Siskiyou Pass.

The overall Siskiyou Pass Project attempted to address three general challenges on Interstate 5 extending from Yreka, California to Medford, Oregon. As stated before, these goals are to:

- improve incident management,
- improve traveler information services, and
- enhance traveler mobility.

All of these goals coincide with the Incident Management Plan. The first goal ensures that the agencies responsible for maintenance, enforcement, towing, media, emergency services and dispatch centers are working toward a common goal using a predefined communication procedure. The second goal will help improve the timeliness and accuracy of the traveler information through the Incident Management Plan. The third goal is important since communication with the traveling public is directly related to traveler mobility. Also, mobility is affected by incident management since poorly coordinated management will cause unnecessary delays.

To develop the Siskiyou Pass Incident Management Plan, four inter-related tasks were identified:

- Task 1: National Review of Similar Plans;
- Task 2: Determine Incident Scenarios;
- Task 3: Develop Operations Guide; and
- Task 4: Determine Common Message Sets.

## National Review of Similar Plans

The first task of the Siskiyou Pass Incident Management Plan was to conduct a national (and international) review of Incident Management Plans that have been written for similar corridors. This task has been completed with limited findings and, therefore, shows that the Siskiyou Pass Incident Management Plan will advance the state-of-the-practice.

Over 40 transportation professionals around and outside the United States were contacted. These professionals are located in Canada, Australia, Sweden, as well as the shaded states shown in Figure 19. A list of these professionals is located in Appendix E.

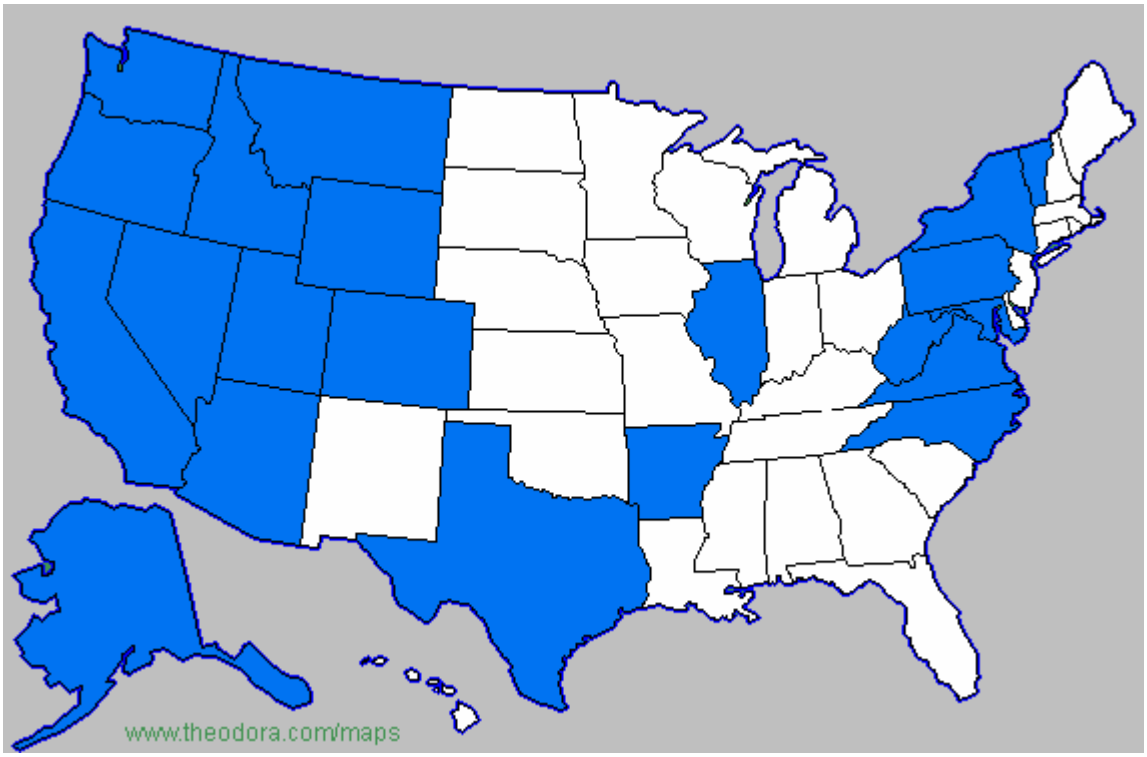



**Figure 19: Contacted States**

From these contacts it was learned that most states do not concentrate efforts on mountainous regions, but create Incident Management Plans for statewide use. However, several documents and statewide Plans were gathered, and include:

- Washington's Statewide Incident Management Plan;
- Colorado's Incident Management Plan for I-25 (urban);
- Wyoming's Snow Removal Plan;
- the Quad-State (Colorado, Nebraska, Kansas, Wyoming) Road Service Directory;
- documentation for patrol of Highway 97C (Okanagan Connector) in British Columbia, Canada;

- North Carolina's Statewide Incident Management Program documents; and
- the Incident Management Plan Summaries and Work Plans for Polk County, Henderson County, Haywood County, and Buncombe County in North Carolina.

## Determine Incident Scenarios

The goal of the second task of the Incident Management Plan was to determine priority incident management scenarios that range in severity and impact and that need different levels of response by various agencies. The final deliverable (**click here to go to Appendix H: Incident Management Operations Guide**) was prepared to address and summarize the following general and specific areas for incident scenarios. These include:

- impacts of incidents,
- incident types,
- factors that affect incident duration,
- organizational needs for incident management,
- detection/verification needs and processes,
- incident response objectives and processes,
- incident removal objectives and processes, and
- information needs of motorists/ travelers.

# Data Collection and Analysis

To understand the issues associated with Siskiyou Pass highway operations, Western Transportation Institute (WTI) staff attended the Snowflake meeting in Ashland Hills, collected data, and performed outreach to various agencies (i.e. DOT's, media, towing, trucking, fire and rescue, ambulance, and tourism). The Snowflake meeting minutes are located in Appendix F. When personal interviews were not feasible, telephone interviews were conducted.

Data collection was necessary to determine the incident scenarios. The types of data collected included:

- crash data (types, frequencies and causes),
- road closure data (types, frequencies and causes),
- tire chain requirements
- travel time and delay,
- traffic volumes (hourly, daily, monthly),
- weather conditions,
- logistics of the responsible agencies,
- historic maintenance data, and
- agency coordination procedures.

Queue lengths, travel delay, weather conditions, crashes, pass closures, and the tire chain requirements data were analyzed to categorize incident response needs and actions by similarities to create three incident scenarios.

## Frequency of Incidents

To determine the frequency of incidents a number of different factors were considered such as traffic volumes, vehicle breakdowns, crashes, major incidents and weather. These factors were important since they also have an effect on issues such as time to respond and clear the incident, queue length, and delay to the motorists.

### *Traffic Volumes*

The frequency of incidents depends greatly on the traffic volumes throughout the Siskiyou Pass area. The Siskiyou Pass Project boundaries that extend from Yreka, California to Medford, Oregon represent approximately 51 miles of Interstate in each direction: 21 miles in California and 30 miles in Oregon. Traffic volume data was collected from the California and Oregon Departments of Transportation for the years of 1998 – 2000. The Average Annual Daily Traffic (AADT) in the area ranges from 35,000 vehicles per day near Medford (1) to 12,500 vehicles per day at the California-Oregon border (2) with approximately 37% commercial and recreational vehicles (i.e., 2- to 5-axle trucks and motor homes). Data was also collected at the Neil Creek Traffic Recorder, located at MP 11.03 in Oregon, and at the Medford Viaduct Traffic Recorder,

located at MP 28.33 in Oregon (3) and includes hourly traffic volumes, monthly traffic volumes, and vehicle classification breakdown.

***Vehicle Breakdowns***

Disabled vehicles can be considered an incident since they increase the potential for conflicts for the passing traffic. According to studies performed by Texas Transportation Institute (4), in urban areas one breakdown occurs for approximately every 40,000 vehicle miles traveled. Using this information, the following table (Table 7) shows that approximately 20 breakdowns are likely to occur within the section of roadway included in the Siskiyou Pass Project area each day.

**Table 7: Number of Vehicle Breakdowns**

| Mile Post | Distance | 1998 AADT | Daily VMT | Breakdowns/VMT |
|---|---|---|---|---|
| OR 23.90 - OR 27.27 | 3.37 | 35000 | 117950 | 2.9 |
| OR 19.87 - OR 23.89 | 4.02 | 32200 | 129444 | 3.2 |
| OR 18.60 - OR 19.86 | 1.26 | 22600 | 28476 | 0.7 |
| OR 13.67 - OR 18.59 | 4.92 | 12300 | 60516 | 1.5 |
| OR 11.03 - OR 13.66 | 2.63 | 13300 | 34979 | 0.9 |
| OR 5.02 - OR 11.02 | 6 | 12500 | 75000 | 1.9 |
| OR 0.00 - OR 5.01 | 5.01 | 12500 | 62625 | 1.6 |
| CA 68.33 - CA 69.29 | 0.96 | 12600 | 12096 | 0.3 |
| CA 65.52 - CA 68.32 | 2.8 | 12500 | 35000 | 0.9 |
| CA 62.92 - CA 65.51 | 2.59 | 12500 | 32375 | 0.8 |
| CA 61.55 - CA 62.91 | 1.36 | 12600 | 17136 | 0.4 |
| CA 58.33 - CA 61.54 | 3.21 | 12700 | 40767 | 1.0 |
| CA 48.24 - CA 58.32 | 10.08 | 12900 | 130032 | 3.3 |
| **Totals** | **48.21** | | | **19.4** |

***Crashes***

Crash data was received from California and Oregon Departments of Transportation and includes crashes that occurred from January 1, 1995 to August 31, 1999 and June 30, 1999, respectively (5, 6). The data includes only crashes that occurred on I-5 within the Project boundaries of Yreka, CA and Medford, OR.

The number and rate of crashes within the Siskiyou Pass Project area, when broken into specific segments, show potential “hot spots” or portions with a larger number of crashes for the area. Figure 20 shows the number of crashes in each state per year. As stated above, data was not gathered for the full year in 1999 for either state.

The differences between the total number of crashes per year in California and Oregon are based on several factors. These factors include the facts that 1) the number of lane miles is greater in Oregon than California, and 2) there are a greater number of vehicles entering and

exiting the Interstate at approximately the same number of intersections in Oregon than California.

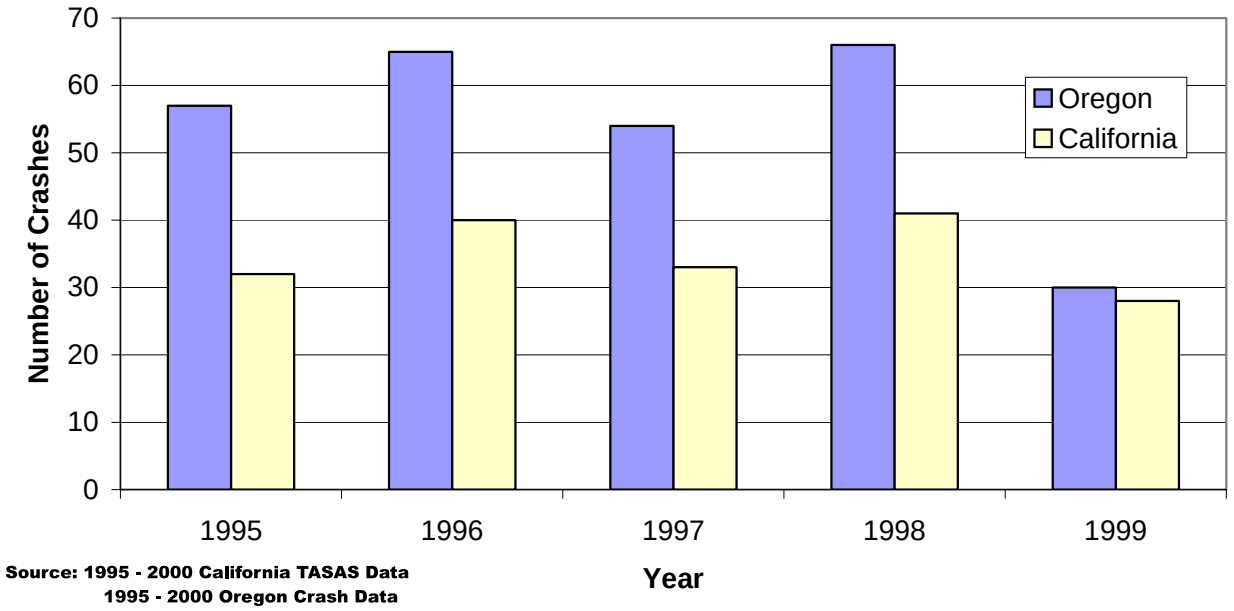



**Figure 20: Total Number of Crashes Per Year**

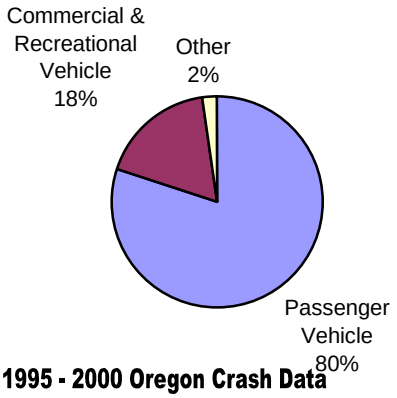
Crash rates take into account not only the number of crashes on a segment of roadway, but also the ADT of that segment. From ADT, vehicle miles traveled (VMT) can be calculated. The crash rate (crashes per million vehicle miles traveled) is the number of crashes in the segment divided by million vehicle miles traveled (MVMT). The equation used to calculate the crash rate is shown. Table 8 shows the crash rate for different segments of Interstate 5. Phoenix, Talent, Ashland, and Mt. Ashland in Oregon and Hilt, Hornbrook, Route 96, and Yreka in California are interchanges within the project area and, in turn, have a high number of sideswipe, rear-end and broadside crashes. The highest crash rate for the Project occurs in California between milepost 68.00 and the Oregon–California border. Siskiyou Pass Summit (approximately milepost 4.00) ranks fourth in the area for crash rate. On average, one crash will occur within the Project area for every 2,200,000 vehicles miles traveled.

$$\text{Crash Rate (Crash/MVMT)} = \frac{(\#\text{ of Crashes})*(1{,}000{,}000)}{(365\text{ days/yr})*(4\text{ yrs})*(\text{AADT})*(\text{Distance})}$$

**Table 8: Number of Crashes Per Million Vehicle Miles Traveled**

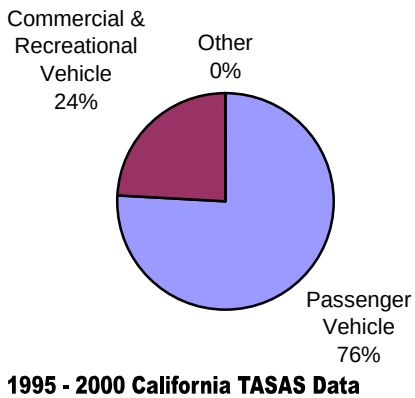
| Mile Post | Distance | Interchange | # of Crashes | 1998 AADT | VMT | Crash/MVMT | Ranking |
|---|---|---|---|---|---|---|---|
| OR 23.90 - OR 27.27 | 3.37 | Phoenix | 42 | 35000 | 117950 | 0.2439 | |
| OR 19.87 - OR 23.89 | 4.02 | None | 33 | 32200 | 129444 | 0.1746 | |
| OR 18.60 - OR 19.86 | 1.26 | Talent | 28 | 22600 | 28476 | 0.6735 | 3 |
| OR 13.67 - OR 18.59 | 4.92 | Ashland | 40 | 12300 | 60516 | 0.4527 | |
| OR 11.03 - OR 13.66 | 2.63 | None | 10 | 13300 | 34979 | 0.1958 | |
| OR 5.02 - OR 11.02 | 6 | Mt. Ashland | 64 | 12500 | 75000 | 0.5845 | 5 |
| OR 0.00 - OR 5.01 | 5.01 | None | 54 | 12500 | 62625 | 0.5906 | 4 |
| CA 68.33 - CA 69.29 | 0.96 | Hilt | 17 | 12600 | 12096 | 0.9626 | 1 |
| CA 65.52 - CA 68.32 | 2.8 | None | 24 | 12500 | 35000 | 0.4697 | |
| CA 62.92 - CA 65.51 | 2.59 | None | 33 | 12500 | 32375 | 0.6982 | 2 |
| CA 61.55 - CA 62.91 | 1.36 | Hornbrook | 6 | 12600 | 17136 | 0.2398 | |
| CA 58.33 - CA 61.54 | 3.21 | Rte 96 | 16 | 12700 | 40767 | 0.2688 | |
| CA 48.24 - CA 58.32 | 10.08 | Yreka, Rte 3 | 78 | 12900 | 130032 | 0.4109 | |

Traffic composition through the project area consists of approximately 37% commercial vehicles and recreational vehicles (i.e., 2- to 5-axle trucks and motor homes) (2). Figures 21 and 22 show the percentage of commercial and recreational vehicles involved in crashes compared to passenger vehicles.




**Source: 1995 - 2000 Oregon Crash Data**

**Figure 21: Vehicle Type in All of OR**




**Source: 1995 - 2000 California TASAS Data**

**Figure 22: Vehicle Type in All of CA**

The severity of each crash affects the kind of incident response and management. Figure 23 shows the severity of each of the crashes that occurred within the Project area and Table 9 shows the locations of each of the injury and fatal crashes. Within the four and a half years of crashes there were six fatalities, which is 1.35% of the 446 crashes.

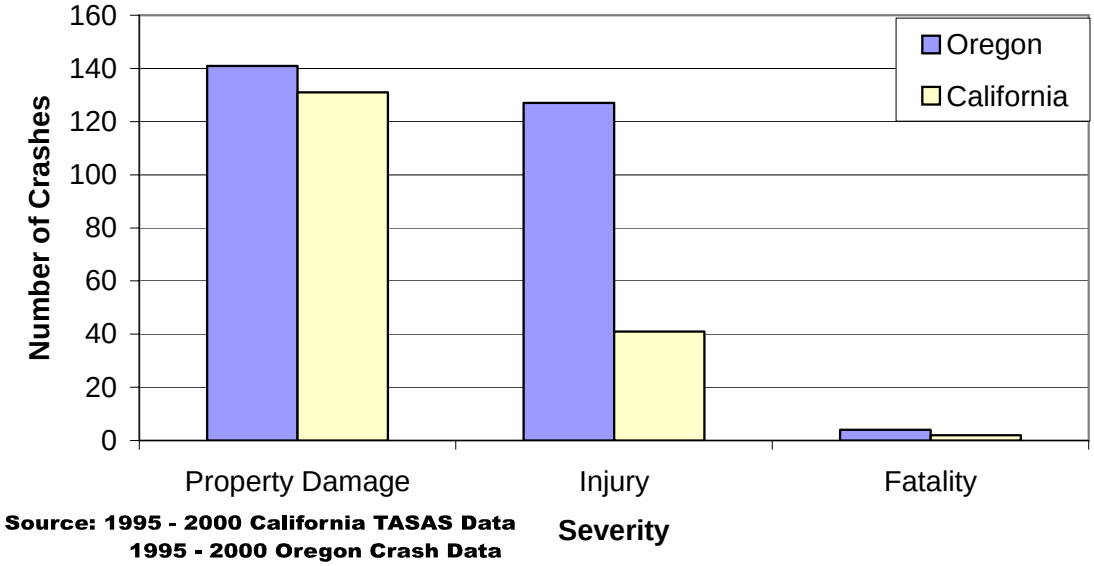



**Figure 23: Crash Severity in California and Oregon**

**Table 9: Locations of Injury and Fatal Crashes**

| Mile Post | Distance | Interchange | Injuries | Fatalities |
|---|---|---|---|---|
| OR 23.90 - OR 27.27 | 3.37 | Phoenix | 25 | 0 |
| OR 19.87 - OR 23.89 | 4.02 | None | 18 | 0 |
| OR 18.60 - OR 19.86 | 1.26 | Talent | 17 | 1 |
| OR 13.67 - OR 18.59 | 4.92 | Ashland | 18 | 0 |
| OR 11.03 - OR 13.66 | 2.63 | None | 4 | 0 |
| OR 5.02 - OR 11.02 | 6 | Mt. Ashland | 28 | 2 |
| OR 0.00 - OR 5.01 | 5.01 | None | 17 | 1 |
| CA 68.33 - CA 69.29 | 0.96 | Hilt | 12 | 0 |
| CA 65.52 - CA 68.32 | 2.8 | None | 9 | 0 |
| CA 62.92 - CA 65.51 | 2.59 | None | 10 | 0 |
| CA 61.55 - CA 62.91 | 1.36 | Hornbrook | 0 | 0 |
| CA 58.33 - CA 61.54 | 3.21 | Rte 96 | 6 | 1 |
| CA 48.24 - CA 58.32 | 10.08 | Yreka, Rte 3 | 22 | 1 |

To determine the "type" of crashes that occurred, a number of factors were considered. These factors included:

- single vs. multiple vehicle crashes,
- crash type (head-on, sideswipe, rear-end, etc.), and
- cause of the crashes (fell asleep, failure to yield, etc.).

A comparison of single versus multiple vehicle crashes for California and Oregon is shown in Table 10. In both states there is approximately the same number of single vehicle crashes, but there is a large difference in the number of multiple vehicle crashes. This, again, may be due to the reasons stated earlier.

**Table 10: Single versus Multiple Vehicle Crashes**

| Single vs. Multiple | Oregon | Percent | California | Percent |
|---|---|---|---|---|
| **Single Vehicle Crash** | 109 | 40.07% | 113 | 64.94% |
| **Multiple Vehicle Crash** | 163 | 59.93% | 61 | 35.06% |

Single and multiple vehicle crashes included rear-end, head-on, sideswipe, broadside, hitting an object, animal, vehicle, or pedestrian, and overturning. A graph comparing California and Oregon crashes by type of crash is shown in Figure 24 and Table 11 shows the location of these crashes. A large number of the sideswipe and rear-end crashes are associated with the Ashland, Talent and Phoenix interchanges. In Oregon, the majority of the crashes that are not at the interchanges occur at or near the summit of Siskiyou Pass.

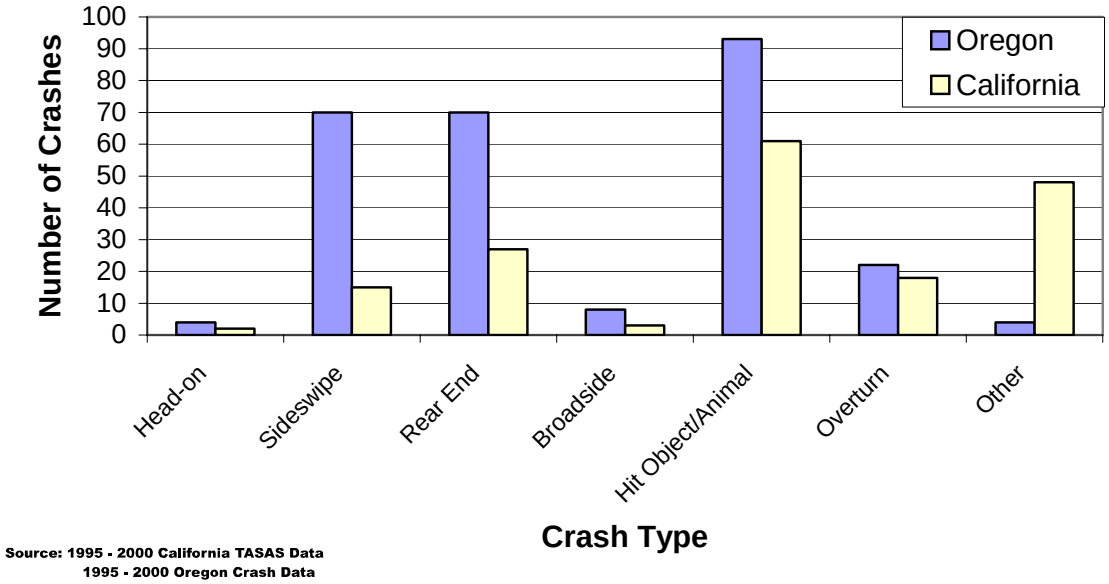
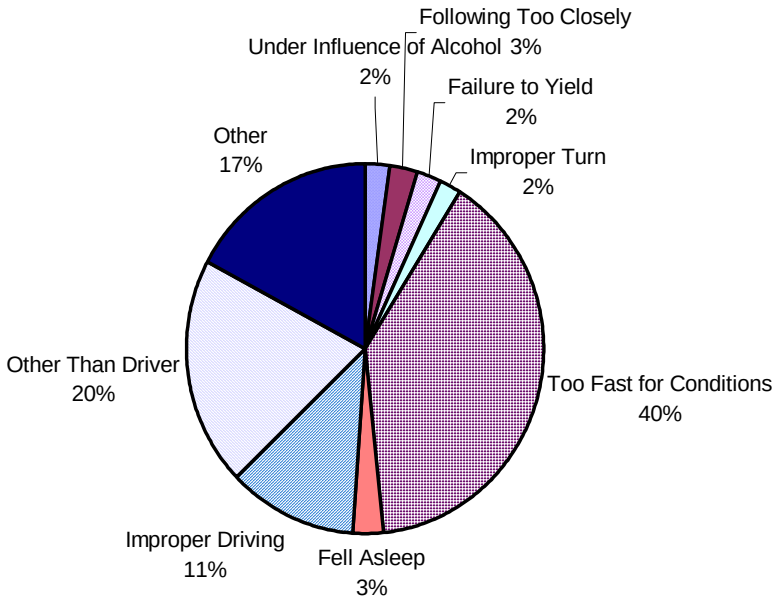



**Figure 24: Crash by Type**

**Table 11: Type of Crash by Location**

| Mile Post | Interchange | Head-on | Sideswipe | Rear End | Broadside | Hit Object/ Animal | Overturn | Other |
|---|---|---|---|---|---|---|---|---|
| OR 23.90 - OR 27.27 | Phoenix | 0 | 10 | 16 | 2 | 11 | 3 | 0 |
| OR 19.87 - OR 23.89 | None | 1 | 10 | 9 | 0 | 9 | 4 | 0 |
| OR 18.60 - OR 19.86 | Talent | 0 | 3 | 15 | 4 | 5 | 1 | 0 |
| OR 13.67 - OR 18.59 | Ashland | 2 | 7 | 9 | 1 | 16 | 5 | 0 |
| OR 11.03 - OR 13.66 | None | 0 | 2 | 3 | 0 | 2 | 1 | 2 |
| OR 5.02 - OR 11.02 | Mt. Ashland | 1 | 7 | 9 | 1 | 32 | 2 | 2 |
| OR 0.00 - OR 5.01 | None | 0 | 20 | 9 | 1 | 18 | 6 | 0 |
| CA 68.33 - CA 69.29 | Hilt | 1 | 2 | 1 | 0 | 7 | 4 | 2 |
| CA 65.52 - CA 68.32 | None | 0 | 3 | 4 | 0 | 6 | 3 | 7 |
| CA 62.92 - CA 65.51 | None | 0 | 2 | 6 | 0 | 10 | 2 | 14 |
| CA 61.55 - CA 62.91 | Hornbrook | 0 | 0 | 0 | 0 | 2 | 1 | 3 |
| CA 58.33 - CA 61.54 | Rte 96 | 0 | 1 | 1 | 0 | 7 | 2 | 5 |
| CA 48.24 - CA 58.32 | Yreka, Rte 3 | 1 | 7 | 15 | 3 | 29 | 6 | 17 |

The cause of crashes may include such factors as the driver making an improper turn, following another vehicle too closely or driving too fast for the conditions. Figure 25 shows the causes of the crashes within the Project area. As shown in the graphs, the majority of drivers involved in crashes were driving too fast for the conditions of the roadway. Table 12 shows the breakdown of the "Other" category. This category accounts for 17% of crashes in California and Oregon, which ranks third in the cause of crashes overall. Table 13 shows the cause of the crashes by location.




**Source: 1995 - 2000 California TASAS Data**
**1995 - 2000 Oregon Crash Data**

**Figure 25: Cause of Crashes in California and Oregon**

**Table 12: Breakdown of Other Category**

| | California | Oregon |
|---|---|---|
| Unknown | 3 | N/A |
| Other Violations | 47 | N/A |
| Drove Left of Center | N/A | 2 |
| Improper Overtaking | N/A | 12 |
| Mechanical Defect | N/A | 9 |
| No BAC Test – Fatality | N/A | 1 |
| BAC of 0.00 – Fatality | N/A | 2 |
| Passed Stop Sign or Flasher | N/A | 1 |

**Table 13: Cause of Crashes by Location**

| Mile Post | Interchange | Influence of Alcohol | Following to Closely | Failure to Yield | Improper Turn | Too Fast for Conditions | Fell Asleep | Other |
|---|---|---|---|---|---|---|---|---|
| OR 23.90 - OR 27.27 | Phoenix | 1 | 4 | 3 | 2 | 24 | 0 | 9 |
| OR 19.87 - OR 23.89 | None | 0 | 1 | 0 | 0 | 16 | 0 | 18 |
| OR 18.60 - OR 19.86 | Talent | 1 | 1 | 2 | 0 | 14 | 0 | 11 |
| OR 13.67 - OR 18.59 | Ashland | 3 | 1 | 1 | 1 | 20 | 0 | 15 |
| OR 11.03 - OR 13.66 | None | 0 | 0 | 0 | 0 | 2 | 0 | 8 |
| OR 5.02 - OR 11.02 | Mt. Ashland | 0 | 0 | 0 | 0 | 43 | 0 | 24 |
| OR 0.00 - OR 5.01 | None | 0 | 0 | 4 | 0 | 23 | 0 | 29 |
| CA 68.33 - CA 69.29 | Hilt | 1 | 0 | 0 | 0 | 7 | 2 | 7 |
| CA 65.52 - CA 68.32 | None | 1 | 0 | 0 | 0 | 5 | 3 | 14 |
| CA 62.92 - CA 65.51 | None | 3 | 0 | 0 | 0 | 6 | 1 | 24 |
| CA 61.55 - CA 62.91 | Hornbrook | 0 | 0 | 0 | 0 | 0 | 0 | 6 |
| CA 58.33 - CA 61.54 | Rte 96 | 1 | 1 | 0 | 1 | 1 | 1 | 11 |
| CA 48.24 - CA 58.32 | Yreka, Rte 3 | 1 | 2 | 0 | 4 | 18 | 6 | 47 |

The time of day can affect the type of incident that occurs (at night drivers may be more likely to fall asleep than during the day). The traffic volume data from the Neil Creek Traffic Recorder Station (3) was compared to the number of crashes by month of the year, shown in Figure 26. Figure 26 also has two different scales and shows that the number of crashes per month also does not coincide with the traffic volumes. In the winter months the traffic volume is lower and the crash rate is up.

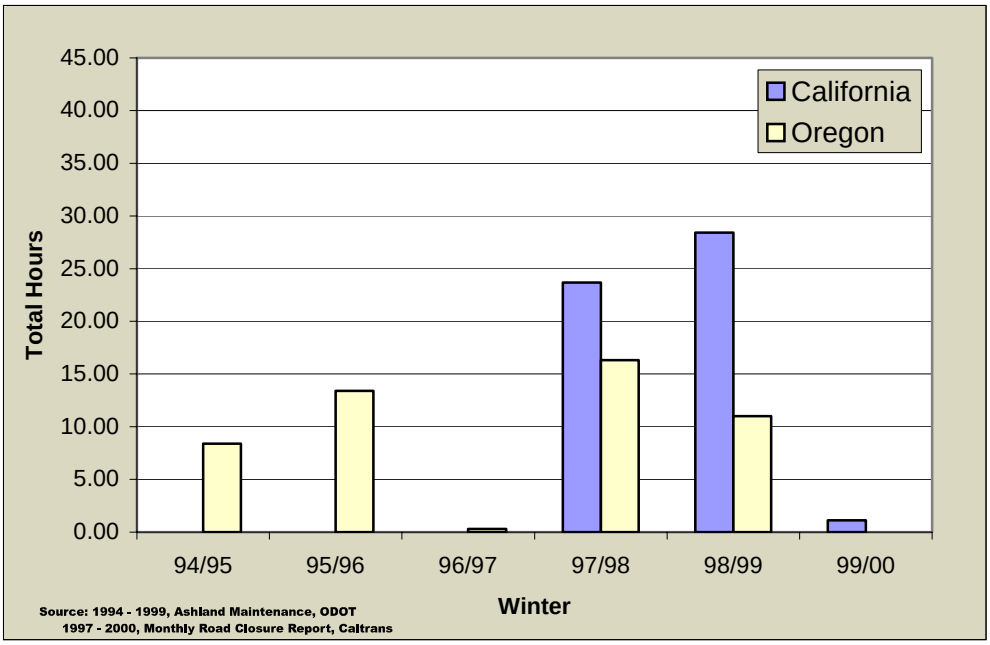



**Figure 26: Crashes versus Percent ADT by Month of Year**

***Major Incidents***

One of the primary concerns with the Siskiyou Pass Project area is the number of major incidents. These include incidents that close one or more lanes of traffic for a period of time, such as truck crashes, passenger vehicles crashes with a fatality, and adverse weather conditions. Road closure information was gathered for both California and Oregon from July 1, 1997 to January 31, 2000 (7) and Oregon for the winters (approximately November to May) of 1993/1994 to 1998/1999 (8). Figures 27 and 28 show hours of road closure during each winter for Interstate 5 northbound and southbound, respectively.

Road closures can be a very costly incident. Road closures due to adverse weather conditions for the winters of 1997/1998 and 1998/1999 were estimated to cost California between $8.3 million and $34.5 million and Oregon between $16.5 million and $ 68.2 million. These costs were calculated using the equations and factors shown below. A range for AADT and closure hours was used in the first equation due to the uncertainty of traffic volumes due to a winter storm and method of tracking closure hours. The AADT during a winter storm is lowered by 7 to 56% due to adverse weather conditions (9). A range of 100 to 125% was used for closure hours to account for any hours of closure that had not been recorded, as road closure hours are difficult to track.

**Closure Hrs Range CA = 57.19 to 71.49 hrs**

**Closure Hrs Range OR = 80.4 to 100.5 hrs**

**AADT = 12,500 veh/day**

**AADT Range = 7% to 56% loss**

**$14.40/veh*hr = (36% comm veh)*($24/hr) + (64% pass veh)*($9/hr)**
*Term 1= $/veh* *Term 2 = veh*

**Cost = [(Closure Hrs)($14.40/veh*hr)]*[(AADT/2 dir)(1 day/24 hrs)(Closure Hrs)(ADT Factor)]**
*Term 1* *Term 2*

Since a majority of the incidents within the Project area are weather related and occur on or near Siskiyou Pass, Oregon controls the closure of the southbound lanes into California. California closes the northbound lanes for Oregon, depending on which side of the interstate the incident has occurred. Therefore, the total number of hours of northbound closures is greater in California and total hours of southbound closure are greater in Oregon. Also, the total hours of closure for California and Oregon may overlap during any winter, or there may be times when both states close their half of the interstate for the same event. In other words, California and Oregon closures cannot be added together for total closure hours in a given winter.

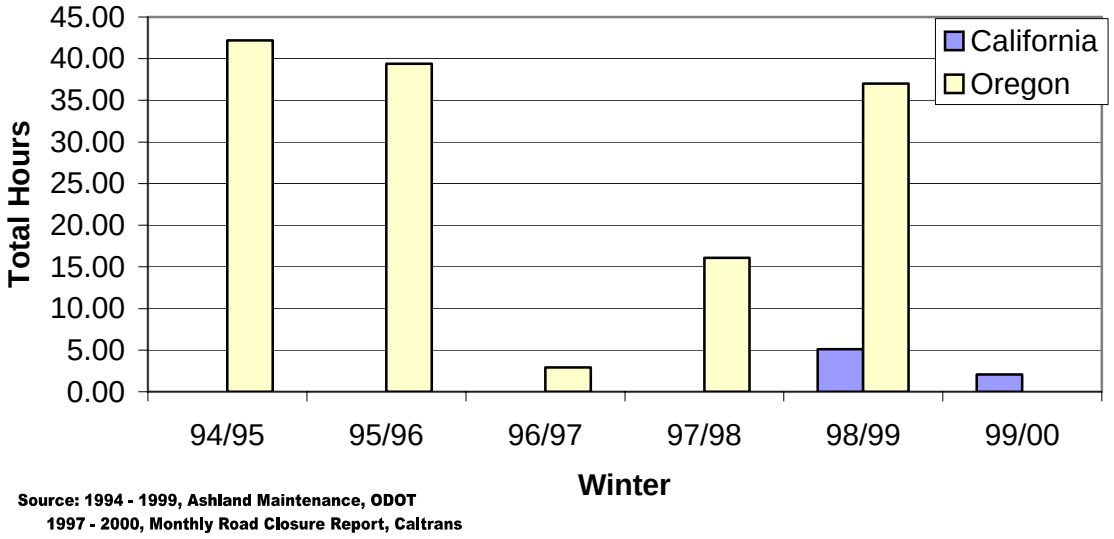



**Figure 27: Northbound Road Closure Hours per Winter**

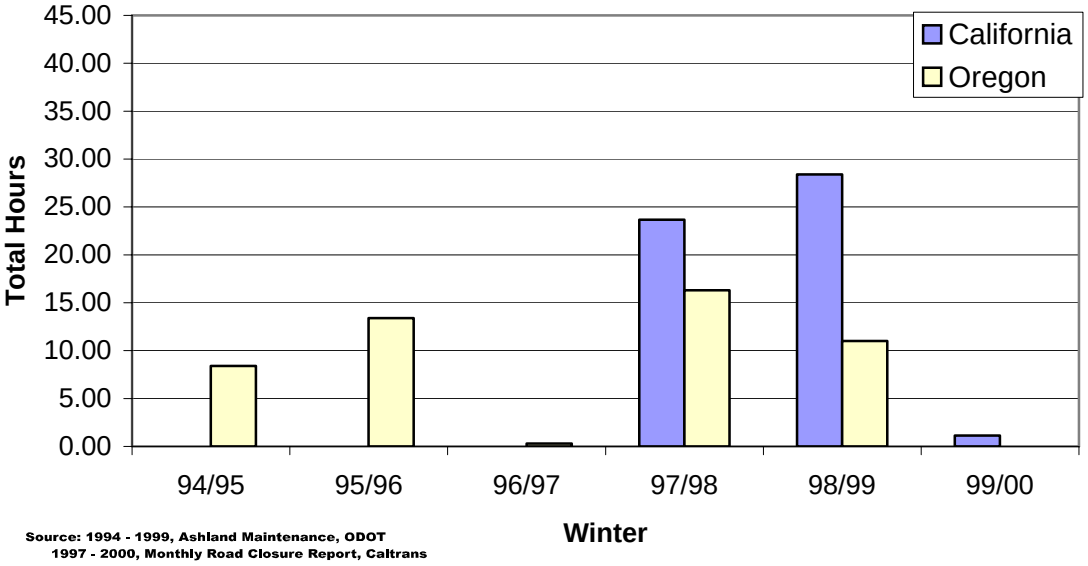
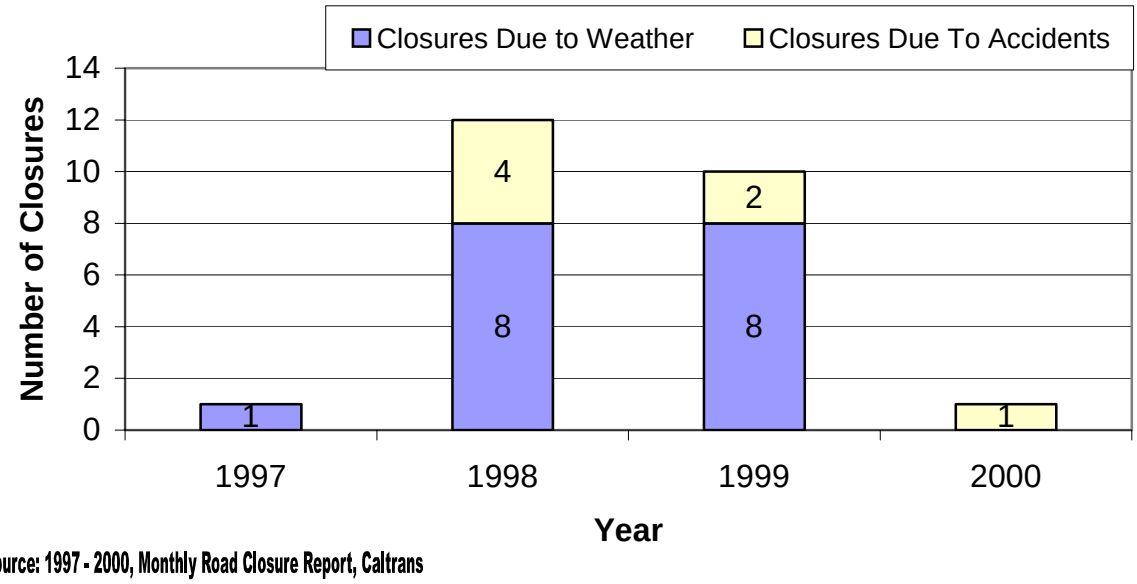



**Figure 28: Southbound Road Closure Hours per Winter**

Most of the road closures that occur in the Project area are caused by adverse weather conditions. Although less frequent, commercial vehicle crashes and passenger vehicles involving a fatality can also cause road closures on Interstate 5. Figure 29 shows the cause of the road closures that occurred in California from July 1, 1997 to January 31, 2000 (7). The crash

that caused a road closure in 2000 was a fatal crash and the other six crashes in 1998 and 1999 were commercial vehicle crashes.




Source: 1997 - 2000, Monthly Road Closure Report, Caltrans

**Figure 29: Cause of Road Closures in California**

***Weather***

Weather plays an important role in the type and duration of the incidents that occur. Adverse weather conditions may lead to crashes or travel delay if the road surface is slippery (snowy or icy). The road surface conditions and tire chain requirements are caused directly by the weather.

The number of crashes occurring for each type of road surface condition shows that weather is a factor in the occurrence of incidents on Siskiyou Pass. Figure 30 shows the number of crashes associated with each road surface condition. The majority of the crashes involving snowy or icy roads occurred in the Siskiyou Pass area (i.e., MP 0.0 – MP 11.02 in Oregon) as shown in Table 14.

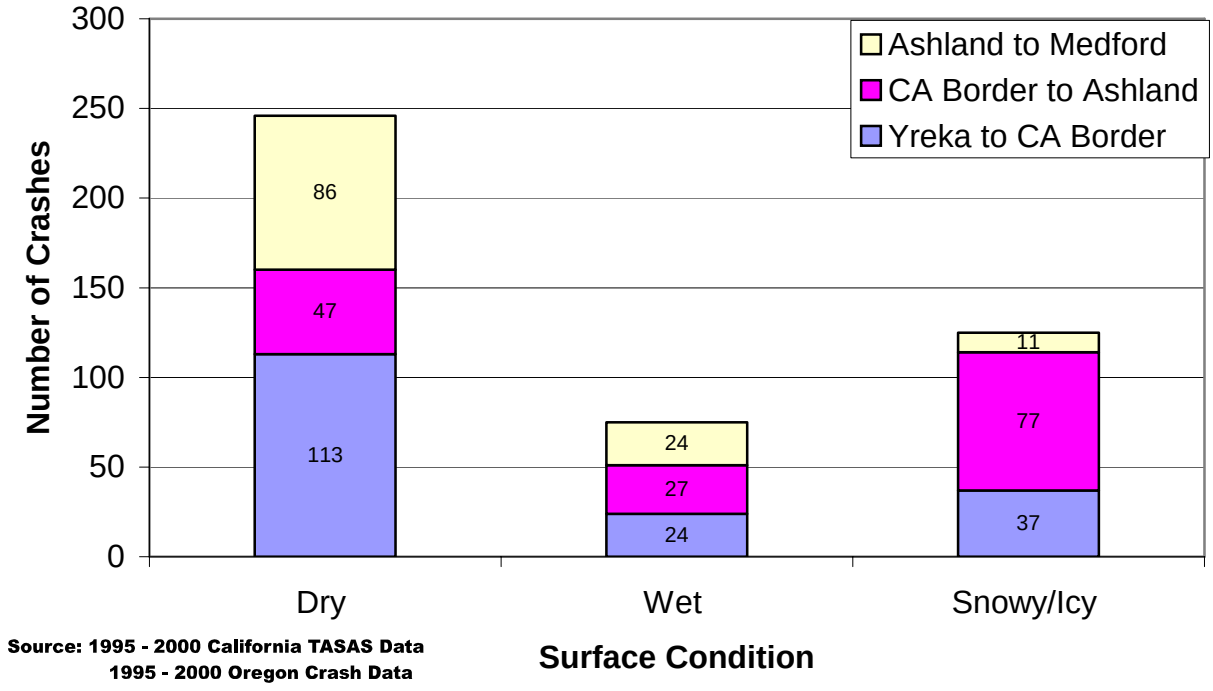


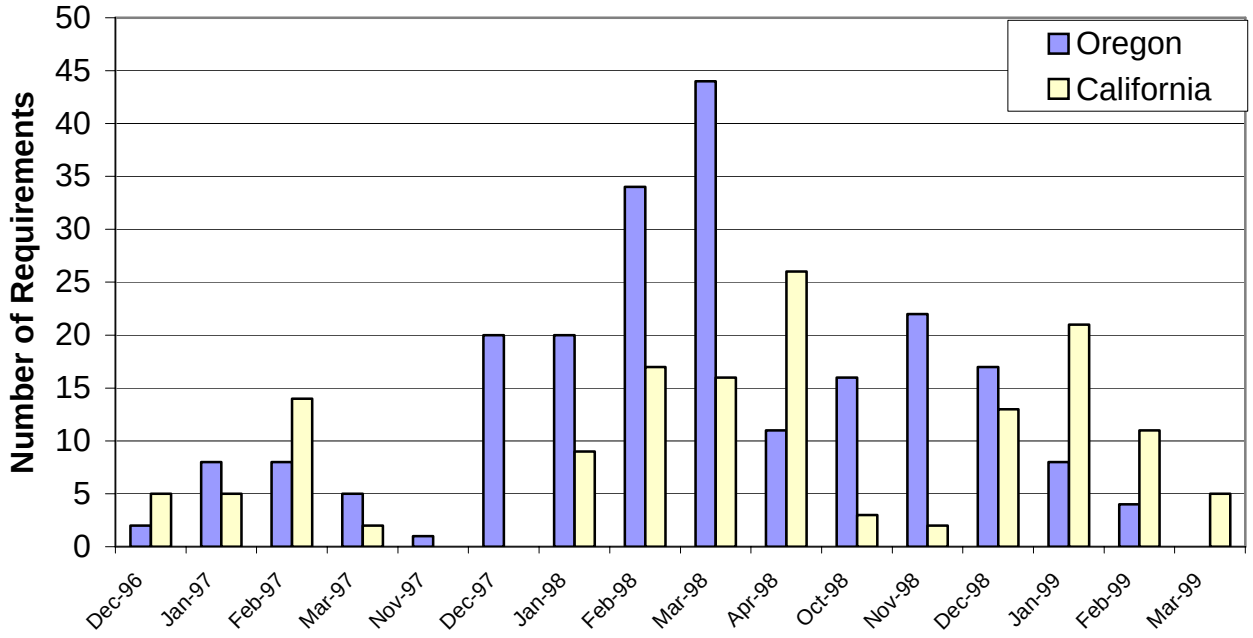

**Figure 30: Crashes versus Road Surface Condition**

**Table 14: Location of Crashes for Various Surface Conditions**

| Mile Post | Interchange | Dry | Wet | Snowy | Icy |
|---|---|---|---|---|---|
| OR 23.90 - OR 27.27 | Phoenix | 30 | 9 | 1 | 2 |
| OR 19.87 - OR 23.89 | None | 24 | 4 | 2 | 3 |
| OR 18.60 - OR 19.86 | Talent | 22 | 5 | 0 | 1 |
| OR 13.67 - OR 18.59 | Ashland | 28 | 7 | 1 | 3 |
| OR 11.03 - OR 13.66 | None | 4 | 3 | 1 | 2 |
| OR 5.02 - OR 11.02 | Mt. Ashland | 14 | 15 | 17 | 19 |
| OR 0.00 - OR 5.01 | None | 11 | 7 | 13 | 23 |
| CA 68.33 - CA 69.29 | Hilt | 6 | 2 | 9 | |
| CA 65.52 - CA 68.32 | None | 14 | 4 | 5 | |
| CA 62.92 - CA 65.51 | None | 25 | 4 | 5 | |
| CA 61.55 - CA 62.91 | Hornbrook | 6 | 0 | 0 | |
| CA 58.33 - CA 61.54 | Rte 96 | 13 | 2 | 1 | |
| CA 48.24 - CA 58.32 | Yreka, Rte 3 | 49 | 11 | 18 | |

Adverse weather conditions and the requirement of tire chains are common in the winter months around Siskiyou Pass. Chain requirement restrictions can last as little as half an hour or as long as 12 hours on the Pass, with the average being 2 1/4 hours in Oregon and 3 1/4 hours in

California (8). Figure 31 shows the number of times per month that tire chains were required from December 1997 to March 2000.




**Source: California Chain Requirement Logs, 12/96 - 3/00**
**Oregon Maintenance Logs, Winter 93/94 - 98/99**

**Figure 31: Number of Chain Requirements per Month**

## Incident Response

The time it takes for an emergency vehicle to respond to an incident can be very critical depending on the type of incident. The response time is the time elapsed between the notification of emergency services and the arrival of the agency at the incident. Figure 32 shows the average response times by year for incidents in the Siskiyou Pass Project area (10). The numbers above the bar on the graph show the number of incidents in that year for which a response time was calculated. Comprehensive California data were not readily available. Information for California was used from the COATS Conditions and Performance Technical Memorandum (11) for 1995, 1996 and 1997 fatal crashes. Both sets of data show short response times. Incident response, therefore, does not appear to be an issue that needs attention within the Project area.

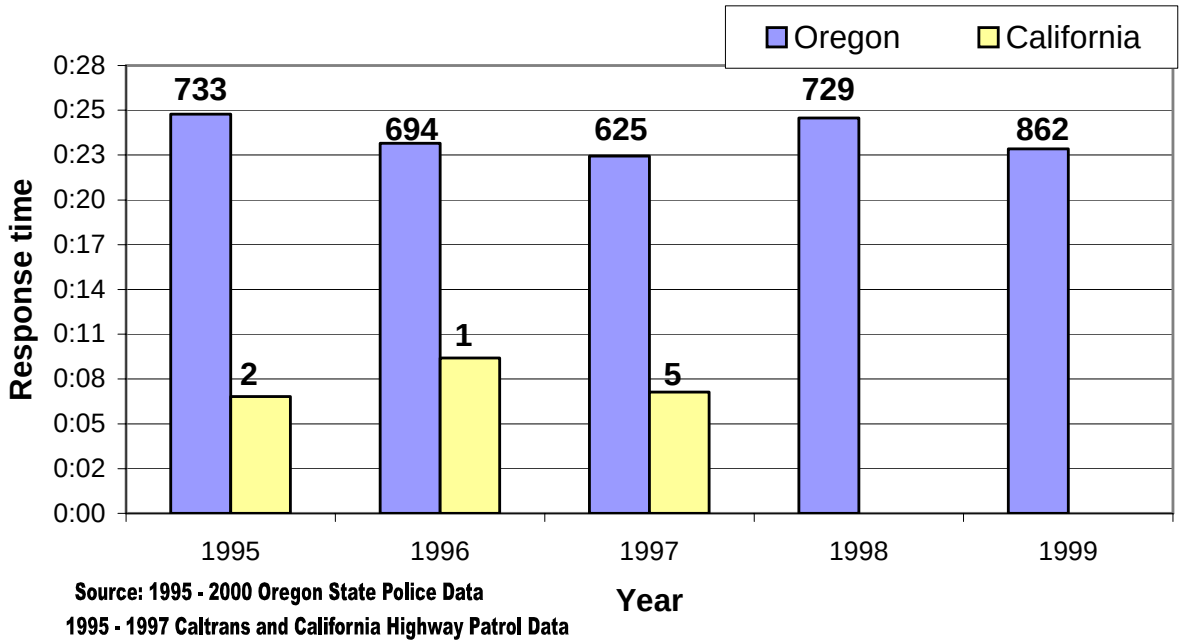



**Figure 32: Average Response Times**

## Operational Impacts

There are three factors that effect the operation of a highway. The first factor is the Level of Service (LOS) of the highway. As the LOS goes from A (free-flow speed) to F (demand is greater than capacity) speeds are reduced dramatically to increase the capacity of the highway. The second factor is the number and severity of the incidents that occur. When there are a large number of incidents or a very severe incident on a highway, the operational impact can be great. The last of the factors is queue length and traveler delay. As queues form, the traffic becomes stop-and-go, which means longer travel times and increased crash exposure.

### *Level of Service*

The Level of Service of a highway depends on the capacity of the highway (i.e., as LOS decreases, speed decreases, and capacity increases). The stretch of Interstate 5 between Medford, OR and Yreka, CA is a four-lane freeway, two lanes for northbound traffic and two for Southbound. Based on a 60 mph design speed and 37% commercial and recreational vehicles the Level of Service ranges from B to C, both good conditions. Figure 33 shows volume versus the capacity of the freeway at Medford, OR (3) where the volume is the greatest in the study area. At this point, the Service Flow Rate is approximately 1123 passenger cars per hour per lane (pcphpl), which is an LOS of C. Around Siskiyou Pass the Service Flow Rate drops to between 500 and 800 pcphpl, but there is also a lower volume of traffic so the LOS is B.

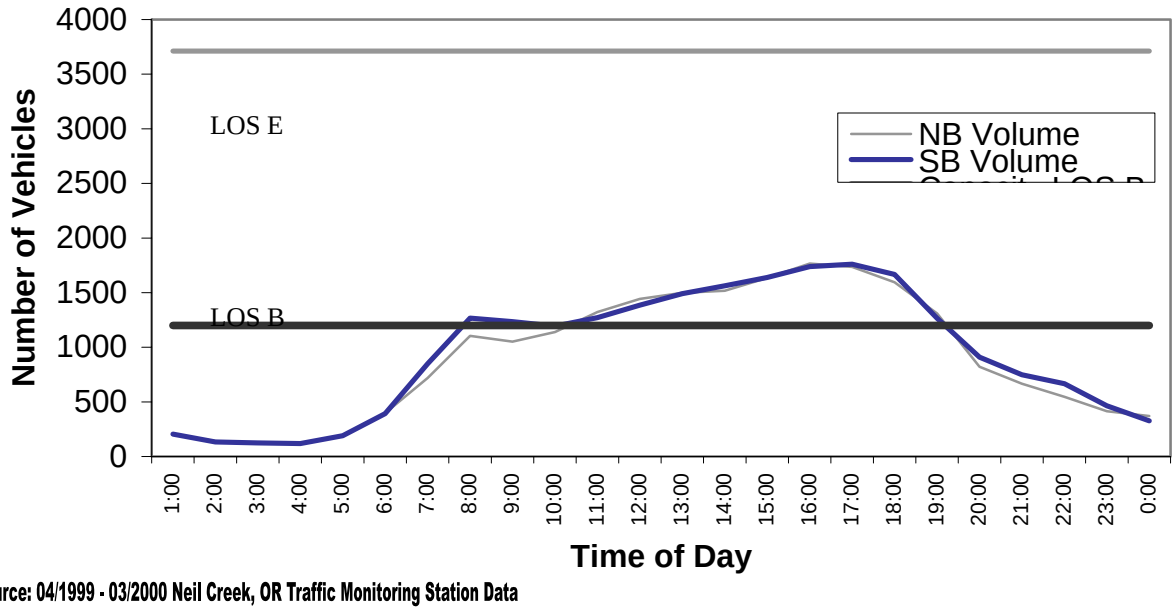



**Figure 33: Volume versus Level of Service**

It should be noted that many commercial vehicles travel on the shoulder of Interstate 5 to climb over Siskiyou Pass in Oregon. This makes the Interstate over the Pass like a three-lane highway in the southbound direction, where the commercial vehicles use the outside lane.

***Incidents***

Traffic volumes and the breakdown of the vehicles in the traffic stream have an effect on the kind of incidents that occur. In the 51 miles of Interstate 5 included in the Siskiyou Pass Project the traffic volume ranges from 12,500 vehicles at the Oregon – California border to 35,000 vehicles in the Medford area with approximately 37% commercial and recreational vehicles.

A vehicle broken down on the side of the roadway can have an impact on the traffic stream. From urban studies, it has been shown that there is one vehicle breakdown for every 40,000 vehicle miles traveled. Using this data in the Siskiyou Pass area, it is calculated that almost 20 vehicles break down each day on the Interstate.

Crash data was gathered from both Oregon and California and analyzed to determine what role they played in the kinds of incidents occurring in the Project area. As shown in the tables and figures in that section, the following facts were determined:

- there are between 18% and 24% commercial vehicles involved in crashes,
- approximately 1.4% of the total crashes are fatal,
- the majority of the crashes are vehicles hitting objects, sideswipe, or rear end crashes, and

- 40% of all crashes resulted from the vehicle being driven too fast for the conditions.

Major incidents (i.e., those involving road closures due to adverse weather conditions, commercial vehicle crashes and fatalities) play the most important role in the kinds of incidents that the involved agencies need to have the training, staff, and equipment to clear quickly. As stated above, 1.4% of crashes are fatal and approximately 20% of crashes involve commercial vehicles. In three years these incidents accounted for seven road closures. During the winter months, there are approximately 8 closures that can cause up to 80 hours of road closure due to adverse weather conditions.

Adverse weather conditions not only cause road closures, but also cause crashes and tire chains to be required. Of all the crashes that occur between the Oregon–California border and Ashland, OR, where Siskiyou Pass is located, 62% of those crashes are caused by snowy or icy road conditions. Tire chain requirements are, on average, in effect for three hours at a time for up to 45 times per month in the winter.

The average incident response times do not appear to be a large factor when clearing incidents. California data was limited, but showed very short response times (between 6 and 10 minutes). The Oregon data was more thorough and showed average response times between 23 and 25 minutes.

Lastly, the Level of Service (capacity and demand) of the highway was examined to see if it was a factor in the kinds of incidents occurring in the study area. With an LOS of C in the area with the highest traffic volumes (Medford, OR) and an LOS of B or better most everywhere else, it doesn't appear to have an effect on the types of incidents that occur within that stretch of Interstate 5.

## Factors Affecting Staging and Parking

There are several factors that affect the location(s) where motorists are allowed to stop their vehicles while they wait for an incident to be cleared. There are usually only a few options when it comes to finding locations for the motorists to park, and may include the shoulder of the highway, a travel lane, a safety rest area, or a nearby town. The decision about where to stop motorists depends on the following factors:

- **Duration of the incident** – if the incident will take significant time to clear the motorists may be required to go to a nearby town to get something to eat or even spend the night
- **Volume of traffic** – if there is a large volume of traffic the shoulders and travel lanes of the highway reach capacity quickly and traffic may be required to go to nearby towns

- **Time of year** – in the cold of the winter or the heat of the summer it may be unsafe to let motorist park their vehicles along the shoulder of the road to wait for an incident to be cleared
- **The size/capacity of the nearby town** – in rural America there may be a limited number of services in a town, and the next town may be far away

# Incident Management Activities

When an incident occurs there are five basic steps that always take place. A formal incident management process with well-planned procedures will allow for these five steps to take place faster and more effectively. The steps include:

- incident detection and verification,
- incident response,
- incident site management,
- clearing the incident, and
- providing motorist information.

Some or all of these tasks may occur simultaneously for any given incident. The process may also be an iterative one as more is learned about an incident. To learn about different incident management activities within the Siskiyou Pass Project area, WTI interviewed agencies in Oregon and California, both in person and over the phone. These agencies were asked about their policies, procedures, resources and institutional issues regarding incident management near Siskiyou Pass. The agencies interviewed included:

- NorCal EMS,
- California Trucking Association,
- California Highway Patrol (CHP),
- Caltrans Maintenance Division,
- Caltrans Traffic Operations Division,
- Twin View Towing Company,
- ODOT Maintenance Division,
- ODOT Traffic Operations Division,
- USFreightways (USF) Reddaway Trucking Company,
- Ashland Chamber of Commerce,
- Ashland Police Department,
- Ashland Fire and Rescue, and
- Oregon State Police (OSP).

In each of the interviews, the COATS project was explained, followed by an explanation of the Siskiyou Pass Project and the role of the Incident Management Plan. The representatives from each agency were given two handouts, to help in the discussion of their role in Siskiyou Pass Incident Management. These handouts are shown in Appendix G.

## Detection and Verification

Incident detection and verification is the process of alerting the proper agencies when an incident occurs. At a minimum, the agencies that are responsible for maintaining safe operations and traffic flow should be notified. The speed with which an incident is detected generally affects the amount of time it takes to clear the incident and get traffic moving normally again. Fast, accurate incident detection and verification can result in reduced traffic disruption. For this reason many Incident Management Plans concentrate on improving detection.

There are a variety of methods that can be used to improve incident detection. These methods may include the use of electronic traffic monitoring devices or loop detectors, closed circuit television cameras, radio communications, and visual observations.

***Current Incident Detection Methods and Procedures***

Typical methods of detecting an isolated (spot) incident used by those agencies interviewed include:

- persons calling 911 from either their home phone or a cellular phone,
- agency employees happening upon the incident as it occurs or shortly thereafter, and
- other agencies' dispatch personnel (e.g. CHP Dispatch notifies NorCal EMS of incidents where they are needed).

Incidents covering an area within the Siskiyou Pass Project boundaries are usually due to adverse weather conditions and tire chain requirements or a road closure. These incidents usually form a queue, which is detected by agency personnel that are on-site.

The length of the queue is hard to determine during an incident as it is always changing depending the traffic volume and speed and the number of vehicles that are allowed to pass the incident. The queue length is usually unknown, but its presence is easy to detect as personnel can see the traffic slowing down or even stopping on the highway.

***Current Incident Verification Methods and Procedures***

For the most part, incident verification is done the same way by all agencies. Caltrans, ODOT, CHP, OSP, Ashland Fire and Rescue and NorCal EMS all send a unit to the location of the incident. CHP, OSP, Ashland Fire and Rescue, and NorCal EMS have to respond to the incident from the first call that comes in whether the incident has been verified or not. Two other methods of verification are 1) Caltrans Maintenance verifies an incident by seeing that there is a queue forming and 2) ODOT Maintenance uses their Winter Roving Patrols, which are staffed in the Siskiyou Pass area 24 hours a day, 7 days a week during the winter months (approximately December through March).

***Future Methods***

Based on conversations with the different agencies, there are a few possible future methods for incident detection and verification include having probe vehicles within the traffic stream, and providing closed circuit television (CCTV) camera images and traffic volume data to those agencies that would find the data useful. Commercial and maintenance vehicles could be equipped to work as probe vehicles along with other fleets that travel in the Siskiyou Pass Project area. Given the current proximity of commercial vehicle bypass systems, additional transponder

tag readers could be deployed at strategic locations within the Project area to provide travel time and delay data.

## Incident Response

Incident response depends on a full understanding of the incident and knowledge of the resources needed to return the road or highway to normal conditions, which include requesting special equipment and personnel, and the deployment of a traffic control plan. The faster the needs at an incident are identified the less time it will take to return traffic to normal flow. The identification of needs is a function of training and knowledge of the available response resources, so persons who initially respond must be able to determine the scope of the problem.

Agencies developing an incident management system have multiple options for improving response times. These options include such programs as dedicated freeway/service patrols; personnel training programs; tow truck/removal crane contracts; alternative route planning; equipment storage sites; and equipment, materials, and personnel resource lists.

### *Incident Response Procedures*

The level of incident response is different for each agency depending on the kind of incident. As stated before, CHP, OSP, Ashland Fire and Rescue, and NorCal EMS have to respond to the incident from the first call whether the incident has been verified or not. Caltrans, ODOT, USF Reddaway, and the towing companies usually respond after the incident has been verified or when they are called to provide special equipment or personnel. The list below describes when each of the agencies respond, and describes their role when an incident occurs.

**NorCal EMS** – A law enforcement agency calls to request a fire truck, ambulance or hazardous materials (HAZMAT) team. If the ambulance is called out a fire truck also responds to the incident. The HAZMAT team comes from Redding, CA. EMS responders are not involved in real-time decisions made at the incident.

**California Highway Patrol** – An officer always responds when notified of an incident. CHP can close the freeway ramps at Yreka and even as far south as Redding if the incident is causing significant delay. When CHP requests Caltrans at the incident CHP tells Caltrans the conditions of the roadway or incident so that Caltrans can bring the necessary equipment.

**Caltrans Maintenance** – Caltrans is usually notified when the incident is going to take significant time to clear and CHP needs equipment and personnel for traffic control.

**Caltrans Operations** – Caltrans Operations personnel do not respond to an incident unless the impact is two to three hours in duration because mobilization of the equipment is lengthy. When Caltrans personnel do respond they will always take two trucks for managing the queues in both travel directions.

**ODOT Maintenance** – ODOT Maintenance responds, usually with two trucks, to an incident if there is a need for traffic control. ODOT can also be in charge of managing the scene of a minor traffic crash or incidents caused by weather.

**ODOT Operations** – Similar to ODOT Maintenance personnel, ODOT Operations persons are involved in an incident for managing traffic control and traffic flow.

**USF Reddaway** – A driver is sent to drive the pusher truck after a call comes in from ODOT or USF Reddaway truck drivers.

**Oregon State Police** – OSP responds to an incident with or without verification of that incident.

**Ashland Fire and Rescue** – A unit responds on the first call and will also respond to incidents on the California side of the border. The responsibilities of the EMS responders overlaps with NorCal EMS through a mutual aid agreement.

**Ashland Police Department** – The Ashland PD gets involved at the City level when an incident occurs either within the city limits or at Siskiyou Pass. Officers manage the traffic being rerouted through the city or the people needing a place to wait until the incident is cleared. On occasion, OSP requests that Police Department officers respond to an incident outside of Ashland City limits, usually on Siskiyou Pass.

## Incident Removal/Mitigation

Incident removal/mitigation is the process of getting the appropriate personnel and equipment to the incident site to clear the incident. Once the needed personnel and equipment begin to arrive at the incident there is a need for site management. For efficient site management, each agency that arrives at the incident must understand their responsibilities. There also must be coordination between responding agencies, which becomes more difficult as incidents get more complicated and the number of agencies involved increases.

There are techniques that can be useful in improving management of equipment and personnel at an incident site. These techniques include the use of incident response teams, personnel training programs, command posts, identification arm bands, flashing lights policy, and incident response manuals and databases.

### *Incident Removal Policies/Procedures*

California has a Quick Clearance Policy, which gives Caltrans and CHP authorization to push a vehicle and its contents off the roadway to help clear an incident and return traffic to normal pace. Oregon does not have a written Quick Clearance Policy, but does allow a tow truck in within a reasonable time to get an incident cleared and traffic moving normally again.

California and Oregon both have Abandoned Vehicle Policies. California Highway Patrol will move a car immediately if it is a hazard. The California Highway Patrol have a 4-hour policy in place, which gives the owner four hours to get their vehicle before it is removed, but

will give the owner up to 24 hours in some instances. Oregon State Police will also have a car removed immediately if it is a hazard, otherwise they follow a 24-hour policy.

Each agency interviewed has their own Flashing Lights on Emergency Vehicles Policy, which tells personnel when the flashing lights attached to their vehicles should be on or off. The policies of the different agencies are as follows:

- NorCal EMS and CHP both follow the Title 13 State Policy which says that as soon as the vehicle is stopped on the shoulder of the road the lights are turned off, but they remain on if the vehicle stops in a travel lane;
- Caltrans generally turns their flashing lights on when pulling in or out of traffic and turns them off when they are a safe distance away from the roadway travel lanes;
- ODOT uses their flashing lights anytime they are in a work zone and Siskiyou Pass is considered a work zone in the winter;
- Ashland Fire and Rescue follow state regulations, they turn their lights and sirens off when entering the freeway; and
- OSP officers can use their own judgment.

The removal or movement of a fatality is handled generally the same in California and Oregon. The movement of a fatality cannot occur until a medical examiner or coroner has given authorization unless it is a major traffic problem.

***Current Equipment/Resources***

Each of the agencies interviewed have different specialized equipment for different needs. The following list contains descriptions of the equipment owned and used by each agency.

**NorCal EMS** – fire trucks, ambulances, and equipment to deal with hazardous materials

**California Highway Patrol** – 4-wheel drive vehicles

**Caltrans Maintenance** – snowplows, salt, sand and gravel, motor graders, loaders, arrow boards, traffic control vehicles, attinuator trucks, water trucks

**Caltrans Operations** – truck-mounted signs, trailer CMSs, permanent CMS, trailer HAR, super station HAR at Bailey Hill and Yreka

**ODOT Maintenance** – snowplows, sanders, graders, vehicles with push bumpers, pusher trucks (three plus one from USF Reddaway free of charge anytime the snowplows are going), magnesium chloride is now being used on the Pass

**USF Reddaway** – pusher truck and driver

**Ashland Chamber of Commerce** – fiber-optic communication lines between businesses throughout Ashland

**Ashland Fire and Rescue** – 4-wheel drive vehicles, full complement excavation equipment, full protective clothing, GPS on all units

**Oregon State Police** – patrol vehicles, total stations

The number and abilities of agency personnel is also a factor in incident management. Some of the current issues are that:

- 70% to 80% of NorCal EMS staff are volunteer;
- ODOT has personnel on Siskiyou Pass for 24 hours a day, 7 days a week from about the first of December to the end of March with 30 extra employees during that time; and
- OSP have reconstruction teams and maintain three officers on Siskiyou Pass to monitor chain requirements.

***Future Equipment/Resource Needs***

Each of the persons interviewed were given the chance to express some equipment needs, staff and training. The following list includes each agency's "wish list."

**NorCal EMS** – rescue equipment, cones for traffic control, call boxes, more training, more full-time staff, more repeater sites for communication, common addressing system, CCTV camera images

**California Trucking Association** – cross-training with all parties that work with commercial vehicles

**California Highway Patrol** – more staff, CCTV cameras at Exit 1, Exit 5, and Bear Canyon, more training

**Caltrans Maintenance** – a portable CMS, training, a unified team to manage Siskiyou Pass

**Caltrans Operations** – probe vehicles to provide redundancy for detection and verification

**California Towing Company** – all towing companies need more heavy-duty equipment, more training, CCTV camera images

**ODOT Maintenance** – CCTV cameras at Bailey Hill and Bear Creek, a CMS at Hilt

**ODOT Operations** – loops in the roadway to give information from the California side of the Pass

**USF Reddaway** – CCTV cameras at Bear Canyon and the chain-up area at Hilt

**Oregon State Police** – CCTV camera images in office, call boxes, 100 ft tape measures, straight lasers, measurement wheels, better cameras in the patrol cars (digital), more repeaters for communication coverage

**Ashland Fire and Rescue** – CCTV camera images or faxes of the conditions on the California side of the mountain

**Ashland Police Department** – CCTV camera images, better communication tools to talk to other agencies

## Incident Management Coordination

The most important part of managing any incident is the coordination between the different agencies. Each agency has different roles and responsibilities with the same goal in mind. The methods of coordination and communication may determine how long it takes to clear the incident and the length of delay experienced by the motorists.

### *Current Methods of Coordination*

The agencies involved with incidents in the Siskiyou Pass Project area have been working together for years and are constantly refining their methods of coordination. It was noted throughout the interview process that the annual Snowflake meetings have aided in the coordination process. Some of these methods include having a rotation list for the towing companies so that all the companies get business and having the different dispatch centers talk to each other and the local news agencies along with managing CMS and HAR. Caltrans has put together a traffic management team book with the names and numbers of employees. ODOT has standard operating procedures in working with their dispatch and verbal agreements with OSP and Motor Carrier Transport. However, all of the agencies are considering future methods to make the handling of an incident run smoother.

### *Future Methods of Coordination*

There were several future methods of coordination discussed during the interviews. The future methods of coordination include:

- equipping emergency vehicles with automatic vehicle location (AVL) technology to know where these vehicles are with respect to the incident (ODOT and Ashland Fire and Rescue are both investigating AVL systems),
- having a representative from each agency in a common dispatching room for the Siskiyou Pass area,
- having CCTV images available to all agencies involved in incident management activities, and
- having a common frequency for the agencies to talk to one another during an incident.

There was also some discussion of the benefit of holding a mock incident to refine some of the coordination and communication challenges between the different agencies.

## Traffic Handling and Alternate Routing

When incidents such as crashes or delay caused by tire chain requirements occur the approaching traffic is a consideration. Scene management at a crash may be done by placing cones and arrow boards to detour traffic around the site. Queue management may be done by placing messages on changeable message signs on either side of the incident to give the travelers information about the incident ahead. If there is a large volume of traffic and long delays caused by the incident, it may be necessary to use an alternate route.

### *Traffic Handling Procedures*

The State Police and Highway Patrol share the responsibility of handling the traffic with the state Departments of Transportation when an incident occurs. OSP and CHP will do short-term traffic handling (less than 2 hours) at the scene of the incident and Caltrans and ODOT take over scene management if the incident is going to take more than two hours to clear. Caltrans Operations and OSP also do queue management with CB radios, HAR, and changeable message signs when it is needed at an incident.

Sometimes, ODOT stops vehicles (but does not close the road) at the bottom of the mountain even if the road is clear enough for traffic to flow at a normal pace for the conditions. This occurs when traffic is moving too slowly over Siskiyou Pass. Drivers become overly cautious, which causes a large queue to form and large delays to the motorists. In these cases, ODOT will stop traffic on both sides of the mountain until the "snail" traffic has cleared. This makes the stopped motorists anxious to get to their destination, so that when traffic is allowed to go, it goes at a normal pace. ODOT also turns vehicles around through median barriers and is looking at more locations for installation in the future.

### *Alternate Routes*

There are very limited alternate routes for Interstate 5 over Siskiyou Pass. Highway 97 and 140, from Weed, CA to Medford, OR, can be used as an alternate route, but it adds several hours to the motorist's travel time and can be very snowy and icy in the winter. Occasionally, some vehicles are sent on the old Siskiyou Highway, but it is not encouraged as it is called "The Snake" because of its curves.

## Traffic Staging and Parking

When an incident occurs, a decision needs to be made regarding the location(s) for motorists and their vehicles to wait until the incident is cleared. Depending on the length of delay, the state Departments of Transportation and the State Police/Highway Patrol may allow people to park on the side of the roadway or they may reroute the motorist to towns and cities where they may be able to get something to eat, do some shopping or even get a hotel room to spend the night.

***Interstate***

Based on discussion in the interviews, usually the first decision made is to let motorists park on the shoulder of the highway to wait for the incident to be cleared. The shoulder of the Interstate can hold a large amount of vehicles.

***Communities***

When an incident occurs (usually in Oregon) that causes a queue that reaches past Bailey Hill in California, the CHP close Interstate 5 northbound lanes at Yreka and start to direct motorists off the highway and into towns. If there is a large volume of traffic and the delay from the incident is long, the CHP may close the Interstate as far south as Redding. On the Oregon side of Siskiyou Pass motorists are generally rerouted into Ashland and as far north as Medford.

When traffic is rerouted to the towns and cities along Interstate 5 there needs to be places for the motorists and passengers to park their vehicles, eat, or possibly spend the night. To find out how many hotel/motel rooms were available in those cities with a population between 2,500 and 100,000 people located along the Interstate, the local Chambers of Commerce were contacted. The following is a list of possible places for motorists to wait while an incident is being cleared.

- Redding – there are approximately 45 hotels/motels within the city of Redding (12)
- Mount Shasta – 343 hotel/motel rooms (13)
- Weed – there are seven motels with 288 rooms and two resorts with 36 rooms in the city of Weed (14)
- Yreka – there are eight motels that are members of the Chamber with a total of 455 rooms (15), the Yreka fairgrounds can also be opened if the streets fill with stranded motorists
- Ashland – 995 hotel rooms and 173 Bed and Breakfast rooms (16)
- Talent – there are about 20 rooms in Talent (17)
- Phoenix – three motels with approximately 90 rooms (18)
- Medford – there are 35 hotels/motels, including one Bed and Breakfast, with 2063 rooms and another 140 on the way (19)

## Providing Information to Motorists

The fifth task to any incident management system consists of notifying motorists about the traffic conditions caused by an incident. A number of motorist information systems may be used, such as highway advisory radio, variable message signs, and commercial media systems. The use of these systems may have many results including a reduction in traffic congestion, traffic hazards and frustration of the motorists experiencing a delay caused by the incident.

***Current Systems***

California and Oregon have many ways to get information to the motorists when an incident occurs. Both states use permanent changeable message signs, highway advisory radio and tire chain requirement signs for en-route information. California also has portable changeable message signs and a highway advisory radio transmitter. Information is sent to the local news agencies, truck stops, and other dispatch centers. CB radios are used occasionally to notify truckers and other equipped vehicles of an incident, and CHP Dispatch is in charge of a recording for the local telephone hotline for highway information.

***Future Systems***

Agencies are always looking for better, more efficient ways to get information about road conditions to the public. In the future, there is possibility for more consistent use of the CB radios to let truckers know of current situations. Truckers could be notified of the event and termination of the event by appropriate agencies, however, in no case would the CB radio use be beyond those areas of notification (e.g. no conversations with truckers that negatively impact dispatch operations). The dispatch centers may also be given a set of messages to use with CMS and HAR to make the information given to travelers consistent within both states.

## Providing Information to Travelers and Organizations

To identify the information needs that may be improved through the transportation system improvements being developed as a part of the Siskiyou Pass project, a survey was given to agencies in and around the area. The purpose of this survey was to help determine how the system improvements would be most compatible with the ways the agencies receive and transmit information both currently and in the near future. The survey included the following four questions:

1. What transportation-related information is currently being received by your organization?
2. What transportation-related information would you like to receive in the future?
3. What transportation-related information is currently being provided by your organization?
4. What transportation-related information would you like to provide in the future?

***Current Systems and Organizations***

The following ten figures (Figures 34 – 43) show the current information flow for each of the agencies in the Siskiyou Pass area that completed a survey. Each figure shows the agency in the middle with organizations and systems that they are receiving information from on the left and organizations and systems that they are providing information to on the right. For example, in Figure 34 the agency is the Medford Airport. The Medford Airport is currently receiving

weather conditions, maintenance needs, construction activities and other information from the National Weather Service by telephone and fax; road conditions, unusual conditions, and crashes/breakdowns from the local police department, the local fire department, and the local news station by field radio and television; and they receive both sets of the above information from the Oregon Department of Transportation (ODOT) by telephone and fax. The Medford Airport is not currently providing information to anyone.

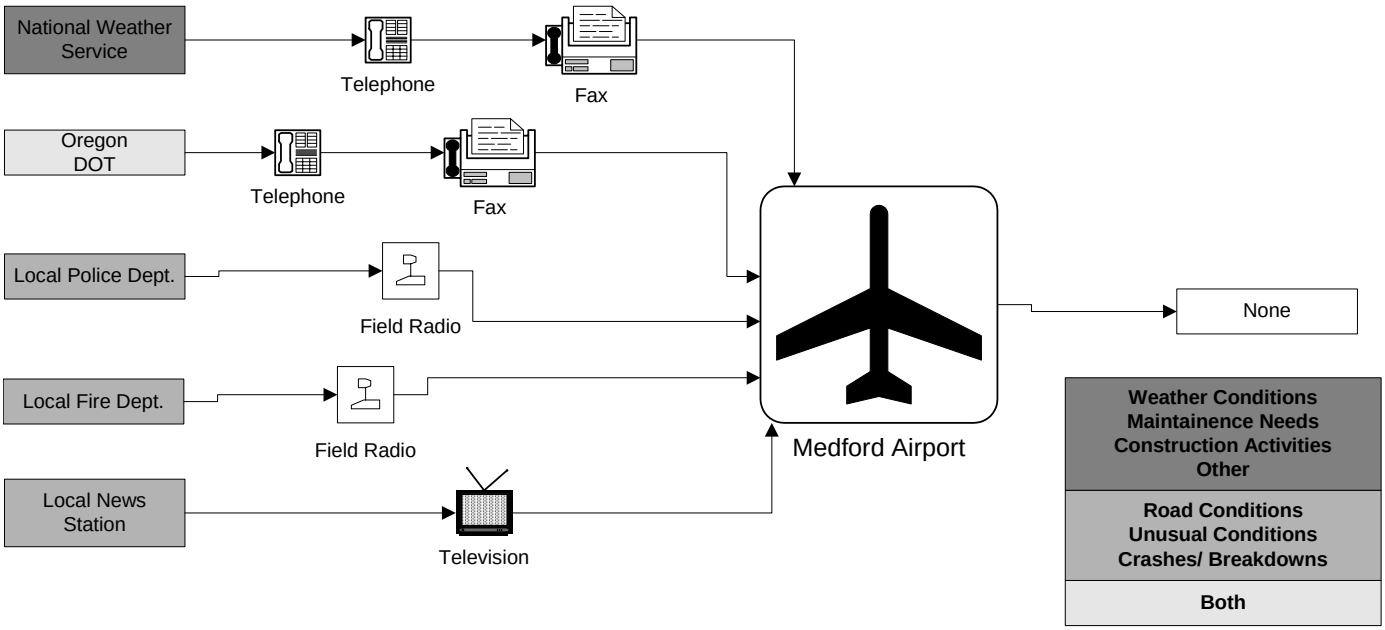



**Figure 34: Medford Airport Existing Communication**

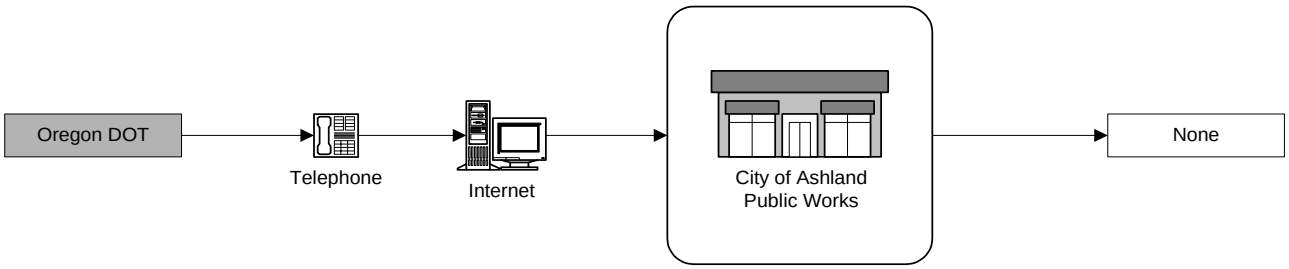



**Figure 35: City of Ashland Public Works Existing Communication**

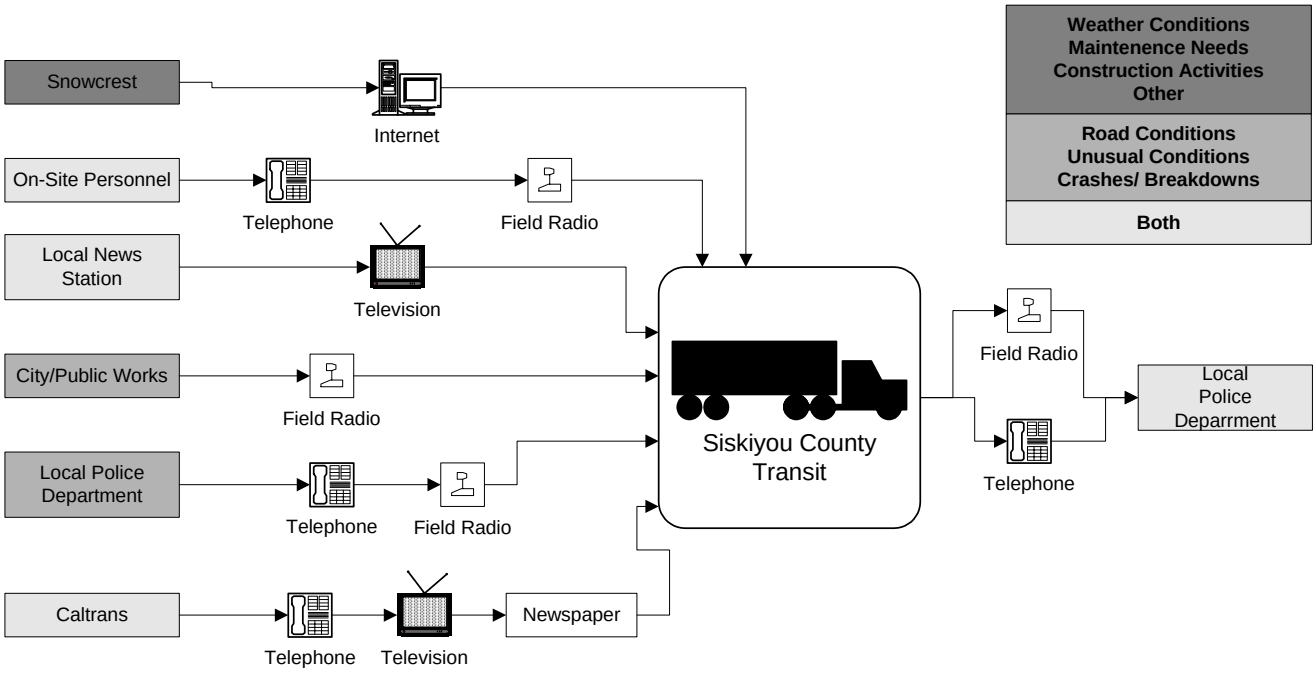



**Figure 36: Siskiyou County Transit Existing Communication**

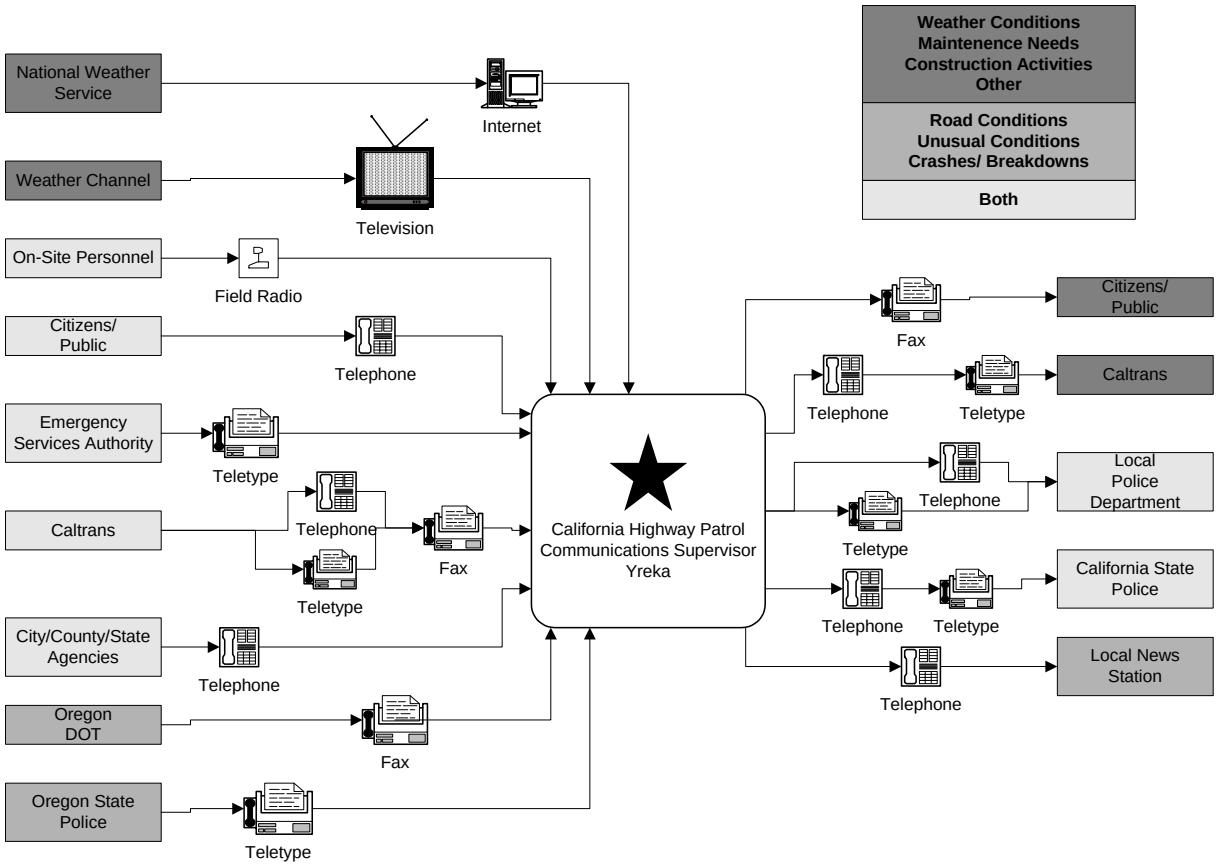



**Figure 37: California Highway Patrol, Communications Supervisor, Yreka Existing Communication**

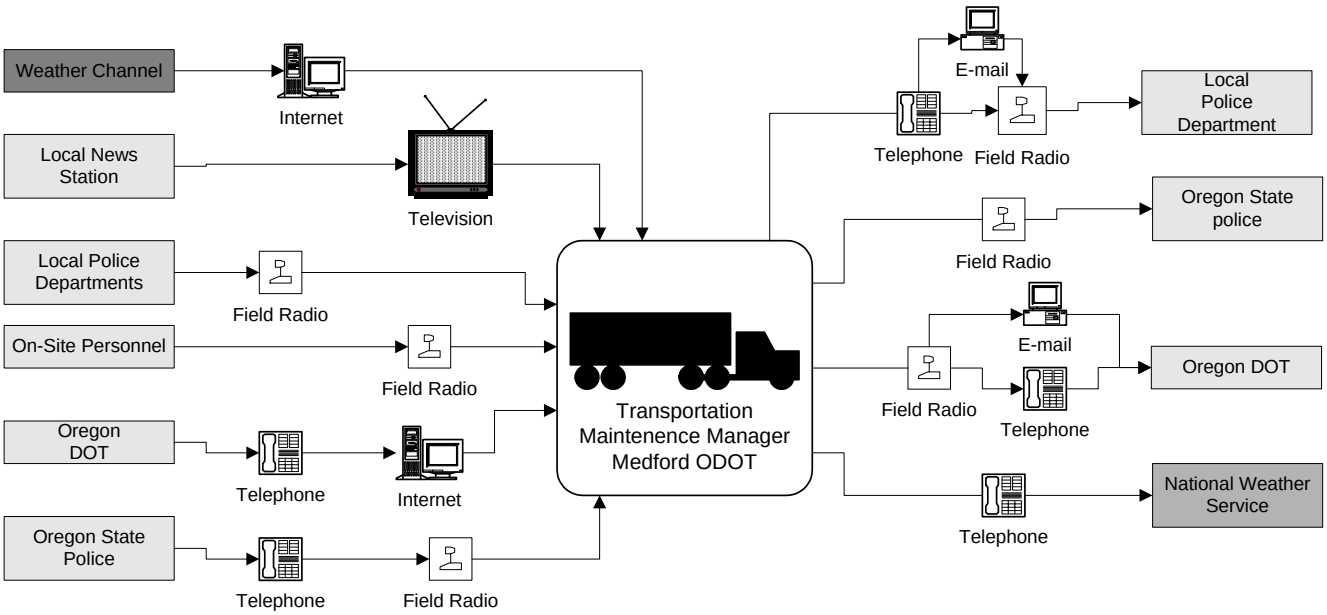



**Figure 38: Transportation Maintenance Manager, Medford ODOT Existing Communication**

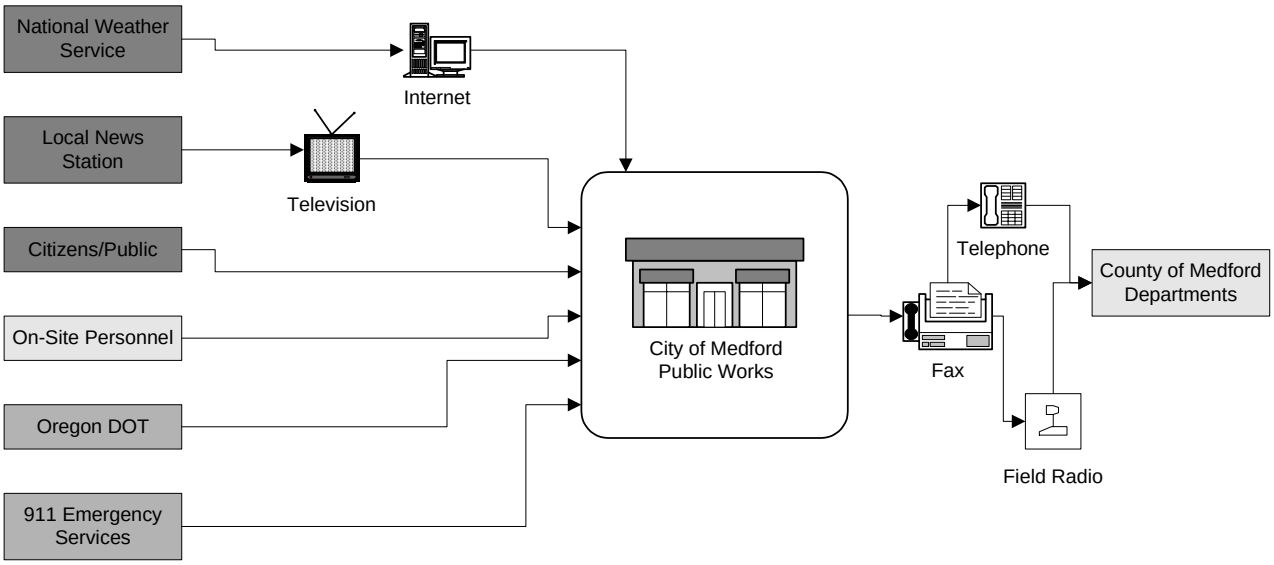



**Figure 39: City of Medford Public Works Existing Communication**

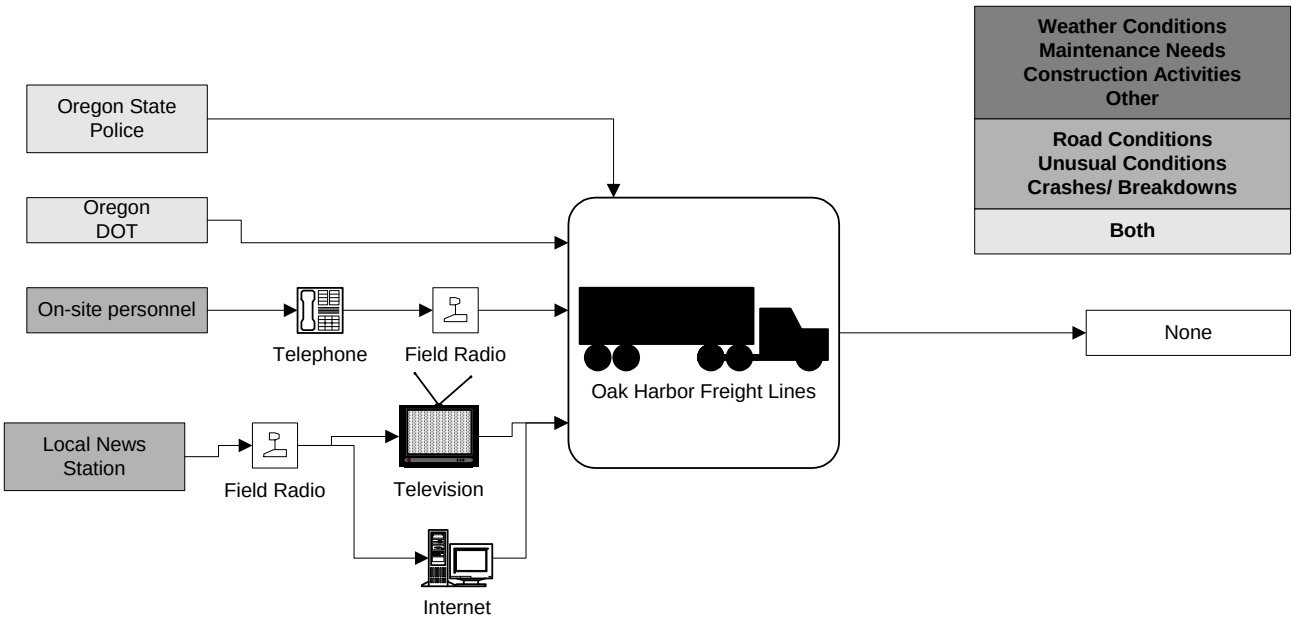



**Figure 40: Oak Harbor Freight Lines Existing Communication**

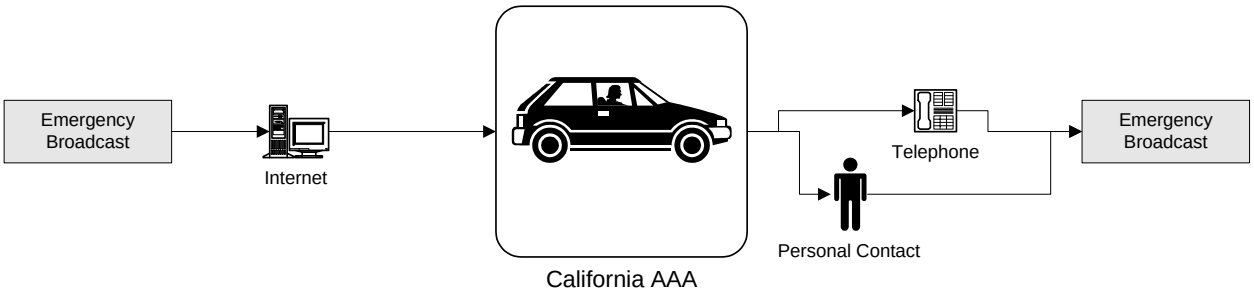



**Figure 41: California AAA Existing Communication**

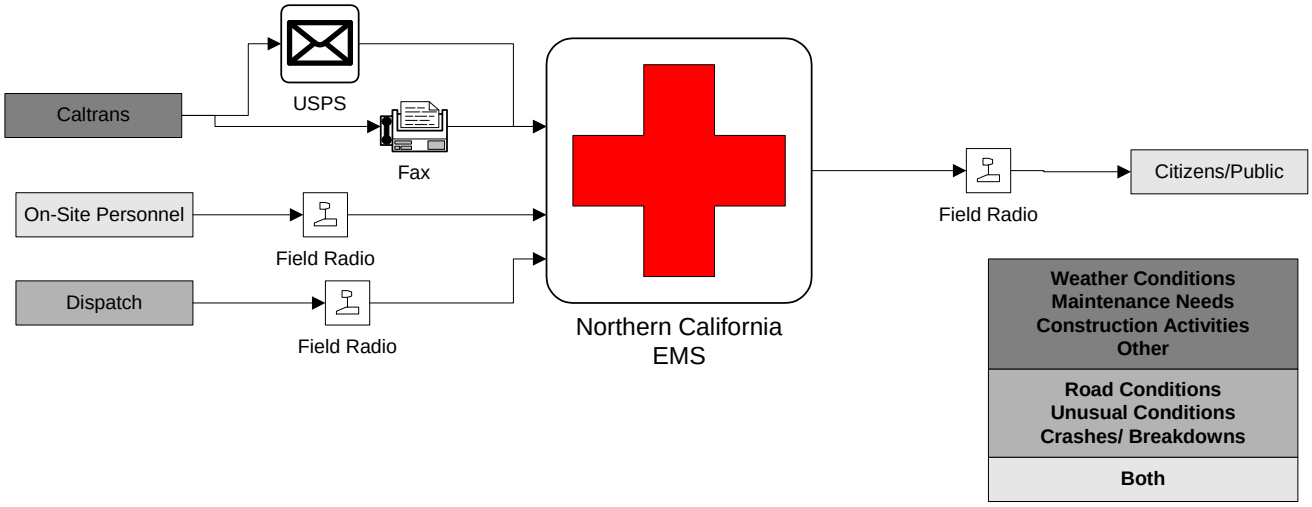



**Figure 42: Northern California EMS Existing Communication**

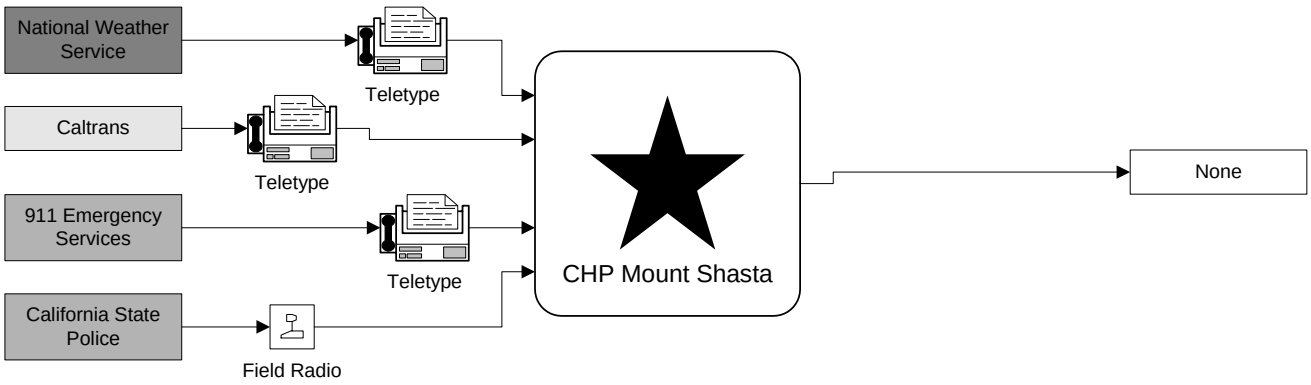



**Figure 43: California Highway Patrol, Mount Shasta Existing Communication**

***Future Systems and Organizations***

The following three figures (Figures 44 – 46) show the future information flow for each of the agencies in the Siskiyou Pass area that completed a survey. Like the above diagrams, each figure shows the agency in the middle with organizations and systems that they would like to receive information from on the left and organizations and systems that they would like to provide information to on the right.

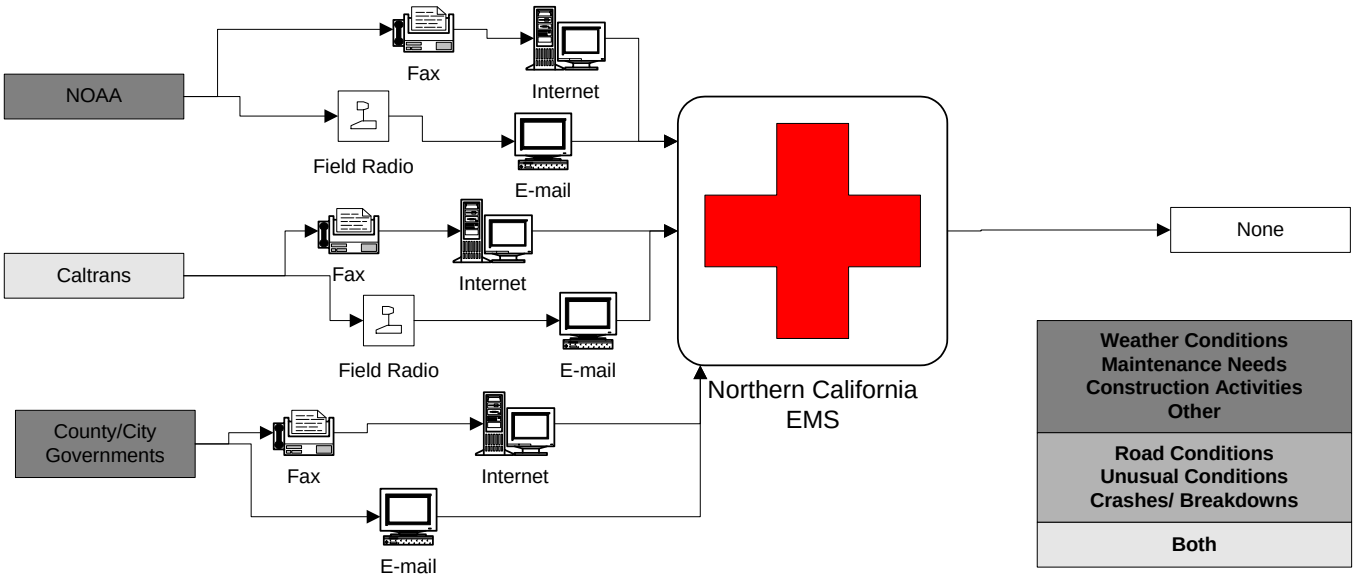



**Figure 44: Northern California EMS Future Communication**

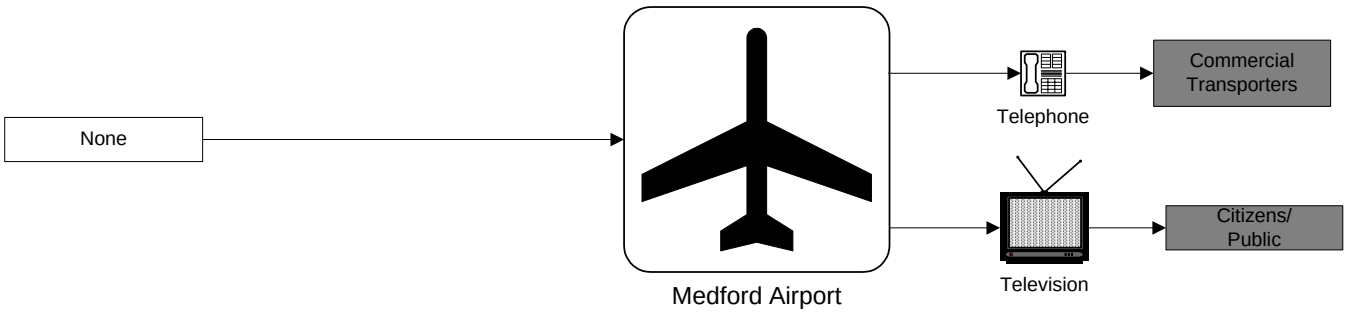



**Figure 45: Medford Airport Future Communication**

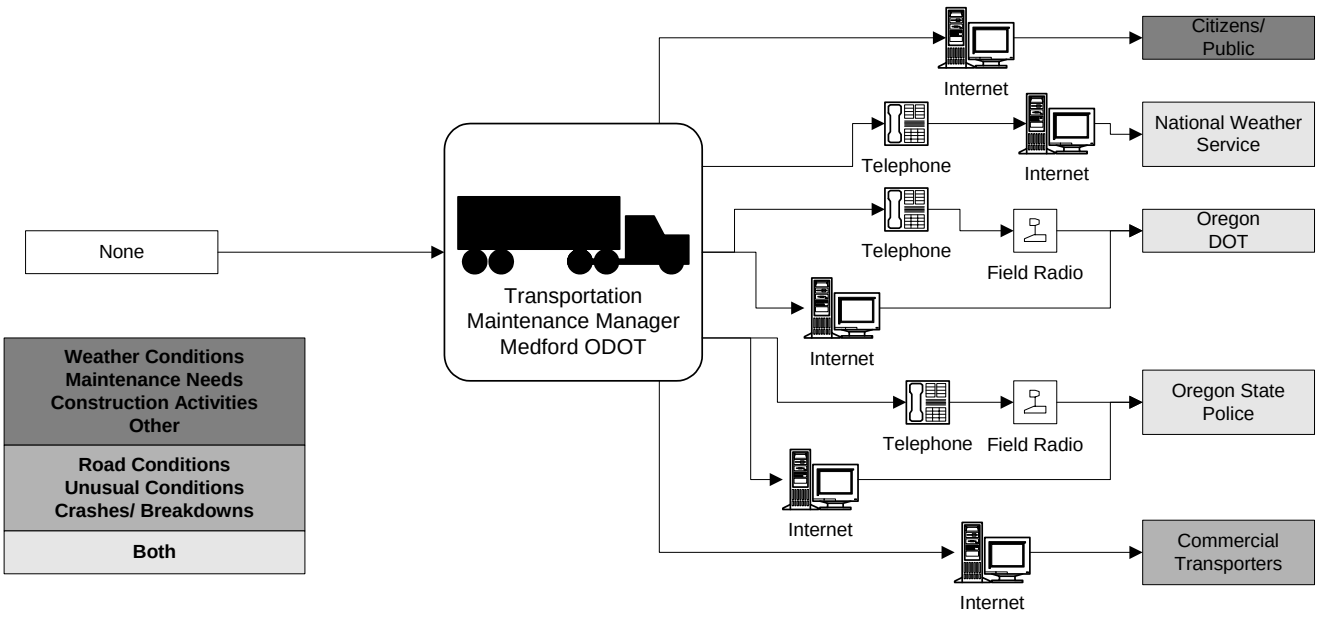



**Figure 46: Transportation Maintenance Manager, Medford ODOT Future Communication**

## Summary

There are five tasks to be done when an incident occurs. These tasks include 1) incident detection and verification, 2) response, 3) site management, 4) clearance and 5) motorist information. For these five tasks to be completed, it is important that all agencies involved work together and, most of all, communicate with each other. The agencies interviewed as part of this task, State DOT's, State Police/Highway Patrol, EMS, Fire and Rescue, Tourism, Trucking, and Towing, discussed their roles in the five tasks for different incidents and some institutional issues that they have found in working with the other agencies.

The ways in which the different agencies detect and verify an incident are very similar. Incident detection is done by a 911 call, employees happening upon the incident or the notification from the dispatch center of another agency. The agencies involved then send a unit to verify the incident.

The agencies notified of the incident respond with the staff and equipment that will be needed to clear the incident. Since each agency has different equipment and training, each agency responds to an incident to perform a different task. The following list describes briefly the role of each agency:

- NorCal EMS/Ashland Fire and Rescue – tend to any injuries, put out fires,
- CHP/OSP – investigate any possible criminal activities,
- Caltrans/ODOT Maintenance – traffic control,
- Caltrans Operations – manage the queue that has formed,
- USF Reddaway – drive pusher truck when there is adverse roadway conditions, and
- Local Police Departments – check and clear routes to send traffic on if they need to be rerouted through the city/town.

Incident removal is an important task. If an incident is blocking any part of the roadway, it can cause queues to form and cause delay to motorists. The faster an incident is cleared the less that incident will affect travelers in that area. There are policies/procedures to aid in quick clearance of an incident. These policies include

- Quick Clearance Policy – in place in California, but not Oregon,
- Abandoned Vehicle Policy – used in both California and Oregon,
- Flashing Lights on Vehicles Policy – policies are in place, but different for each agency, and
- Removal/Movement of a Fatality – handled by the medical examiner or coroner.

The fifth task of Incident Management is providing information to the motorist about the type of incident, the time for clearance, estimated delay, any alternate routes that are available, and places where they can park, get something to eat or spend the night. Changeable message signs, highway advisory radio, and CB radios are used to get some of this information to the travelers. There are very limited alternate routes within the Siskiyou Pass Study area, but there are approximately 3800 hotel/motel and Bed & Breakfast rooms.

The agencies involved in incident management have been working together for many years and are constantly trying to update their policies/procedures and ways of communication to work better with the other agencies involved. Figures 47 and 48 show where each of the agencies fit in the process of the management of an incident.

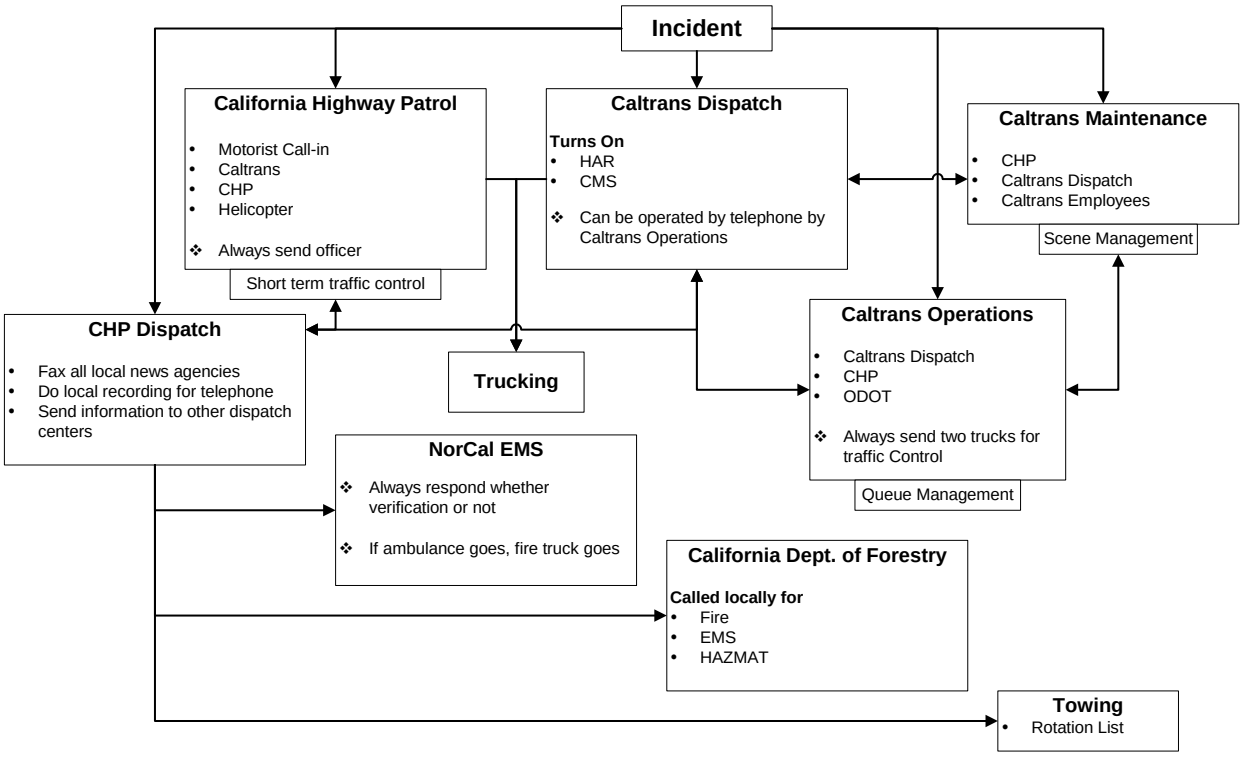



**Figure 47: Current California Agency Interaction during an Incident**

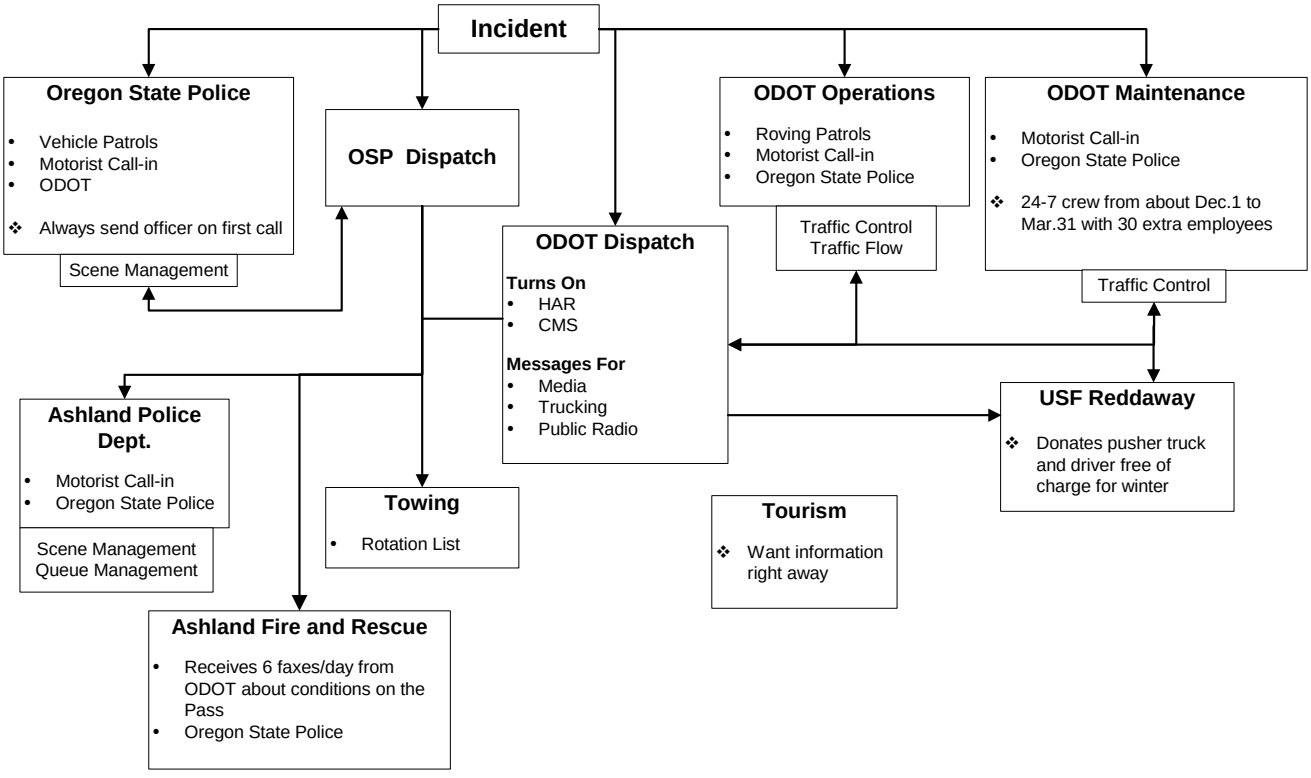



**Figure 48: Current Oregon Agency Interaction during an Incident**

# Agency Organizational Needs

Before an Incident Management Plan is written, it is important to find out the organizational needs of all agencies that will be affected by the Plan. In each of the interviews discussed in the previous chapter, the agencies were given a chance to discuss institutional issues that have surfaced in trying to deal with the incidents that occur within the Siskiyou Pass Project area and talk about equipment, training and staffing needs. The next two sections discuss some of these issues and needs.

## Institutional Issues

When different agencies, with different policies and procedures, work together there are always issues that come up within each agency about the other agencies and how they could improve. Throughout the interviews, several of these institutional issues came up over and over again. The repeated institutional issues from the interviews include:

- the Caltrans Dispatch office located in Redding, CA needs to be open 24 hours a day, 7 days a week year round;
- there needs to be a common frequency for all agencies to talk to each other during an incident;
- all agencies involved need the most accurate and current information possible;
- towing companies should not be used on a rotational basis, but called because of the quality of service that they provide;
- towing company equipment and storage facilities should be inspected annually to determine onsite resource capabilities;
- there needs to be more State Police/Highway Patrol enforcement during tire chain requirements; and
- California is trying to manage a problem that is typically a result of problems in Oregon.

## Incident Classification Tool

A matrix (Table 15) has been developed which includes all non-construction incident types that occur regularly in the Siskiyou Pass Project Area. The purpose of this matrix is to categorize the incidents by types and level of severity. The matrix is an important step in the development of the Operations Guide. Those agencies involved with incident management will be able to use the Operations Guide to make decisions about the management of each incident that occurs.

The matrix was developed by analyzing crash, road closure, tire chain restrictions, and traffic volume data over I-5 between Yreka, CA and Medford, OR. Analysis of this data has allowed challenges in specific locations to be identified. Crash rates were determined and ranked showing the Siskiyou Pass summit to be of greatest concern. More specifically, crash rates were higher, crashes due to snowy/icy conditions were more frequent and half of the fatal crashes occurred near the Siskiyou Pass summit. Additionally, all road closures and tire chain requirements due to adverse weather conditions occur near the Pass.

Each level of incident classification shows a list of incidents that are grouped according to average duration and severity. Duration and severity are defined by

- property damage,
- injuries,
- associated delay,
- time of day, and
- time of year.

There are three levels of severity for incidents that occur within the Project area. Level One is the least severe and has the shortest duration and Level Three is the most severe and longest in duration.

**Table 15: Incident Classification Levels**

| | Incident Classification | | |
|---|---|---|---|
| | **Level I** | **Level II** | **Level III** |
| **Types of Incidents (examples)** | Vehicle stall on shoulder | Minor passenger vehicle accident | Serious passenger vehicle accident |
| | Vehicle stall in travel lane(s) | Minor commercial vehicle accident w/possible load spill | Serious commercial vehicle accident w/possible load spill |
| | | Tire chain requirements due to weather | Road closure due to weather, vegetation fires, mud slides |
| **Anticipated Duration of Lane Blockage** | 0-60 Minutes | 1-4 Hours | >4 Hours |
| **Types of Response Activities** | Motorist assistance, possible traffic control | Police, Fire, EMS assistance | Police, Fire, EMS assistance |
| | | On-site traffic control | On-site traffic control |
| | | Towing, debris removal | Towing, debris removal/HAZMAT response |
| | | On-site tire chain inspection | Traffic diversion strategies |

# Finalization and Implementation

From this work, an Incident Management Plan and was developed for the region The Incident Management Plan – specifically designed to meet challenges within the Siskiyou Pass region – was comprised of two documents: an Operations Guide and Message Guide. The Operations Guide provides brief, step-by-step procedures for the different phases of incident management and background information such as the roles of the different agencies and organizations involved. The Message Guide contains messages for Variable Message Signs (VMS), also known as Changeable Message Signs (CMS) and Dynamic Message Signs (DMS), as well as messages for Highway Advisory Radio (HAR). It also describes the methodology by which messages are and can be developed. The Operations Guide can be found in Appendix H (**click here to go to Appendix H**) and the Message Guide can be found in Appendix I (**click here to go to Appendix I**).

## Operations Guide

The Operations Guide consists of eleven main sections. These sections were designed to be thorough yet concise, thereby keeping the size of the document to a minimum. The various sections included in this document are described below.

- **Introduction** – Contains a brief outline of the process by which the document was created. It also defines incident management and details its purpose.
- **Incident Levels and Related Actions** – This section defines three incident levels and provides information on appropriate actions that should be taken.
- **Agency Roles and Responsibilities** – This section makes all agencies included in this document aware of their individual and corporate responsibilities, ranging from general responsibilities to the role of regional transportation management centers to the role of statewide transportation management center.
- **Guidelines for Regional and Corridor Incident Management** – The purpose for this section is to highlight the guidelines and procedures which can be used in facilitating interagency coordination of regional highway incidents. These guidelines and procedures, in most cases, were built on the procedures that were in use at the time.
- **Detection and Verification** – This section describes incident detection and verification as the first steps in any incident management process. Incident detection is defined as the determination that an incident has occurred and verification is the determination of the location and nature of the incident.
- **Response** – This section describes the procedures for response: the activation of a "plan" for the safe, fast, and efficient deployment of the appropriate personnel and equipment to the scene of an incident.

- **Traffic Control** – Traffic control is needed to attempt to reduce the delay to motorists, the reduction in capacity, and secondary accidents during an incident. Appendix A of the Operations Guide shows typical traffic control setups for traffic diversions.
- **Scene Management** – This phase of incident management occurs after the agencies respond to the incident. This section details the required coordination and management of resources and activities including the responding personnel, equipment, and communications.
- **Motorist Information** – This section mainly directs the person to the Message Guide which details how and what type of message to deliver to the motoring public.
- **Traffic Diversion and Alternate Routes** – Methods of traffic diversion are discussed in this section as well as when to establish an alternate route, how to setup an alternate route, placing signs and cones, the use of traffic signal control and dismantling the alternate route. Appendix B of the Operations Guide shows several alternate route maps for incidents occurring between specific exits, etc.
- **Incident Debriefing** – Debriefings should be used to develop and improve incident management practices by providing constructive critique of the decisions made and actions taken at an incident. This section provides some helpful suggestions to make this a part of the incident management routine.

## Message Guide

Like the Operations Guide the Message Guide is also broken into sections. This document contains the five main sections describes below.

- **How to Use This Guide** – The operator responsible for creating and disseminating messages using VMS or HAR should become very familiar with the layout and methodology outlined within the manual. This is to ensure that they understand the criteria and liability issues involved, as well as the overall importance of this communication medium.
- **VMS/HAR Messaging Methodology** – This section describes how general messages are created to answer three basic questions: *What happened?*, *What's its effect?*, and *What action should be taken?*. This sections details whether a routine or non-routine message is needed, what its content should be, how to ensure credibility, and whether to message or not.
- **Variable Message Sign Messages** – This section describes the various facets of VMS messages such as length and abbreviations, content, comprehensibility, and conspicuity.
- **Highway Advisory Radio Messages** – Like VMS, issues such as length and content are briefly described with respect to HAR messages.
- **VMS and HAR Messages** – The remainder (and bulk) of the document provides specific message sets based on various situations. Using the methodology described in the previous sections, those responsible for

creating and disseminating messages may refer to these messages as examples or to use.

## Implementation

After allowing several committee members to review and comment on a draft version of the plan, changes were made and a final version was printed and bound with index tabs for quick and easy use. These plans were then distributed to several agencies responsible for incident management throughout the Siskiyou Pass region in May 2001. Those that received the Incident Management Plan included:

- John Vial ODOT
- Dino Johnson Caltrans
- Clyde Aker Caltrans
- Greg Case Ashland Fire/Rescue
- Susan Westfeldt POE
- Ed Cox Caltrans
- Michael Spaeth ODOT
- Ralph Nelson OSP
- Randy Lecroy POE
- Ray Pierce CHP
- Nancy Braga CHP
- Rick Walsh Ashland Police Department
- Robert Sechler ODOT
- Frank Herman Caltrans
- Mike Buckman OSP
- Russ Wenham Caltrans
- Coco Briseño Caltrans
- Galen McGill ODOT

One year after distributing the Incident Management plan, WTI returned to several of these agencies to determine how implementation had progressed. Most indicated that the plan, while thorough and concise, did not seem to address the main issues faced by agencies managing transportation-related incidents within the Siskiyou Pass region. Some said the plan was too academic and didn't have enough of a winter focus. Additionally, many indicated that there are few "major" incidents, that many of the agencies already have a good working relationship, and that over time management of the pass has gotten better. Generally, it was concluded that a plan that specifically addresses transportation issues during the winter season was considered more appropriate. This plan would need to specifically address communication and coordination

issues in and around Siskiyou Pass by helping agencies proactively address incidents during the winter season. Therefore, a Winter Response Plan (described in the following section) was created to fulfill these wishes. Those who were contacted in May 2002 for comment to the Incident Management Plan included:

- Greg Case – Ashland Fire and Rescue
- Rich Walsh – Oregon State Police
- Ed Fincel and Nancy Braga – California Highway Patrol
- Clyde Aker and Phil Potts – Caltrans
- Susan Westfeldt and Randy Lecroy – Oregon Port of Entry (POE)
- Lieutenant Dan Durbin – Oregon State Police
- John Vial, Robert Sechler and Mike Spaeth – Oregon Department of Transportation
- Everett Carroll – Oregon Department of Transportation
- Dino Johnson, Jeff Kiser, Steve Rogers, Myrlane Wederbrook, and Russ Wenham – Caltrans

# Winter Response Plan

The ultimate goals of the Winter Response Plan (**click here to go to Appendix J: Winter Response Plan**) are to 1) maximize agency responsiveness through better communication, 2) minimize pass closures and delays, and 3) enhance the traveler mobility and safety in the area during the winter season. These goals will be met by providing concise and consistent procedures to improve communication, coordination and cooperation between the many agencies that manage winter-related events (WRE) within the Siskiyou Pass region. Specifically, this region is jointly managed by Oregon Department of Transportation (ODOT), Oregon State Police (OSP), California Highway Patrol (CHP), and California Department of Transportation (Caltrans). This plan will facilitate reliable and efficient information flow between transportation agencies, law enforcement, media, and other support organizations in the area.

## Development of the Plan

As described in the previous section, the Incident Management Plan developed as part of this project was deemed insufficient to address the communication and coordination challenges during the winter near Siskiyou Pass. As follow up to previous conversations within the region, a meeting to discuss the creation of a Winter Incident Response Plan for Siskiyou Pass was initiated. This meeting was the first step to developing the plan based on the collaboration of various parties involved including Oregon Department of Transportation, California Department of Transportation, Oregon State Police and California Highway Patrol. A list of those who participated in the meeting is shown in Table 16.

**Table 16: Participants at the Winter Response Plan Planning Meeting (October 29, 2002)**

| | |
|---|---|
| Caltrans | Clyde Aker |
| | Dino Johnson |
| | Jeff Kiser |
| | Steve Rogers |
| | Myrlane Wederbrook |
| | Russ Wenham |
| CHP | Nancy Braga |
| | Jon Lopey |
| ODOT | Everett Carroll |
| | Galen McGill |
| | Larry McKinley |
| | John Vial |
| OSP | Brian Powers |
| | Gordon Renskers |
| WTI | Eli Cuelho |

The meeting began with clarifying the problem and then categorizing the problems under separate main topics. Topics that emerged from these discussions included dissemination of traveler information; pre-event education and sharing; coordination and command during WRE;

existing operational guidelines; the health, welfare, and safety of the traveling public; and communication tools. Solutions to each of these challenges were recommended and final ideas were used to develop the plan.

To ensure agreement between the various parties represented in the Winter Response Plan and to instill a sense of accountability from those who are in charge of maintaining and operating transportation activities on I-5 during the winter months, signatures were requested on a signature page. This signature is not legally binding, however, it provides an acknowledgement of their commitment to share important information, as outlined in the plan, during winter related events that occur between Ashland, Oregon and Yreka, California; otherwise known as the Siskiyou Pass Region. Oregon Department of Transportation (specifically John Vial) will be responsible for updating and maintaining the Winter Response Plan in the future.

## Methodology and Content of Winter Response Plan

The plan focuses on managing WRE only and leaving other incidents, such as vehicle breakdowns, special events, maintenance and construction activities, and load spill of hazardous materials, to existing protocols and procedures. The procedures for response operations are detailed within the plan, and are established as guidelines to address the two most common WRE within the Siskiyou Pass region.

Two main scenarios are used to cover the majority of WRE within the Siskiyou Pass Region. Scenario 1 addresses winter-related road closures caused by vehicle crashes and Scenario 2 addresses tire-chain requirements. Communication and coordination protocol followed during each of these events is detailed with respect to the responding or instigating party.

### *Scenario 1: Winter-Related Road Closures Caused by Vehicle Crashes*

This scenario addresses winter-related road closures caused by vehicle collisions and/or rollovers usually caused by inclement weather and/or poor road conditions. This scenario includes both severe crashes (in which someone is critically injured or killed) as well as minor crashes (in which only property damage and a possible load spill are involved). When such an event occurs, the responding agency should adhere to the guidelines to ensure that pertinent information is communicated between ODOT, Caltrans, OSP and CHP.

### *Scenario 2: Tire-Chain Requirements*

This scenario pertains to highway conditions that necessitate using tire chains to traverse Siskiyou Pass. When tire-chain requirements are to be enforced in Oregon or California, the following operational procedures are suggested below to ensure proper communication between the various agencies responsible.

***Contact and Other Relevant Information***

Contact information is included for various agencies throughout the region that have transportation related responsibilities during WRE. These contacts include:

- California and Oregon Departments of Transportation (Caltrans and ODOT)
- California Highway Patrol and Oregon State Police (CHP and OSP)
- California and Oregon Emergency Services
- Oregon Motor Carriers – POE
- Oregon Media
- Other Important Contact Information in Both States (e.g., websites and road conditions numbers)

A map of the I-5 Siskiyou Pass Corridor was also assembled to show the geography throughout the region. Specific transportation features such as turnarounds, exits, cities and ITS are highlighted. A separate map of just the area surrounding the Siskiyou Pass summit was produced to show similar features more clearly. This is to help planners and other responsible parties have the opportunity to better visualize the region in terms of managing WRE.

Appendices to the Winter Response Plan include the current Interstate Agreement between California and Oregon, and chain laws for each of the states.

# References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4. Dennis Christiansen, Vehicle Breakdowns on the Houston Transitways Memorandum, October 8, 1987
5. Kim Hanagan, P.E., Traffic Safety Engineer, California Department of Transportation, January 1, 1995 – August 31, 1999.
6. Rodney Ulberg, Crash Analyst, Oregon Department of Transportation, January 1, 1995 – June 30, 1999.
7. Myrlane Wederbrook, Radio Room, California Department of Transportation, July 1, 1997 – January 31, 2000
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9. Hanbal, Rashad M. and Kuemmel, David A., Traffic Volume Reductions Due to Winter Storm Conditions. Transportation Research Record 1387, 1993. Pg 159 – 164.
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12. Redding, CA Chamber of Commerce, info@reddingchamber.com
13. Mount Shasta, CA Chamber of Commerce, o-shasta@inreach.com
14. Weed, CA Chamber of Commerce, a-weedch@inreach.com
15. Yreka, CA Chamber of Commerce, a-yreka@inreach.com
16. Ashland, OR Chamber of Commerce, http://www.ashlandchamber.com
17. Talent, OR Chamber of Commerce, talent@cityoftalent.org
18. Phoenix, OR Chamber of Commerce, willajv@grrtech.com
19. Medford, OR Chamber of Commerce, business@medfordchamber.com

# Appendix A: Survey Instruments

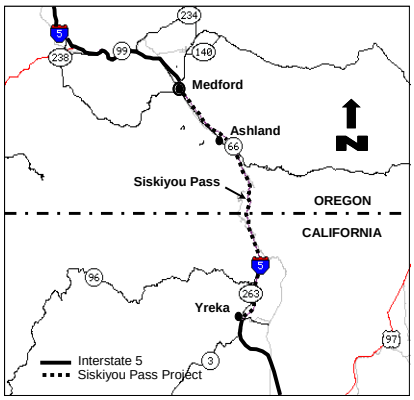
# Survey I – March 2000

**1. Fill in the average number of times per day, week, month, OR year that you travel over Siskiyou Pass.**

_____ times per day
_____ times per week
_____ times per month
_____ times per year

**2. During what season(s) do you do MOST of your traveling over Siskiyou Pass? *(Check ALL that apply)***

❑ Spring
❑ Summer
❑ Fall
❑ Winter




**3. Do you prefer to get tourist and traveler information**

❑ Before you start a trip
❑ While on the road
❑ Both
❑ Neither

**4. When you hear of a road closure or significant delay, HOW LIKELY are you to…**
***(Check ONE box per item.)***

| | Not Very | Somewhat | Very |
|---|---|---|---|
| Wait on the roadway | ❑ | ❑ | ❑ |
| Stop at a nearby town | ❑ | ❑ | ❑ |
| Leave later | ❑ | ❑ | ❑ |
| Turn around | ❑ | ❑ | ❑ |
| Take an alternate route | ❑ | ❑ | ❑ |
| Cancel trip | ❑ | ❑ | ❑ |
| Continue on regardless | ❑ | ❑ | ❑ |
| Seek an alternate mode of travel | ❑ | ❑ | ❑ |

**5. In your opinion, is there a REASONABLE ALTERNATE ROUTE for Interstate 5 over Siskiyou Pass?**

❑ Yes ❑ No ❑ Don't Know

**6. What resources do you NORMALLY use to determine a CHANGE in your travel plans?**
**(Check ALL that apply)**

❑ Cellular Phone
❑ Radio Station
❑ Highway Advisory Radio
❑ Television
❑ Communication with Other Drivers
❑ Changeable Message Signs
❑ Camera Images on the Internet
❑ Notices at Truck Stops, Convenience Stores, Rest Areas
❑ Observations of Traffic Condition
❑ Touch Screen Information Kiosks
❑ Road/Weather Conditions Information on the Internet
❑ Other *(please specify)* _____

**7. HOW IMPORTANT is the following traveler information for determining a change in your travel plans?** ***(Check ONE box for each item)***

| | Not Important | Somewhat Important | Very Important |
|---|---|---|---|
| Road conditions | ❑ | ❑ | ❑ |
| Weather conditions | ❑ | ❑ | ❑ |
| Occurrence of hazard/accident | ❑ | ❑ | ❑ |
| Location of hazard/accident | ❑ | ❑ | ❑ |
| Travel delays | ❑ | ❑ | ❑ |
| Average travel speed | ❑ | ❑ | ❑ |
| Availability of alternate routes | ❑ | ❑ | ❑ |
| Other *(please specify)* _____ | ❑ | ❑ | ❑ |

**8. If you use the following technologies over Siskiyou Pass, the information given was …**

| | | Not Very | Somewhat | Very |
|---|---|---|---|---|
| Changeable Message Signs | ❑ Not Aware of Technology on Siskiyou Pass (Skip to next technology) | | | |
| | Accurate? | ❑ | ❑ | ❑ |
| | Timely? | ❑ | ❑ | ❑ |
| | Useful? | ❑ | ❑ | ❑ |
| | Understandable? | ❑ | ❑ | ❑ |
| | Accessible? | ❑ | ❑ | ❑ |
| Touch Screen Information Kiosks | ❑ Not Aware of Technology on Siskiyou Pass (Skip to next technology) | | | |
| | Accurate? | ❑ | ❑ | ❑ |
| | Timely? | ❑ | ❑ | ❑ |
| | Useful? | ❑ | ❑ | ❑ |
| | Understandable? | ❑ | ❑ | ❑ |
| | Accessible? | ❑ | ❑ | ❑ |
| Highway Advisory Radio | ❑ Not Aware of Technology on Siskiyou Pass (Skip to next technology) | | | |
| | Accurate? | ❑ | ❑ | ❑ |
| | Timely? | ❑ | ❑ | ❑ |
| | Useful? | ❑ | ❑ | ❑ |
| | Understandable? | ❑ | ❑ | ❑ |
| | Accessible? | ❑ | ❑ | ❑ |
| Road/Weather Conditions Information on the Internet | ❑ Not Aware of Technology on Siskiyou Pass (Skip to next technology) | | | |
| | Accurate? | ❑ | ❑ | ❑ |
| | Timely? | ❑ | ❑ | ❑ |
| | Useful? | ❑ | ❑ | ❑ |
| | Understandable? | ❑ | ❑ | ❑ |
| | Accessible? | ❑ | ❑ | ❑ |
| Siskiyou Pass Camera Images on the Internet | ❑ Not Aware of Technology on Siskiyou Pass (Skip to next technology) | | | |
| | Accurate? | ❑ | ❑ | ❑ |
| | Timely? | ❑ | ❑ | ❑ |
| | Useful? | ❑ | ❑ | ❑ |
| | Understandable? | ❑ | ❑ | ❑ |
| | Accessible? | ❑ | ❑ | ❑ |

**9. IF costs for the following services were to come directly from travelers over Siskiyou Pass, how WILLING would you be to PAY for them?**

| | Not Willing | Neutral | Willing |
|---|---|---|---|
| Changeable Message Signs | ❑ | ❑ | ❑ |
| Touch Screen Information Kiosks | ❑ | ❑ | ❑ |
| Highway Advisory Radio | ❑ | ❑ | ❑ |
| Road/Weather Conditions Information on the Internet | ❑ | ❑ | ❑ |
| Siskiyou Pass Camera Images on the Internet | ❑ | ❑ | ❑ |
| Snowplow/Sanding Equipment | ❑ | ❑ | ❑ |
| Traditional Roadside Signing | ❑ | ❑ | ❑ |
| Emergency Vehicles | ❑ | ❑ | ❑ |
| Traveler Information Telephone Hotline | ❑ | ❑ | ❑ |

**10. The following information is needed to ensure that your travel needs are properly represented in this survey. It will be used for the purposes of this survey only. *(Check ONE box per question)***

| | | |
|---|---|---|
| What is your current state of residence? | ❑ | California |
| | ❑ | Oregon |
| | ❑ | Other _____ |
| What is your gender? | ❑ | Male |
| | ❑ | Female |
| What is your age? | ❑ | 15 – 24 Years |
| | ❑ | 25 – 44 |
| | ❑ | 45 – 64 |
| | ❑ | 65 + |
| What type of vehicle do you normally drive over Siskiyou Pass? | ❑ | Automobile |
| | ❑ | Commercial (Truck, Bus) |
| | ❑ | Motorcycle |
| | ❑ | RV |
| | ❑ | Ride as Passenger Only |
| What is the primary *purpose* for the majority of vehicle travel you make over Siskiyou Pass? | ❑ | Work |
| | ❑ | School |
| | ❑ | Shopping |
| | ❑ | Medical |
| | ❑ | Recreation |
| | ❑ | Other _____ |
| What is the average number of miles traveled for the trip *purpose* checked above? | ❑ | 0 – 49 |
| | ❑ | 50 – 99 |
| | ❑ | 100 – 300 |
| | ❑ | 300 + |
| What is your average annual income (per household)? | ❑ | Under $20,000 |
| | ❑ | 20,000 – 39,000 |
| | ❑ | 40,000 – 79,000 |
| | ❑ | 80,000 + |

**General Comments:**_____

_____

# Survey II – May 2001 & Survey III – April 2002

**Fill in the average number of times per day, week, month, OR year that you travel over Siskiyou Pass.**

_____ times per day
_____ times per week
_____ times per month
_____ times per year

**2. During what season(s) do you do MOST of your traveling over Siskiyou Pass? (Check ALL that apply)**

❑ Spring
❑ Summer
❑ Fall
❑ Winter

**3. How accurate and useful to you are the following information devices when traveling in the Siskiyou Pass area?**

**a) Changeable Message Signs** ❑ **Not Aware of This Technology on Siskiyou Pass**

| Accuracy | Usefulness |
|---|---|
| ❑ Very Accurate | ❑ Very Useful |
| ❑ Somewhat Accurate | ❑ Somewhat Useful |
| ❑ Neutral | ❑ Neutral |
| ❑ Somewhat Inaccurate | ❑ Somewhat Useless |
| ❑ Very Inaccurate | ❑ Very Useless |

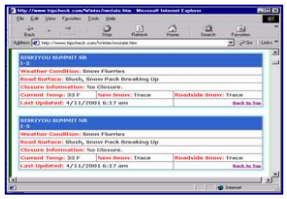
**b) Highway Advisory Radio** ❑ **Not Aware of This Technology on Siskiyou Pass**


| Accuracy | Usefulness |
|---|---|
| ❑ Very Accurate | ❑ Very Useful |
| ❑ Somewhat Accurate | ❑ Somewhat Useful |
| ❑ Neutral | ❑ Neutral |
| ❑ Somewhat Inaccurate | ❑ Somewhat Useless |
| ❑ Very Inaccurate | ❑ Very Useless |

**c) Touch Screen Information Kiosk** ❑ **Not Aware of This Technology on Siskiyou Pass**

| Accuracy | Usefulness |
|---|---|
| ❑ Very Accurate | ❑ Very Useful |
| ❑ Somewhat Accurate | ❑ Somewhat Useful |
| ❑ Neutral | ❑ Neutral |
| ❑ Somewhat Inaccurate | ❑ Somewhat Useless |
| ❑ Very Inaccurate | ❑ Very Useless |

**d) Road/Weather Information on the Internet** ❑ **Not Aware of this Technology on Siskiyou Pass**



| Accuracy | Usefulness |
|---|---|
| ❑ Very Accurate | ❑ Very Useful |
| ❑ Somewhat Accurate | ❑ Somewhat Useful |
| ❑ Neutral | ❑ Neutral |
| ❑ Somewhat Inaccurate | ❑ Somewhat Useless |
| ❑ Very Inaccurate | ❑ Very Useless |

**e) Siskiyou Pass Camera Images on the Internet** ❑ **Not Aware of This Technology on Siskiyou Pass**


| Accuracy | Usefulness |
|---|---|
| ❑ Very Accurate | ❑ Very Useful |
| ❑ Somewhat Accurate | ❑ Somewhat Useful |
| ❑ Neutral | ❑ Neutral |
| ❑ Somewhat Inaccurate | ❑ Somewhat Useless |
| ❑ Very Inaccurate | ❑ Very Useless |

Use

**4. In your opinion, is there a REASONABLE ALTERNATE ROUTE for Interstate 5 over Siskiyou Pass?**

❑ Yes ❑ No ❑ Don't Know

**5. When you hear of a road closure or significant delay, HOW LIKELY are you to.** ***(Check ONE box per item)***

| | Very Unlikely | Somewhat Unlikely | Neutral | Somewhat Likely | Very Likely |
|---|---|---|---|---|---|
| Wait on the roadway | ❑ | ❑ | ❑ | ❑ | ❑ |
| Stop at a nearby town | ❑ | ❑ | ❑ | ❑ | ❑ |
| Leave later | ❑ | ❑ | ❑ | ❑ | ❑ |
| Turn around | ❑ | ❑ | ❑ | ❑ | ❑ |
| Take an alternate route | ❑ | ❑ | ❑ | ❑ | ❑ |
| Cancel trip | ❑ | ❑ | ❑ | ❑ | ❑ |
| Continue on regardless | ❑ | ❑ | ❑ | ❑ | ❑ |
| Seek an alternate mode of travel | ❑ | ❑ | ❑ | ❑ | ❑ |

**6. What resources do you NORMALLY use to determine a CHANGE in your travel plans?**
***(Check ALL that apply)***

❑ Cellular Phone
❑ Radio Station
❑ Highway Advisory Radio
❑ Television
❑ Communication with Other Drivers
❑ Changeable Message Signs
❑ Camera Images on the Internet
❑ CB Radio
❑ Notices at Truck Stops, Convenience Stores, Rest Areas
❑ Observations of Traffic Condition
❑ Touch Screen Information Kiosks
❑ Road/Weather Conditions Information on the Internet
❑ 1-800 Travel or Road Condition Information Phone Number
❑ Other (please specify) _____

**7. HOW IMPORTANT is the following traveler information for determining a change in your travel plans? (*Check ONE box per item*)**

| | Very Unimportant | Somewhat Unimportant | Neutral | Somewhat Important | Very Important |
|---|---|---|---|---|---|
| Road conditions | ❑ | ❑ | ❑ | ❑ | ❑ |
| Weather conditions | ❑ | ❑ | ❑ | ❑ | ❑ |
| Occurrence of hazard/accident | ❑ | ❑ | ❑ | ❑ | ❑ |
| Location of hazard/accident | ❑ | ❑ | ❑ | ❑ | ❑ |
| Travel delays | ❑ | ❑ | ❑ | ❑ | ❑ |
| Average travel speed | ❑ | ❑ | ❑ | ❑ | ❑ |
| Availability of alternate routes | ❑ | ❑ | ❑ | ❑ | ❑ |
| Construction | ❑ | ❑ | ❑ | ❑ | ❑ |

**8. The following information is needed to ensure that your travel needs are properly represented in this survey. It will be used for the purposes of this survey only. *(Check ONE box per question)***

| | |
|---|---|
| What is your current state of residence? | ❑ California<br>❑ Oregon<br>❑ Other _____ |
| What is your gender? | ❑ Male<br>❑ Female |
| What is your age? | ❑ 15 – 24 Years<br>❑ 25 – 44<br>❑ 45 – 64<br>❑ 65 + |
| What type of vehicle do you normally drive over Siskiyou Pass? | ❑ Automobile/ Motorcycle<br>❑ Commercial (Truck, Bus)<br>❑ RV<br>❑ Ride as Passenger Only |

**General Comments/Suggestions:** _____

_____

_____

# Survey IV – May 2003

## Siskiyou Pass Project Survey

The purpose of this survey is to determine your travel and information needs in the Siskiyou Pass area, as well as to get your opinion of the accuracy and usefulness of new technologies and user services near Siskiyou Pass.

*This anonymous survey is sponsored by the California and Oregon Departments of Transportation and is being administered by the Western Transportation Institute, Montana State University - Bozeman.*

**1** **Fill in the average number of times per day, week, month, OR year that you travel over Siskiyou Pass.**

_____ times per day
_____ times per week
_____ times per month
_____ times per year

**2** **During which SEASON(S) do you do MOST of your traveling over Siskiyou Pass?** *(Check all that apply)*

- ☐ Spring
- ☐ Summer
- ☐ Fall
- ☐ Winter

**3** **How ACCURATE and USEFUL to you are the following information devices when traveling in the Siskiyou Pass area?**

a) **Changeable Message Signs**

☐ **Not Aware of This Technology in the Siskiyou Pass Area**

| Accuracy | Usefulness |
|---|---|
| ☐ Very Accurate | ☐ Very Useful |
| ☐ Somewhat Accurate | ☐ Somewhat Useful |
| ☐ Neutral | ☐ Neutral |
| ☐ Somewhat Inaccurate | ☐ Somewhat Useless |
| ☐ Very Inaccurate | ☐ Very Useless |

b) **Highway Advisory Radio**


☐ **Not Aware of This Technology in the Siskiyou Pass Area**

| Accuracy | Usefulness |
|---|---|
| ☐ Very Accurate | ☐ Very Useful |
| ☐ Somewhat Accurate | ☐ Somewhat Useful |
| ☐ Neutral | ☐ Neutral |
| ☐ Somewhat Inaccurate | ☐ Somewhat Useless |
| ☐ Very Inaccurate | ☐ Very Useless |

c) **Road/Weather Information on the Internet**

☐ **Not Aware of This Technology in the Siskiyou Pass Area**

| Accuracy | Usefulness |
|---|---|
| ☐ Very Accurate | ☐ Very Useful |
| ☐ Somewhat Accurate | ☐ Somewhat Useful |
| ☐ Neutral | ☐ Neutral |
| ☐ Somewhat Inaccurate | ☐ Somewhat Useless |
| ☐ Very Inaccurate | ☐ Very Useless |

d) **Siskiyou Pass Camera Images on the Internet**

☐ **Not Aware of This Technology in the Siskiyou Pass Area**

| Accuracy | Usefulness |
|---|---|
| ☐ Very Accurate | ☐ Very Useful |
| ☐ Somewhat Accurate | ☐ Somewhat Useful |
| ☐ Neutral | ☐ Neutral |
| ☐ Somewhat Inaccurate | ☐ Somewhat Useless |
| ☐ Very Inaccurate | ☐ Very Useless |

**4** **In your opinion, is there a REASONABLE ALTERNATE ROUTE for Interstate 5 over Siskiyou Pass?**

☐ Yes ☐ No ☐ Don't Know

***Continue on other side*** ☞

**5** **When you hear of a road closure or significant delay, HOW LIKELY are you to...** *(Check only ONE box for each item)*

| | Very Likely | Somewhat Likely | Neutral | Somewhat Unlikely | Very Unlikely |
|---|---|---|---|---|---|
| wait on the roadway? | ❑ | ❑ | ❑ | ❑ | ❑ |
| stop at a nearby town? | ❑ | ❑ | ❑ | ❑ | ❑ |
| leave later? | ❑ | ❑ | ❑ | ❑ | ❑ |
| turn around? | ❑ | ❑ | ❑ | ❑ | ❑ |
| take an alternate route? | ❑ | ❑ | ❑ | ❑ | ❑ |
| cancel trip? | ❑ | ❑ | ❑ | ❑ | ❑ |
| continue on regardless? | ❑ | ❑ | ❑ | ❑ | ❑ |
| seek an alternate mode of travel? | ❑ | ❑ | ❑ | ❑ | ❑ |

**6** **What resources do you NORMALLY use to INFLUENCE OR CHANGE your travel plans?** *(Check all that apply)*

- ❑ Cellular Phone
- ❑ Radio Station
- ❑ Highway Advisory Radio
- ❑ Television
- ❑ Communications with other drivers
- ❑ Changeable Message Signs
- ❑ Camera Images on the Internet
- ❑ CB Radio
- ❑ Notices at Truck Stop, Convenience Stores, Rest Areas
- ❑ Observations of Traffic Conditions
- ❑ Touch Screen Information Kiosks
- ❑ Road/Weather Conditions Information on the Internet
- ❑ 1-800 Travel or Road Condition Information Phone Number
- ❑ Other *(please specify)* _____

**7** **HOW IMPORTANT is the following traveler information for determining a change in your travel plans?** *(Check only ONE box for each item)*

| | Very Important | Somewhat Important | Neutral | Somewhat Unimportant | Very Unimportant |
|---|---|---|---|---|---|
| Road Conditions | ❑ | ❑ | ❑ | ❑ | ❑ |
| Weather Conditions | ❑ | ❑ | ❑ | ❑ | ❑ |
| Occurance of Hazard/Accident | ❑ | ❑ | ❑ | ❑ | ❑ |
| Location of Hazard/Accident | ❑ | ❑ | ❑ | ❑ | ❑ |
| Travel Delays | ❑ | ❑ | ❑ | ❑ | ❑ |
| Average Travel Speed | ❑ | ❑ | ❑ | ❑ | ❑ |
| Availability of Alternate Routes | ❑ | ❑ | ❑ | ❑ | ❑ |
| Construction | ❑ | ❑ | ❑ | ❑ | ❑ |

**8** **The following information is needed to ensure that your travel needs are properly represented in this survey. It will be used for the purposes of this survey only.** *(Check ONE box per question)*

| | |
|---|---|
| *a)* What is your current state of residence? | ❑ California<br>❑ Oregon<br>❑ Other |
| *b)* What is your gender? | ❑ Male<br>❑ Female |
| *c)* What is your age? | ❑ 15 – 24 Years<br>❑ 25 – 44<br>❑ 45 – 64<br>❑ 65 + |
| *d)* What type of vehicle do you NORMALLY drive over Siskiyou Pass? | ❑ Automobile<br>❑ Commercial (Truck, Bus)<br>❑ RV<br>❑ Ride as Passenger Only |

**General comments/suggestions regarding travel over Siskiyou Pass:** _____

_____

_____

***When finished, please return the completed survey in the postage paid envelope along with the yellow card to enter the drawing for $100 by June 30, 2003.***

**THANK YOU FOR YOUR PARTICIPATION!**

# Appendix B: Tabular Results of Surveys

## Survey I (March 2000)
## Survey II-a & II-b (May 2001)
## Survey III (April 2002)
## Survey IV (May 2003)

Throughout Appendix B various symbols and abbreviations are used when representing specific data. The following describes the symbols used in this appendix:

- N = number of participants that answered a particular question
- * = number of people who did not answer that particular question
- StDev = Standard Deviation from the mean
- Mean = Arithmetic Mean for the data of a particular question
- Median = The value which falls exactly in the middle of all data points

Results for Survey I are separate from subsequent surveys because the questions asked and the order of the questions differed.

## Survey I (March 2000)

**1. Fill in the average number of times per day, week, month, OR year that you travel over Siskiyou Pass.**

_____ times per day
_____ times per week
_____ times per month
_____ times per year

| Times/yr. | Count | Percent |
|---|---|---|
| 0 | 3 | 0.61 |
| 1 | 76 | 15.57 |
| 2 | 87 | 17.83 |
| 3 | 40 | 8.2 |
| 4 | 55 | 11.27 |
| 5 | 18 | 3.69 |
| 6 | 28 | 5.74 |
| 7 | 2 | 0.41 |
| 8 | 8 | 1.64 |
| 9 | 1 | 0.2 |
| 10 | 14 | 2.87 |
| 12 | 23 | 4.71 |
| 13 | 1 | 0.2 |
| 15 | 3 | 0.61 |
| 20 | 2 | 0.41 |
| 24 | 16 | 3.28 |
| 30 | 1 | 0.2 |
| 34 | 1 | 0.2 |
| 36 | 10 | 2.05 |
| 45 | 2 | 0.41 |
| 48 | 10 | 2.05 |
| 52 | 9 | 1.84 |
| 60 | 4 | 0.82 |
| 68 | 1 | 0.2 |
| 72 | 3 | 0.61 |
| 84 | 2 | 0.41 |
| 96 | 3 | 0.61 |
| 104 | 23 | 4.71 |
| 120 | 1 | 0.2 |
| 150 | 2 | 0.41 |
| 156 | 8 | 1.64 |
| 180 | 1 | 0.2 |
| 208 | 12 | 2.46 |
| 240 | 1 | 0.2 |
| 250 | 1 | 0.2 |
| 260 | 5 | 1.02 |
| 312 | 3 | 0.61 |
| 520 | 1 | 0.2 |
| 728 | 1 | 0.2 |
| 730 | 5 | 1.02 |
| 1095 | 1 | 0.2 |
| **N=** | **488** | |
| *** =** | **10** | |
| **Mean** | **40.43** | |
| **Median** | **4** | |
| **StDev** | **109.44** | |

**2. During what season(s) do you do most of your traveling over Siskiyou Pass? (*Check ALL that apply*)**

- ❑ Spring
- ❑ Summer
- ❑ Fall
- ❑ Winter

| | Count | Percent |
|---|---|---|
| **All Seasons** | 165 | 33.5 |
| **Spring Only** | 60 | 12.2 |
| **Summer Only** | 60 | 12.2 |
| **Fall Only** | 11 | 2.24 |
| **Winter Only** | 32 | 6.5 |
| **Spring and Summer** | 47 | 9.55 |
| **Other Combinations** | 117 | 23.78 |
| | 492 | |
| | 6 | |

**3. Do you prefer to get tourist and traveler information**

- ❑ Before you start a trip
- ❑ While on the road
- ❑ Both
- ❑ Neither

| | Count | Percent |
|---|---|---|
| **Before trip** | 158 | 32.58 |
| **While on the road** | 49 | 10.1 |
| **Both** | 183 | 37.73 |
| **Neither** | 95 | 19.51 |
| | N= | 485 |
| | * = | 13 |

**4. When you hear of a road closure or significant delay, HOW LIKELY are you to…*(Check ONE box per item)***

| | Not Very | Somewhat | Very |
|---|---|---|---|
| Wait on the roadway | ❑ | ❑ | ❑ |
| Stop at a nearby town | ❑ | ❑ | ❑ |
| Leave later | ❑ | ❑ | ❑ |
| Turn around | ❑ | ❑ | ❑ |
| Take an alternate route | ❑ | ❑ | ❑ |
| Cancel trip | ❑ | ❑ | ❑ |
| Continue on regardless | ❑ | ❑ | ❑ |
| Seek an alternate mode of travel | ❑ | ❑ | ❑ |

| | Not Very | Percent | Somewhat | Percent | Very | Percent | Count | * | Mean | StDev | Rank |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Wait on roadway** | 225 | 59.52 | 112 | 29.63 | 41 | 10.85 | 378 | 120 | 1.51 | 0.68 | 6 |
| **Stop at a nearby town** | 104 | 26.33 | 185 | 46.84 | 106 | 26.84 | 395 | 103 | 2.01 | 0.73 | 3 |
| **Leave later** | 89 | 26.33 | 133 | 46.84 | 159 | 26.84 | 381 | 117 | 2.18 | 0.79 | 2 |
| **Turn around** | 216 | 61.54 | 84 | 23.93 | 51 | 14.53 | 351 | 147 | 1.53 | 0.74 | 5 |
| **Take an alternate route** | 80 | 20.1 | 152 | 38.19 | 166 | 41.71 | 398 | 100 | 2.22 | 0.76 | 1 |
| **Cancel trip** | 252 | 70.99 | 64 | 18.03 | 39 | 10.99 | 356 | 142 | 1.40 | 0.68 | 8 |
| **Continue on regardless** | 141 | 37.6 | 145 | 38.67 | 89 | 23.73 | 375 | 123 | 1.86 | 0.77 | 4 |
| **Seek alternate mode** | 236 | 66.29 | 88 | 24.72 | 32 | 8.99 | 356 | 142 | 1.43 | 0.65 | 7 |

**5. In your opinion, is there a REASONABLE ALTERNATE ROUTE for Interstate 5 over Siskiyou Pass?**

❑ Yes ❑ No ❑ Don't Know

| | Count | Percent |
|---|---|---|
| **Yes** | 91 | 18.84 |
| **No** | 243 | 50.31 |
| **Don't Know** | 149 | 30.85 |
| N= | 483 | |
| * = | 15 | |

**6. What resources do you NORMALLY use to determine a CHANGE in your travel plans? *(Check ALL that apply)***

❑ Cellular Phone
❑ Radio Station
❑ Highway Advisory Radio
❑ Television
❑ Communication with Other Drivers
❑ Changeable Message Signs
❑ Camera Images on the Internet
❑ Notices at Truck Stops, Convenience Stores, Rest Areas
❑ Observations of Traffic Condition
❑ Touch Screen Information Kiosks
❑ Road/Weather Conditions Information on the Internet
❑ Other (please specify) _____

| | Use | Percent | Don't Use | Percent | Count | * | Rank |
|---|---|---|---|---|---|---|---|
| **Cellular Phone** | 133 | 26.81 | 363 | 73.9 | 496 | 2 | 8 |
| **Radio Station** | 281 | 56.65 | 215 | 43.35 | 496 | 2 | 1 |
| **Highway Advisory Radio** | 196 | 39.52 | 300 | 60.48 | 496 | 2 | 3 |
| **Television** | 214 | 43.15 | 282 | 56.85 | 496 | 2 | 2 |
| **Communication with Others** | 165 | 33.27 | 331 | 66.73 | 496 | 2 | 7 |
| **Changeable Message Signs** | 181 | 36.49 | 315 | 63.51 | 496 | 2 | 5 |
| **Camera Images on the Internet** | 56 | 11.29 | 440 | 88.71 | 496 | 2 | 10 |
| **Notices at Truck/Rest Stops** | 172 | 34.68 | 324 | 65.32 | 496 | 2 | 6 |
| **Observations of Traffic Conditions** | 189 | 38.1 | 307 | 61.9 | 496 | 2 | 4 |
| **Touch Screen Kiosks** | 7 | 1.41 | 489 | 98.59 | 496 | 2 | 12 |
| **Road/Weather Info. On Internet** | 114 | 22.98 | 382 | 77.02 | 496 | 2 | 9 |
| **Other** | 29 | 5.85 | 467 | 94.15 | 496 | 2 | 11 |

**7. HOW IMPORTANT is the following traveler information for determining a change in your travel plans? *(Check ONE box for each item)***

| | Not Important | Somewhat Important | Very Important |
|---|---|---|---|
| Road conditions | ❑ | ❑ | ❑ |
| Weather conditions | ❑ | ❑ | ❑ |
| Occurrence of hazard/accident | ❑ | ❑ | ❑ |
| Location of hazard/accident | ❑ | ❑ | ❑ |
| Travel delays | ❑ | ❑ | ❑ |
| Average travel speed | ❑ | ❑ | ❑ |
| Availability of alternate routes | ❑ | ❑ | ❑ |
| Other *(please specify)* _____ | ❑ | ❑ | ❑ |

| | Not Important | Percent | Somewhat Important | Percent | Very Important | Percent |
|---|---|---|---|---|---|---|
| **Road Conditions** | 39 | 8.26 | 119 | 25.21 | 314 | 66.53 |
| **Weather Conditions** | 34 | 7.26 | 132 | 28.21 | 302 | 64.53 |
| **Occurrence of Hazard** | 56 | 13.11 | 182 | 42.62 | 189 | 44.26 |
| **Location of Hazard** | 57 | 13.57 | 166 | 39.52 | 197 | 46.9 |
| **Travel Delays** | 66 | 15.68 | 214 | 50.83 | 141 | 33.49 |
| **Average Travel Speed** | 125 | 30.27 | 184 | 44.55 | 104 | 25.18 |
| **Alternate Routes** | 72 | 17.06 | 178 | 42.18 | 172 | 40.76 |
| **Other** | 17 | 38.64 | 13 | 29.55 | 14 | 31.82 |

| | Count | * | Mean | StDev | Rank |
|---|---|---|---|---|---|
| **Road Conditions** | 472 | 26 | 2.58 | 0.64 | 1 |
| **Weather Conditions** | 468 | 30 | 2.57 | 0.63 | 2 |
| **Occurrence of Hazard** | 427 | 71 | 2.31 | 0.69 | 4 |
| **Location of Hazard** | 420 | 78 | 2.33 | 0.70 | 3 |
| **Travel Delays** | 421 | 77 | 2.18 | 0.70 | 6 |
| **Average Travel Speed** | 413 | 85 | 1.95 | 0.74 | 7 |
| **Alternate Routes** | 422 | 76 | 2.24 | 0.72 | 5 |
| **Other** | 44 | 454 | 1.93 | 0.85 | 8 |

**8. IF you use the following technologies over Siskiyou Pass, the information given was …**

| | ❑ Not Aware of Technology on Siskiyou Pass (Skip to next technology) | Not Very | Somewhat | Very |
|---|---|---|---|---|
| **Changeable Message Signs** | Accurate? | ❑ | ❑ | ❑ |
| | Timely? | ❑ | ❑ | ❑ |
| | Useful? | ❑ | ❑ | ❑ |
| | Understandable? | ❑ | ❑ | ❑ |
| | Accessible? | ❑ | ❑ | ❑ |

| | Not Very | Percent | Somewhat | Percent | Very | Percent | Count | * | Mean | StDev |
|---|---|---|---|---|---|---|---|---|---|---|
| **Accurate** | 29 | 10.78 | 138 | 51.30 | 102 | 37.92 | 269 | 32 | 2.27 | 0.65 |
| **Timely** | 37 | 14.12 | 133 | 50.76 | 92 | 35.11 | 262 | 39 | 2.21 | 0.67 |
| **Useful** | 17 | 6.39 | 97 | 36.47 | 152 | 57.14 | 265 | 36 | 2.51 | 0.62 |
| **Understandable** | 16 | 6.43 | 91 | 36.55 | 142 | 57.03 | 249 | 52 | 2.56 | 0.62 |
| **Accessible** | 22 | 9.21 | 108 | 45.19 | 109 | 45.61 | 239 | 62 | 2.36 | 0.65 |

| | Count | Percent |
|---|---|---|
| **Aware of Technology** | 301 | 66.01 |
| **Not Aware** | 155 | 33.99 |
| N= | 456 | |
| * = | 42 | |

| | ❑ Not Aware of Technology on Siskiyou Pass (Skip to next technology) | Not Very | Somewhat | Very |
|---|---|---|---|---|
| **Touch Screen Information Kiosks** | Accurate? | ❑ | ❑ | ❑ |
| | Timely? | ❑ | ❑ | ❑ |
| | Useful? | ❑ | ❑ | ❑ |
| | Understandable? | ❑ | ❑ | ❑ |
| | Accessible? | ❑ | ❑ | ❑ |

| | Not Very | Percent | Somewhat | Percent | Very | Percent | Count | * | Mean | StDev |
|---|---|---|---|---|---|---|---|---|---|---|
| **Accurate** | 17 | 34.69 | 19 | 38.78 | 13 | 26.53 | 50 | 12 | 1.89 | 0.79 |
| **Timely** | 16 | 34.04 | 20 | 42.55 | 11 | 23.4 | 47 | 15 | 1.89 | 0.76 |
| **Useful** | 14 | 27.45 | 17 | 33.33 | 20 | 39.22 | 51 | 11 | 2.12 | 0.82 |
| **Understandable** | 12 | 29.27 | 17 | 41.46 | 12 | 29.27 | 41 | 21 | 2.00 | 0.78 |
| **Accessible** | 13 | 30.23 | 19 | 44.19 | 11 | 25.58 | 43 | 19 | 1.95 | 0.75 |

| | Count | Percent |
|---|---|---|
| **Aware of Technology** | 62 | 15.2 |
| **Not Aware** | 346 | 84.8 |
| N= | 408 | |
| * = | 90 | |

| | ❑ Not Aware of Technology on Siskiyou Pass (Skip to next technology) | Not Very | Somewhat | Very |
|---|---|---|---|---|
| **Highway Advisory Radio** | Accurate? | ❑ | ❑ | ❑ |
| | Timely? | ❑ | ❑ | ❑ |
| | Useful? | ❑ | ❑ | ❑ |
| | Understandable? | ❑ | ❑ | ❑ |
| | Accessible? | ❑ | ❑ | ❑ |

| | Not Very | Percent | Somewhat | Percent | Very | Percent | Count | * | Mean | StDev |
|---|---|---|---|---|---|---|---|---|---|---|
| **Accurate** | 40 | 18.52 | 97 | 44.91 | 79 | 36.57 | 216 | 40 | 2.18 | 0.72 |
| **Timely** | 43 | 20.77 | 97 | 46.86 | 67 | 32.87 | 207 | 49 | 2.12 | 0.72 |
| **Useful** | 23 | 10.75 | 88 | 41.12 | 103 | 48.13 | 214 | 42 | 2.37 | 0.67 |
| **Understandable** | 19 | 9.6 | 79 | 39.9 | 100 | 50.51 | 198 | 58 | 2.41 | 0.66 |
| **Accessible** | 31 | 16.67 | 76 | 40.86 | 79 | 42.47 | 186 | 70 | 2.26 | 0.73 |

| | Count | Percent |
|---|---|---|
| **Aware of Technology** | 256 | 58.99 |
| **Not Aware** | 178 | 41.01 |
| N= | 434 | |
| * = | 64 | |

| | ❑ Not Aware of Technology on Siskiyou Pass (Skip to next technology) | Not Very | Somewhat | Very |
|---|---|---|---|---|
| **Road/Weather Conditions Information on the Internet** | Accurate? | ❑ | ❑ | ❑ |
| | Timely? | ❑ | ❑ | ❑ |
| | Useful? | ❑ | ❑ | ❑ |
| | Understandable? | ❑ | ❑ | ❑ |
| | Accessible? | ❑ | ❑ | ❑ |

| | Not Very | Percent | Somewhat | Percent | Very | Percent | Count | * | Mean | StDev |
|---|---|---|---|---|---|---|---|---|---|---|
| **Accurate** | 25 | 19.08 | 46 | 35.11 | 60 | 45.8 | 131 | 26 | 2.27 | 0.76 |
| **Timely** | 26 | 20.80 | 49 | 39.2 | 50 | 40 | 125 | 32 | 2.19 | 0.76 |
| **Useful** | 20 | 15.63 | 42 | 32.81 | 66 | 51.56 | 128 | 29 | 2.36 | 0.74 |
| **Understandable** | 17 | 14.41 | 34 | 28.81 | 67 | 56.78 | 118 | 39 | 2.42 | 0.73 |
| **Accessible** | 23 | 19.17 | 42 | 35 | 55 | 45.83 | 120 | 37 | 2.27 | 0.76 |

| | Count | Percent |
|---|---|---|
| **Aware of Technology** | 157 | 38.39 |
| **Not Aware** | 252 | 61.61 |
| N= | 410 | |
| * | 88 | |

| | ❑ Not Aware of Technology on Siskiyou Pass (Skip to next technology) | Not Very | Somewhat | Very |
|---|---|---|---|---|
| **Siskiyou Pass Camera Images on the Internet** | Accurate? | ❑ | ❑ | ❑ |
| | Timely? | ❑ | ❑ | ❑ |
| | Useful? | ❑ | ❑ | ❑ |
| | Understandable? | ❑ | ❑ | ❑ |
| | Accessible? | ❑ | ❑ | ❑ |

| | Not Very | Percent | Somewhat | Percent | Very | Percent | Count | * | Mean | StDev |
|---|---|---|---|---|---|---|---|---|---|---|
| **Accurate** | 20 | 20.83 | 28 | 29.17 | 48 | 50.00 | 96 | 15 | 2.29 | 0.80 |
| **Timely** | 20 | 21.74 | 31 | 33.70 | 41 | 44.57 | 92 | 19 | 2.23 | 0.79 |
| **Useful** | 14 | 15.05 | 32 | 34.41 | 47 | 50.54 | 93 | 18 | 2.35 | 0.72 |
| **Understandable** | 10 | 11.36 | 36 | 40.91 | 42 | 47.73 | 88 | 23 | 2.36 | 0.68 |
| **Accessible** | 13 | 16.05 | 33 | 40.74 | 35 | 43.21 | 81 | 30 | 2.27 | 0.74 |

| | Count | Percent |
|---|---|---|
| **Aware of Technology** | 111 | 26.88 |
| **Not Aware** | 302 | 73.12 |
| N= | 413 | |
| * | 85 | |

**9. IF costs for the following services were to come directly from travelers over Siskiyou Pass, how WILLING would you be to PAY for them?**

| | Not Willing | Neutral | Willing |
|---|---|---|---|
| Changeable Message Signs | ❑ | ❑ | ❑ |
| Touch Screen Information Kiosks | ❑ | ❑ | ❑ |
| Highway Advisory Radio | ❑ | ❑ | ❑ |
| Road/Weather Conditions Information on the Internet | ❑ | ❑ | ❑ |
| Siskiyou Pass Camera Images on the Internet | ❑ | ❑ | ❑ |
| Snowplow/Sanding Equipment | ❑ | ❑ | ❑ |
| Traditional Roadside Signing | ❑ | ❑ | ❑ |
| Emergency Vehicles | ❑ | ❑ | ❑ |
| Traveler Information Telephone Hotline | ❑ | ❑ | ❑ |

| | Not Willing | Percent | Neutral | Percent | Willing | Percent |
|---|---|---|---|---|---|---|
| **Change Message Signs** | 191 | 41.79 | 172 | 37.64 | 94 | 20.57 |
| **Touch Screen Kiosks** | 248 | 58.63 | 147 | 34.75 | 28 | 6.62 |
| **Highway Advisory Radio** | 172 | 39.36 | 161 | 36.84 | 104 | 23.8 |
| **Road Info. on Internet** | 216 | 51.06 | 150 | 35.46 | 57 | 13.48 |
| **Images on Internet** | 223 | 52.35 | 151 | 35.45 | 52 | 12.21 |
| **Plow/Sanding Equipment** | 154 | 35.4 | 128 | 29.43 | 153 | 35.17 |
| **Traditional Signing** | 163 | 37.47 | 163 | 37.47 | 109 | 25.06 |
| **Emergency Vehicles** | 141 | 32.56 | 137 | 31.64 | 155 | 35.8 |
| **Info. Hotline** | 170 | 38.9 | 154 | 35.24 | 113 | 25.86 |

| | Count | * | Mean | StDev | Rank |
|---|---|---|---|---|---|
| **Change Message Signs** | 457 | 41 | 1.79 | 0.76 | 6 |
| **Touch Screen Kiosks** | 423 | 75 | 1.48 | 0.62 | 9 |
| **Highway Advisory Radio** | 437 | 61 | 1.84 | 0.78 | 5 |
| **Road Info. on Internet** | 423 | 75 | 1.62 | 0.71 | 7 |
| **Images on Internet** | 426 | 72 | 1.60 | 0.70 | 8 |
| **Plow/Sanding Equipment** | 435 | 63 | 2.00 | 0.84 | 2 |
| **Traditional Signing** | 435 | 63 | 1.88 | 0.78 | 3 |
| **Emergency Vehicles** | 433 | 65 | 2.03 | 0.83 | 1 |
| **Info. Hotline** | 437 | 61 | 1.87 | 0.80 | 4 |

**10. The following information is needed to ensure that your travel needs are properly represented in this survey. It will be used for the purposes of this survey only. *(Check ONE box per question)***

| | |
|---|---|
| **What is your current state of residence?** | ❑ California<br>❑ Oregon<br>❑ Other _____ |

| State | Count | Percent |
|---|---|---|
| **California** | 113 | 23.11 |
| **Oregon** | 236 | 48.26 |
| **Other** | 140 | 28.63 |
| | N= | 489 |
| | * = | 9 |

| | |
|---|---|
| **What is your gender?** | ❑ Male<br>❑ Female |

| Gender | Count | Percent |
|---|---|---|
| **Male** | 355 | 74.11 |
| **Female** | 124 | 25.89 |
| | N= | 479 |
| | * = | 19 |

| | |
|---|---|
| **What is your age?** | ❑ 15 – 24 Years<br>❑ 25 – 44<br>❑ 45 – 64<br>❑ 65 + |

| Age | Count | Percent |
|---|---|---|
| **15-24** | 44 | 8.83 |
| **25-44** | 140 | 28.75 |
| **45-64** | 219 | 45.17 |
| **65+** | 84 | 17.25 |
| | N= | 487 |
| | * = | 11 |
| | Mean Age | 47.4 |

| | |
|---|---|
| **What type of vehicle do you normally drive over Siskiyou Pass?** | ❑ Automobile<br>❑ Commercial (Truck, Bus)<br>❑ Motorcycle<br>❑ RV<br>❑ Ride as Passenger Only |

| Vehicle Type | Count | Percent |
|---|---|---|
| **Automobile** | 320 | 65.44 |
| **Commercial** | 120 | 24.54 |
| **Motorcycle** | 0 | 0.00 |
| **RV** | 42 | 8.59 |
| **Ride Only** | 7 | 1.43 |
| | N= | 489 |
| | *= | 9 |

| | |
|---|---|
| **What is the primary *purpose* for the majority of vehicle travel you make over Siskiyou Pass?** | ❑ Work<br>❑ School<br>❑ Shopping<br>❑ Medical<br>❑ Recreation<br>❑ Other _____ |

| Purpose | Count | Percent |
|---|---|---|
| **Work** | 154 | 31.56 |
| **School** | 4 | 0.82 |
| **Shopping** | 4 | 0.82 |
| **Medical** | 4 | 0.82 |
| **Recreation** | 268 | 54.92 |
| **Other** | 54 | 11.07 |
| | N= | 488 |
| | * = | 10 |

| | |
|---|---|
| **What is the average number of miles traveled for the trip *purpose* checked above?** | ❑ 0 – 49<br>❑ 50 – 99<br>❑ 100 – 300<br>❑ 300 + |

| Miles/Trip | Count | Percent |
|---|---|---|
| **0-49** | 10 | 2.07 |
| **50-99** | 19 | 3.93 |
| **100-300** | 51 | 10.56 |
| **300+** | 403 | 83.47 |
| | N= | 484 |
| | * = | 14 |

| | |
|---|---|
| **What is your average annual income (per household)?** | ❑ Under $20,000<br>❑ 20,000 – 39,000<br>❑ 40,000 – 79,000<br>❑ 80,000 + |

| Average Income | Count | Percent |
|---|---|---|
| **Under $20,000** | 43 | 10.17 |
| **$20,000-39,000** | 127 | 30.02 |
| **$40,000-79,000** | 188 | 44.44 |
| **$80,000+** | 65 | 15.37 |
| | N= | 423 |
| | * = | 75 |

**General Comments:** **See Comments in Appendix D**

# Survey II-a & II-b (May 2001), Survey III (April 2002), Survey IV (May 2003)

**Fill in the average number of times per day, week, month, OR year that you travel over Siskiyou Pass.**

_____ times per day
_____ times per week
_____ times per year
_____ times per month

| Survey II-a | | |
|---|---|---|
| Times/Yr | Count | Percent |
| 0 | 5 | 1.16 |
| 0.5 | 1 | 0.23 |
| 1 | 81 | 18.75 |
| 1.5 | 3 | 0.69 |
| 2 | 87 | 20.14 |
| 2.5 | 2 | 0.46 |
| 3 | 30 | 6.94 |
| 4 | 46 | 10.65 |
| 4.5 | 2 | 0.46 |
| 5 | 16 | 3.70 |
| 6 | 16 | 3.70 |
| 7 | 3 | 0.69 |
| 7.5 | 1 | 0.23 |
| 8 | 5 | 1.16 |
| 10 | 9 | 2.08 |
| 12 | 19 | 4.40 |
| 15 | 1 | 0.23 |
| 20 | 2 | 0.46 |
| 24 | 17 | 3.94 |
| 30 | 3 | 0.69 |
| 36 | 5 | 1.16 |
| 42 | 2 | 0.46 |
| 48 | 8 | 1.85 |
| 52 | 7 | 1.62 |
| 55 | 1 | 0.23 |
| 60 | 1 | 0.23 |
| 71 | 1 | 0.23 |
| 72 | 4 | 0.93 |
| 84 | 1 | 0.23 |
| 104 | 17 | 3.94 |
| 120 | 3 | 0.69 |

| Survey II-b | | |
|---|---|---|
| Times/Yr | Count | Percent |
| 0 | 3 | 0.21 |
| 0.1 | 1 | 0.07 |
| 0.5 | 3 | 0.21 |
| 0.75 | 1 | 0.07 |
| 1 | 126 | 8.87 |
| 1.5 | 9 | 0.63 |
| 2 | 119 | 8.37 |
| 2.5 | 4 | 0.28 |
| 3 | 58 | 4.08 |
| 3.5 | 8 | 0.56 |
| 4 | 104 | 7.32 |
| 4.5 | 4 | 0.28 |
| 5 | 31 | 2.18 |
| 6 | 64 | 4.50 |
| 6.5 | 2 | 0.14 |
| 7 | 9 | 0.63 |
| 7.5 | 1 | 0.07 |
| 8 | 35 | 2.46 |
| 8.5 | 1 | 0.07 |
| 9 | 3 | 0.21 |
| 9.5 | 1 | 0.07 |
| 10 | 29 | 2.04 |
| 12 | 55 | 3.87 |
| 13 | 1 | 0.07 |
| 13.5 | 1 | 0.07 |
| 14 | 1 | 0.07 |
| 15 | 8 | 0.56 |
| 16 | 4 | 0.28 |
| 18 | 7 | 0.49 |
| 20 | 10 | 0.70 |
| 21 | 1 | 0.07 |

| Survey III | | |
|---|---|---|
| Times/Yr | Count | Percent |
| 1 | 138 | 9.73 |
| 2 | 199 | 14.02 |
| 3 | 82 | 5.78 |
| 4 | 130 | 9.16 |
| 5 | 24 | 1.69 |
| 6 | 93 | 6.55 |
| 7 | 3 | 0.21 |
| 8 | 36 | 2.54 |
| 9 | 2 | 0.14 |
| 10 | 40 | 2.82 |
| 12 | 65 | 4.58 |
| 14 | 3 | 0.21 |
| 15 | 7 | 0.49 |
| 16 | 3 | 0.21 |
| 18 | 2 | 0.14 |
| 20 | 16 | 1.13 |
| 24 | 111 | 7.82 |
| 25 | 1 | 0.07 |
| 28 | 1 | 0.07 |
| 30 | 4 | 0.28 |
| 36 | 53 | 3.74 |
| 40 | 2 | 0.14 |
| 42 | 1 | 0.07 |
| 48 | 42 | 2.96 |
| 50 | 1 | 0.07 |
| 52 | 38 | 2.68 |
| 60 | 5 | 0.35 |
| 68 | 1 | 0.07 |
| 70 | 1 | 0.07 |
| 72 | 15 | 1.06 |
| 96 | 13 | 0.92 |

| Survey IV | | |
|---|---|---|
| Times/Yr | Count | Percent |
| 0 | 4 | 0.32 |
| 0.1 | 1 | 0.08 |
| 0.5 | 2 | 0.16 |
| 1 | 114 | 9.11 |
| 1.5 | 2 | 0.16 |
| 2 | 110 | 8.79 |
| 2.5 | 6 | 0.48 |
| 3 | 60 | 4.8 |
| 3.5 | 5 | 0.4 |
| 4 | 96 | 7.67 |
| 4.5 | 3 | 0.24 |
| 5 | 29 | 2.32 |
| 5.5 | 1 | 0.08 |
| 6 | 62 | 4.96 |
| 6.7 | 1 | 0.08 |
| 7 | 5 | 0.4 |
| 8 | 32 | 2.56 |
| 8.5 | 1 | 0.08 |
| 9 | 2 | 0.16 |
| 10 | 26 | 2.08 |
| 12 | 49 | 3.92 |
| 14 | 3 | 0.24 |
| 14.5 | 1 | 0.08 |
| 15 | 4 | 0.32 |
| 16 | 3 | 0.24 |
| 18 | 7 | 0.56 |
| 20 | 7 | 0.56 |
| 22 | 1 | 0.08 |
| 23 | 2 | 0.16 |
| 24 | 96 | 7.67 |
| 27 | 1 | 0.08 |

| Survey II-a (cont.) | | |
|---|---|---|
| Times/Yr | Count | Percent |
| 130 | 1 | 0.23 |
| 156 | 4 | 0.93 |
| 168 | 1 | 0.23 |
| 182 | 2 | 0.46 |
| 208 | 13 | 3.01 |
| 216 | 1 | 0.23 |
| 240 | 1 | 0.23 |
| 260 | 2 | 0.46 |
| 312 | 1 | 0.23 |
| 365 | 2 | 0.46 |
| 400 | 1 | 0.23 |
| 520 | 1 | 0.23 |
| 760 | 2 | 0.46 |
| | N = | 432 |
| | * = | 19 |
| | Mean | 34.5 |
| | Median | 4 |
| | StDev | 96.08 |

| Survey II-b (cont.) | | |
|---|---|---|
| Times/Yr | Count | Percent |
| 22 | 2 | 0.14 |
| 24 | 90 | 6.33 |
| 30 | 5 | 0.35 |
| 32 | 1 | 0.07 |
| 35 | 1 | 0.07 |
| 36 | 47 | 3.31 |
| 40 | 1 | 0.07 |
| 42 | 3 | 0.21 |
| 45 | 2 | 0.14 |
| 48 | 54 | 3.80 |
| 50 | 1 | 0.07 |
| 52 | 40 | 2.81 |
| 54 | 2 | 0.14 |
| 55 | 1 | 0.07 |
| 60 | 11 | 0.77 |
| 72 | 21 | 1.48 |
| 78 | 2 | 0.14 |
| 84 | 1 | 0.07 |
| 96 | 20 | 1.41 |
| 100 | 2 | 0.14 |
| 104 | 105 | 7.39 |
| 108 | 4 | 0.28 |
| 120 | 15 | 1.06 |
| 121 | 1 | 0.07 |
| 128 | 1 | 0.07 |
| 130 | 3 | 0.21 |
| 132 | 2 | 0.14 |
| 140 | 1 | 0.07 |
| 144 | 9 | 0.63 |
| 150 | 3 | 0.21 |
| 156 | 33 | 2.32 |
| 158 | 1 | 0.07 |
| 160 | 1 | 0.07 |
| 172 | 1 | 0.07 |
| 176 | 1 | 0.07 |
| 192 | 4 | 0.28 |
| 196 | 1 | 0.07 |
| 200 | 1 | 0.07 |
| 208 | 61 | 4.29 |
| 216 | 2 | 0.14 |
| 225 | 1 | 0.07 |
| 234 | 2 | 0.14 |
| 240 | 10 | 0.70 |
| 248 | 1 | 0.07 |
| 260 | 29 | 2.04 |
| 264 | 1 | 0.07 |
| 270 | 1 | 0.07 |
| 275 | 1 | 0.07 |
| 280 | 1 | 0.07 |

| Survey III (cont.) | | |
|---|---|---|
| Times/Yr | Count | Percent |
| 100 | 1 | 0.07 |
| 104 | 76 | 5.36 |
| 120 | 8 | 0.56 |
| 140 | 2 | 0.14 |
| 144 | 3 | 0.21 |
| 145 | 1 | 0.07 |
| 156 | 23 | 1.62 |
| 168 | 2 | 0.14 |
| 175 | 1 | 0.07 |
| 180 | 2 | 0.14 |
| 200 | 3 | 0.21 |
| 208 | 48 | 3.38 |
| 230 | 1 | 0.07 |
| 240 | 2 | 0.14 |
| 250 | 1 | 0.07 |
| 260 | 11 | 0.78 |
| 288 | 3 | 0.21 |
| 312 | 28 | 1.97 |
| 336 | 1 | 0.07 |
| 360 | 1 | 0.07 |
| 365 | 4 | 0.28 |
| 384 | 1 | 0.07 |
| 400 | 1 | 0.07 |
| 416 | 4 | 0.28 |
| 460 | 1 | 0.07 |
| 480 | 6 | 0.42 |
| 490 | 1 | 0.07 |
| 520 | 8 | 0.56 |
| 540 | 1 | 0.07 |
| 600 | 1 | 0.07 |
| 730 | 33 | 2.33 |
| 750 | 1 | 0.07 |
| 780 | 1 | 0.07 |
| 912 | 1 | 0.07 |
| 1095 | 1 | 0.07 |
| 1248 | 1 | 0.07 |
| 1460 | 1 | 0.07 |
| 3650 | 2 | 0.14 |
| | N= | 1419 |
| | *= | 33 |
| | Mean | 74.254 |
| | Median | 10 |
| | StDev | 202.68 |

| Survey IV (cont.) | | |
|---|---|---|
| Times/Yr | Count | Percent |
| 30 | 8 | 0.64 |
| 36 | 45 | 3.6 |
| 40 | 2 | 0.16 |
| 42 | 2 | 0.16 |
| 43 | 1 | 0.08 |
| 44 | 1 | 0.08 |
| 45 | 2 | 0.16 |
| 46 | 1 | 0.08 |
| 48 | 30 | 2.4 |
| 50 | 2 | 0.16 |
| 52 | 25 | 2 |
| 56 | 1 | 0.08 |
| 60 | 6 | 0.48 |
| 70 | 1 | 0.08 |
| 72 | 13 | 1.04 |
| 74 | 1 | 0.08 |
| 78 | 2 | 0.16 |
| 84 | 3 | 0.24 |
| 96 | 11 | 0.88 |
| 100 | 3 | 0.24 |
| 104 | 89 | 7.11 |
| 112 | 1 | 0.08 |
| 120 | 10 | 0.8 |
| 132 | 1 | 0.08 |
| 135 | 1 | 0.08 |
| 144 | 6 | 0.48 |
| 148 | 3 | 0.24 |
| 150 | 1 | 0.08 |
| 152 | 1 | 0.08 |
| 156 | 33 | 2.64 |
| 200 | 4 | 0.32 |
| 204 | 1 | 0.08 |
| 208 | 66 | 5.28 |
| 234 | 3 | 0.24 |
| 240 | 4 | 0.32 |
| 248 | 1 | 0.08 |
| 260 | 18 | 1.44 |
| 264 | 1 | 0.08 |
| 280 | 3 | 0.24 |
| 288 | 2 | 0.16 |
| 300 | 3 | 0.24 |
| 312 | 20 | 1.6 |
| 360 | 1 | 0.08 |
| 364 | 1 | 0.08 |
| 365 | 7 | 0.56 |
| 400 | 1 | 0.08 |
| 416 | 3 | 0.24 |
| 448 | 1 | 0.08 |
| 480 | 1 | 0.08 |

| Survey II-b (cont.) | | |
|---|---|---|
| Times/Yr | Count | Percent |
| 286 | 2 | 0.14 |
| 288 | 2 | 0.14 |
| 300 | 3 | 0.21 |
| 312 | 15 | 1.06 |
| 360 | 1 | 0.07 |
| 364 | 1 | 0.07 |
| 365 | 5 | 0.35 |
| 400 | 3 | 0.21 |
| 416 | 9 | 0.63 |
| 440 | 1 | 0.07 |
| 460 | 1 | 0.07 |
| 480 | 7 | 0.49 |
| 500 | 19 | 1.34 |
| 520 | 19 | 1.34 |
| 540 | 1 | 0.07 |
| 547.5 | 1 | 0.07 |
| 572 | 1 | 0.07 |
| 624 | 1 | 0.07 |
| 700 | 1 | 0.07 |
| 730 | 31 | 2.18 |
| 800 | 1 | 0.07 |
| 1056 | 1 | 0.07 |
| 1095 | 1 | 0.07 |
| 1460 | 1 | 0.07 |
| 2500 | 1 | 0.07 |
| 3650 | 1 | 0.07 |
| | N = | 1421 |
| | * = | 22 |
| | Mean | 92.07 |
| | Median | 24 |
| | StDev | 193.39 |

| Survey IV (cont.) | | |
|---|---|---|
| Times/Yr | Count | Percent |
| 496 | 1 | 0.08 |
| 520 | 7 | 0.56 |
| 573 | 1 | 0.08 |
| 592 | 3 | 0.24 |
| 605 | 1 | 0.08 |
| 639 | 1 | 0.08 |
| 677 | 1 | 0.08 |
| 688 | 1 | 0.08 |
| 729 | 1 | 0.08 |
| 730 | 19 | 1.52 |
| 802 | 1 | 0.08 |
| 886 | 1 | 0.08 |
| 905 | 1 | 0.08 |
| 936 | 1 | 0.08 |
| 938 | 1 | 0.08 |
| 941 | 1 | 0.08 |
| 957 | 2 | 0.16 |
| 965 | 1 | 0.08 |
| 1005 | 1 | 0.08 |
| 1105 | 2 | 0.16 |
| 1250 | 2 | 0.16 |
| 1253 | 1 | 0.08 |
| 1322 | 1 | 0.08 |
| 1410 | 1 | 0.08 |
| 1570 | 1 | 0.08 |
| 1618 | 1 | 0.08 |
| 1730 | 1 | 0.08 |
| 1914 | 1 | 0.08 |
| 2030 | 2 | 0.16 |
| 2210 | 1 | 0.08 |
| 2250 | 1 | 0.08 |
| 2278 | 1 | 0.08 |
| 2306 | 1 | 0.08 |
| 2589 | 1 | 0.08 |
| 2789 | 1 | 0.08 |
| 3730 | 1 | 0.08 |
| | N= | 1251 |
| | *= | 16 |
| | Mean | 110.42 |
| | Median | 18 |
| | Stdev | 284.93 |

**During what season(s) do you do MOST of your traveling over Siskiyou Pass?** ***(Check ALL that apply)***

- ❑ Spring
- ❑ Summer
- ❑ Fall
- ❑ Winter

| | | Yes | Percent | No | Percent | Count | * |
|---|---|---|---|---|---|---|---|
| **Survey II-a** | Spring | 289 | 65.09 | 155 | 34.91 | 444 | 7 |
| | Summer | 315 | 70.95 | 129 | 29.05 | 444 | 7 |
| | Fall | 199 | 44.82 | 245 | 55.18 | 444 | 7 |
| | Winter | 164 | 36.94 | 280 | 63.06 | 444 | 7 |
| **Survey II-b** | Spring | 1197 | 84.36 | 222 | 15.64 | 1419 | 24 |
| | Summer | 1160 | 81.75 | 259 | 18.25 | 1419 | 24 |
| | Fall | 1022 | 72.02 | 397 | 27.98 | 1419 | 24 |
| | Winter | 804 | 56.66 | 615 | 43.34 | 1419 | 24 |
| **Survey III** | Spring | 1222 | 84.51 | 224 | 15.49 | 1446 | 6 |
| | Summer | 1069 | 73.93 | 377 | 26.07 | 1446 | 6 |
| | Fall | 995 | 68.81 | 451 | 31.19 | 1446 | 6 |
| | Winter | 749 | 51.80 | 697 | 48.20 | 1446 | 6 |
| **Survey IV** | Spring | 1006 | 80.80 | 239 | 19.20 | 1245 | 22 |
| | Summer | 1065 | 85.54 | 180 | 14.46 | 1245 | 22 |
| | Fall | 885 | 71.08 | 360 | 28.92 | 1245 | 22 |
| | Winter | 710 | 57.03 | 535 | 42.97 | 1245 | 22 |

| | Survey II-a | | Survey II-b | | Survey III | | Survey IV | |
|---|---|---|---|---|---|---|---|---|
| | Count | Percent | Count | Percent | Count | Percent | Count | Percent |
| All Seasons | 110 | 24.39 | 679 | 47.85 | 577 | 40.58 | 611 | 49.08 |
| Summer Only | 93 | 20.62 | 125 | 8.81 | 114 | 8.02 | 136 | 10.92 |
| Spring Only | 41 | 9.09 | 82 | 5.78 | 117 | 8.23 | 62 | 4.98 |
| Fall and Spring | 41 | 9.09 | 89 | 6.27 | 140 | 9.85 | 62 | 4.98 |
| Other Combinations | 166 | 36.81 | 444 | 31.29 | 474 | 33.33 | 374 | 30.01 |

**How accurate and useful to you are the following information devices when traveling in the Siskiyou Pass area?**

**Changeable Message Signs:** ❑ **Not Aware of This Technology in the Siskiyou Pass area**

Accuracy
- ❑ Very Accurate
- ❑ Somewhat Accurate
- ❑ Neutral
- ❑ Somewhat Inaccurate
- ❑ Very Inaccurate

Usefulness
- ❑ Very Useful
- ❑ Somewhat Useful
- ❑ Neutral
- ❑ Somewhat Useless
- ❑ Very Useless

| | Accuracy | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Survey II-a | | Survey II-b | | Survey III | | Survey IV | |
| | Count | Percent | Count | Percent | Count | Percent | Count | Percent |
| Very Accurate | 117 | 34.41 | 460 | 37.52 | 561 | 44.03 | 438 | 39.78 |
| Somewhat Accurate | 134 | 39.41 | 569 | 46.41 | 516 | 40.50 | 483 | 43.87 |
| Neutral | 80 | 23.53 | 161 | 13.13 | 159 | 12.48 | 148 | 13.44 |
| Somewhat Inaccurate | 7 | 2.06 | 31 | 2.53 | 31 | 2.43 | 21 | 1.91 |
| Very Inaccurate | 2 | 0.59 | 5 | 0.41 | 7 | 0.55 | 11 | 1.00 |
| | N = | 340 | N = | 1226 | N = | 1274 | N = | 1101 |
| | * = | 111 | * = | 217 | * = | 178 | * = | 166 |
| | Mean | 4.05 | Mean | 4.18 | Mean | 4.25 | Mean | 4.20 |
| | StDev | 0.85 | StDev | 0.78 | StDev | 0.81 | StDev | 0.813 |

| | Usefulness | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Survey II-a | | Survey II-b | | Survey III | | Survey IV | |
| | Count | Percent | Count | Percent | Count | Percent | Count | Percent |
| Very Useful | 176 | 52.85 | 706 | 57.63 | 756 | 59.76 | 644 | 60.02 |
| Somewhat Useful | 101 | 30.33 | 384 | 31.35 | 368 | 29.09 | 329 | 30.66 |
| Neutral | 45 | 13.51 | 107 | 8.73 | 103 | 8.14 | 77 | 7.18 |
| Somewhat Useless | 8 | 2.40 | 21 | 1.71 | 32 | 2.53 | 14 | 1.30 |
| Very Useless | 3 | 0.90 | 7 | 0.57 | 6 | 0.47 | 9 | 0.84 |
| | N = | 333 | N = | 1225 | N = | 1265 | N = | 1073 |
| | * = | 118 | * = | 218 | * = | 187 | * = | 194 |
| | Mean | 4.32 | Mean | 4.44 | Mean | 4.45 | Mean | 4.4772 |
| | StDev | 0.86 | StDev | 0.77 | StDev | 0.79 | StDev | 0.7566 |

| | Awareness | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Survey II-a | | Survey II-b | | Survey III | | Survey IV | |
| | Count | Percent | Count | Percent | Count | Percent | Count | Percent |
| Aware | 361 | 80.40 | 1260 | 88.86 | 1313 | 91.56 | 1125 | 89.86 |
| Not Aware | 88 | 19.60 | 158 | 11.14 | 121 | 8.44 | 127 | 10.14 |
| * = | 2 | | 25 | | 18 | | 15 | |

**Highway Advisory Radio** ❑ **Not Aware of This Technology in the Siskiyou Pass area**

Accuracy
- ❑ Very Accurate
- ❑ Somewhat Accurate
- ❑ Neutral
- ❑ Somewhat Inaccurate
- ❑ Very Inaccurate

Usefulness
- ❑ Very Useful
- ❑ Somewhat Useful
- ❑ Neutral
- ❑ Somewhat Useless
- ❑ Very Useless

| | Accuracy | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Survey II-a | | Survey II-b | | Survey III | | Survey IV | |
| | Count | Percent | Count | Percent | Count | Percent | Count | Percent |
| Very Accurate | 81 | 26.13 | 304 | 25.52 | 315 | 27.34 | 289 | 27.82 |
| Somewhat Accurate | 81 | 26.13 | 437 | 36.69 | 371 | 32.20 | 397 | 38.21 |
| Neutral | 130 | 41.94 | 383 | 32.16 | 408 | 35.42 | 286 | 27.53 |
| Somewhat Inaccurate | 14 | 4.52 | 47 | 3.95 | 45 | 3.91 | 47 | 4.52 |
| Very Inaccurate | 4 | 1.29 | 20 | 1.68 | 13 | 1.13 | 20 | 1.92 |
| | N = | 310 | N = | 1191 | N = | 1152 | N = | 1039 |
| | * = | 141 | * = | 252 | * = | 300 | * = | 228 |
| | Mean | 3.71 | Mean | 3.80 | Mean | 3.81 | Mean | 3.85 |
| | StDev | 0.95 | StDev | 0.92 | StDev | 0.92 | StDev | 0.942 |

| | Usefulness | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Survey II-a | | Survey II-b | | Survey III | | Survey IV | |
| | Count | Percent | Count | Percent | Count | Percent | Count | Percent |
| Very Useful | 107 | 33.75 | 436 | 36.52 | 385 | 33.22 | 396 | 38.63 |
| Somewhat Useful | 72 | 22.71 | 351 | 29.4 | 357 | 30.80 | 316 | 30.83 |
| Neutral | 110 | 34.70 | 311 | 26.05 | 318 | 27.44 | 225 | 21.95 |
| Somewhat Useless | 15 | 4.73 | 61 | 5.11 | 61 | 5.26 | 58 | 5.66 |
| Very Useless | 13 | 4.10 | 35 | 2.93 | 38 | 3.28 | 30 | 2.93 |
| | N = | 317 | N = | 1194 | N = | 1159 | N = | 1025 |
| | * = | 134 | * = | 249 | * = | 293 | * = | 242 |
| | Mean | 3.77 | Mean | 3.91 | Mean | 3.85 | Mean | 3.9659 |
| | StDev | 1.09 | StDev | 1.04 | StDev | 1.04 | StDev | 1.0467 |

| | Awareness | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Survey II-a | | Survey II-b | | Survey III | | Survey IV | |
| | Count | Percent | Count | Percent | Count | Percent | Count | Percent |
| Aware | 348 | 77.85 | 1238 | 87.86 | 1202 | 85.43 | 1077 | 87.85 |
| Not Aware | 99 | 22.15 | 171 | 12.14 | 205 | 14.57 | 149 | 12.15 |
| * = | 4 | | 34 | | 45 | | 41 | |

**Touch Screen Information Kiosk (Ashland) ❑ Not Aware of This Technology in the Siskiyou Pass area**

Accuracy
- ❑ Very Accurate
- ❑ Somewhat Accurate
- ❑ Neutral
- ❑ Somewhat Inaccurate
- ❑ Very Inaccurate

Usefulness
- ❑ Very Useful
- ❑ Somewhat Useful
- ❑ Neutral
- ❑ Somewhat Useless
- ❑ Very Useless

| | Accuracy | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Survey II-a | | Survey II-b | | Survey III | | Survey IV | |
| | Count | Percent | Count | Percent | Count | Percent | Count | Percent |
| Very Accurate | 29 | 28.71 | 25 | 16.45 | 315 | 27.34 | Not Applicable | |
| Somewhat Accurate | 14 | 13.86 | 29 | 19.08 | 371 | 32.20 | | |
| Neutral | 56 | 55.45 | 92 | 60.53 | 408 | 35.42 | | |
| Somewhat Inaccurate | 2 | 1.98 | 5 | 3.29 | 45 | 3.91 | | |
| Very Inaccurate | 0 | 0 | 1 | 0.66 | 13 | 1.13 | | |
| | N = | 101 | N = | 152 | N = | 1152 | | |
| | * = | 350 | * = | 1291 | * = | 300 | | |
| | Mean | 3.69 | Mean | 3.47 | Mean | 3.81 | | |
| | StDev | 0.91 | StDev | 0.83 | StDev | 0.92 | | |

| | Usefulness | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Survey II-a | | Survey II-b | | Survey III | | Survey IV | |
| | Count | Percent | Count | Percent | Count | Percent | Count | Percent |
| Very Useful | 31 | 31.00 | 26 | 16.15 | 385 | 33.22 | Not Applicable | |
| Somewhat Useful | 17 | 17.00 | 33 | 20.5 | 357 | 30.80 | | |
| Neutral | 44 | 44.00 | 81 | 50.31 | 318 | 27.44 | | |
| Somewhat Useless | 5 | 5.00 | 7 | 4.35 | 61 | 5.26 | | |
| Very Useless | 3 | 3.00 | 14 | 8.7 | 38 | 3.28 | | |
| | N = | 100 | N = | 161 | N = | 1159 | | |
| | * = | 351 | * = | 1282 | * = | 293 | | |
| | Mean | 3.68 | Mean | 3.31 | Mean | 3.85 | | |
| | StDev | 1.06 | StDev | 1.07 | StDev | 1.04 | | |

| | Awareness | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Survey II-a | | Survey II-b | | Survey III | | Survey IV | |
| | Count | Percent | Count | Percent | Count | Percent | Count | Percent |
| Aware | 114 | 25.39 | 166 | 11.70 | 189 | 13.38 | Not Applicable | |
| Not Aware | 335 | 74.61 | 1253 | 88.30 | 1224 | 86.62 | | |
| * = | 2 | | 24 | | 39 | | | |

**Road/Weather Information on the Internet** ❑ **Not Aware of This Technology in the Siskiyou Pass area**

Accuracy
- ❑ Very Accurate
- ❑ Somewhat Accurate
- ❑ Neutral
- ❑ Somewhat Inaccurate
- ❑ Very Inaccurate

Usefulness
- ❑ Very Useful
- ❑ Somewhat Useful
- ❑ Neutral
- ❑ Somewhat Useless
- ❑ Very Useless

| | Accuracy | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Survey II-a | | Survey II-b | | Survey III | | Survey IV | |
| | Count | Percent | Count | Percent | Count | Percent | Count | Percent |
| Very Accurate | 86 | 37.89 | 250 | 34.01 | 299 | 37.00 | 257 | 36.82 |
| Somewhat Accurate | 77 | 33.92 | 308 | 41.9 | 332 | 41.09 | 238 | 34.10 |
| Neutral | 53 | 23.35 | 159 | 21.63 | 160 | 19.80 | 183 | 26.22 |
| Somewhat Inaccurate | 8 | 3.52 | 16 | 2.18 | 11 | 1.36 | 12 | 1.72 |
| Very Inaccurate | 3 | 1.32 | 2 | 0.27 | 6 | 0.74 | 8 | 1.15 |
| | N = | 227 | N = | 735 | N = | 808 | N = | 698 |
| | * = | 224 | * = | 708 | * = | 644 | * = | 569 |
| | Mean | 4.03 | Mean | 4.07 | Mean | 4.12 | Mean | 4.04 |
| | StDev | 0.94 | StDev | 0.81 | StDev | 0.82 | StDev | 0.8956 |

| | Usefulness | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Survey II-a | | Survey II-b | | Survey III | | Survey IV | |
| | Count | Percent | Count | Percent | Count | Percent | Count | Percent |
| Very Useful | 108 | 48.65 | 380 | 51.77 | 399 | 49.57 | 341 | 48.64 |
| Somewhat Useful | 53 | 23.87 | 193 | 26.29 | 231 | 28.70 | 157 | 22.40 |
| Neutral | 45 | 20.27 | 123 | 16.76 | 141 | 17.52 | 165 | 23.54 |
| Somewhat Useless | 12 | 5.41 | 18 | 2.45 | 17 | 2.11 | 19 | 2.71 |
| Very Useless | 4 | 1.80 | 20 | 2.72 | 17 | 2.11 | 19 | 2.71 |
| | N = | 222 | N = | 734 | N = | 805 | N = | 701 |
| | * = | 229 | * = | 709 | * = | 647 | * = | 566 |
| | Mean | 4.12 | Mean | 4.22 | Mean | 4.22 | Mean | 4.1155 |
| | StDev | 1.03 | StDev | 0.99 | StDev | 0.95 | StDev | 1.0307 |

| | Awareness | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Survey II-a | | Survey II-b | | Survey III | | Survey IV | |
| | Count | Percent | Count | Percent | Count | Percent | Count | Percent |
| Aware | 242 | 54.14 | 756 | 53.66 | 828 | 59.19 | 734 | 60.41 |
| Not Aware | 205 | 45.86 | 653 | 46.34 | 571 | 40.81 | 481 | 39.59 |
| * = | 4 | | 34 | | 53 | | 52 | |

**Siskiyou Pass Camera Images on the Internet** ❑ **Not Aware of This Technology in the Siskiyou Pass area**

Accuracy
- ❑ Very Accurate
- ❑ Somewhat Accurate
- ❑ Neutral
- ❑ Somewhat Inaccurate
- ❑ Very Inaccurate

Usefulness
- ❑ Very Useful
- ❑ Somewhat Useful
- ❑ Neutral
- ❑ Somewhat Useless
- ❑ Very Useless

| | Accuracy | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Survey II-a | | Survey II-b | | Survey III | | Survey IV | |
| | Count | Percent | Count | Percent | Count | Percent | Count | Percent |
| Very Accurate | 81 | 44.51 | 2 | 0.27 | 6 | 0.74 | 332 | 54.97 |
| Somewhat Accurate | 45 | 24.73 | 16 | 2.18 | 11 | 1.36 | 109 | 18.05 |
| Neutral | 54 | 29.67 | 159 | 21.63 | 160 | 19.80 | 151 | 25.00 |
| Somewhat Inaccurate | 1 | 0.55 | 308 | 41.9 | 332 | 41.09 | 8 | 1.32 |
| Very Inaccurate | 1 | 0.55 | 250 | 34.01 | 299 | 37.00 | 4 | 0.66 |
| | N = | 182 | N = | 612 | N = | 808 | N = | 604 |
| | * = | 269 | * = | 831 | * = | 644 | * = | 663 |
| | Mean | 4.12 | Mean | 4.34 | Mean | 4.12 | Mean | 4.25 |
| | StDev | 0.9 | StDev | 0.9 | StDev | 0.82 | StDev | 0.9217 |

| | Usefulness | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Survey II-a | | Survey II-b | | Survey III | | Survey IV | |
| | Count | Percent | Count | Percent | Count | Percent | Count | Percent |
| Very Useful | 77 | 43.50 | 339 | 55.12 | 413 | 61.46 | 322 | 52.61 |
| Somewhat Useful | 44 | 25.42 | 143 | 23.25 | 118 | 17.56 | 113 | 18.46 |
| Neutral | 46 | 25.99 | 97 | 15.77 | 129 | 19.20 | 140 | 22.88 |
| Somewhat Useless | 4 | 2.26 | 14 | 2.28 | 7 | 1.04 | 15 | 2.45 |
| Very Useless | 5 | 2.82 | 22 | 3.58 | 5 | 0.74 | 22 | 3.59 |
| | N = | 177 | N = | 615 | N = | 672 | N = | 612 |
| | * = | 274 | * = | 828 | * = | 780 | * = | 655 |
| | Mean | 4.05 | Mean | 4.24 | Mean | 4.38 | Mean | 4.1405 |
| | StDev | 1.02 | StDev | 1.03 | StDev | 0.88 | StDev | 1.0764 |

| | Awareness | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Survey II-a | | Survey II-b | | Survey III | | Survey IV | |
| | Count | Percent | Count | Percent | Count | Percent | Count | Percent |
| Aware | 196 | 43.65 | 629 | 44.58 | 688 | 49.32 | 637 | 52.04 |
| Not Aware | 253 | 56.35 | 782 | 55.42 | 707 | 50.68 | 587 | 47.96 |
| * = | 2 | | 32 | | 57 | | 43 | |

**4. In your opinion, is there a REASONABLE ALTERNATE ROUTE for Interstate 5 over Siskiyou Pass?**
- ❑ **Yes**
- ❑ **No**
- ❑ **Don't Know**

| | Survey II-a | | Survey II-b | | Survey III | | Survey IV | |
|---|---|---|---|---|---|---|---|---|
| | Count | Percent | Count | Percent | Count | Percent | Count | Percent |
| Don't know | 117 | 46.99 | 323 | 28.86 | 352 | 31.37 | 309 | 27.79 |
| No | 97 | 38.96 | 621 | 55.50 | 618 | 55.08 | 615 | 55.31 |
| Yes | 35 | 14.06 | 175 | 15.64 | 152 | 13.55 | 188 | 16.91 |
| * = | 202 | | 324 | | 330 | | 155 | |

**5. When you hear of a road closure or significant delay, HOW LIKELY are you to…**
**(*Check ONE box per item*)**

| | Very Unlikely | Somewhat Likely | Neutral | Somewhat Likely | Very Likely |
|---|---|---|---|---|---|
| Wait on the roadway | ❑ | ❑ | ❑ | ❑ | ❑ |
| Stop at a nearby town | ❑ | ❑ | ❑ | ❑ | ❑ |
| Leave later | ❑ | ❑ | ❑ | ❑ | ❑ |
| Turn around | ❑ | ❑ | ❑ | ❑ | ❑ |
| Take an alternate route | ❑ | ❑ | ❑ | ❑ | ❑ |
| Cancel trip | ❑ | ❑ | ❑ | ❑ | ❑ |
| Continue on regardless | ❑ | ❑ | ❑ | ❑ | ❑ |
| Seek an alternate mode of travel | ❑ | ❑ | ❑ | ❑ | ❑ |

| | | Very Unlikely | Percent | Somewhat Unlikely | Percent | Neutral | Percent | Somewhat Likely | Percent | Very Likely | Percent |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Survey II-a | Wait on the Roadway | 132 | 40.12 | 46 | 13.98 | 48 | 14.59 | 71 | 21.58 | 32 | 9.73 |
| | Stop at a Nearby Town | 70 | 21.47 | 42 | 12.80 | 36 | 11.04 | 110 | 33.74 | 68 | 20.86 |
| | Leave Later | 52 | 16.35 | 34 | 10.69 | 29 | 9.12 | 100 | 31.45 | 103 | 32.39 |
| | Turn Around | 119 | 40.75 | 53 | 18.15 | 39 | 13.36 | 37 | 12.67 | 44 | 15.07 |
| | Take an Alternate Route | 68 | 20.61 | 40 | 12.12 | 44 | 13.33 | 91 | 27.58 | 87 | 26.36 |
| | Cancel Trip | 165 | 54.46 | 37 | 12.21 | 32 | 10.56 | 30 | 10.00 | 39 | 12.87 |
| | Continue on Regardless | 93 | 29.81 | 46 | 14.74 | 64 | 20.51 | 64 | 20.51 | 45 | 14.42 |
| | Seek an Alternate Mode of Transportation | 160 | 50.96 | 59 | 18.79 | 36 | 11.46 | 33 | 10.51 | 26 | 8.28 |
| Survey II-b | Wait on the Roadway | 470 | 37.27 | 223 | 17.68 | 93 | 7.38 | 271 | 21.49 | 204 | 16.18 |
| | Stop at a Nearby Town | 252 | 19.87 | 147 | 11.59 | 130 | 10.25 | 424 | 33.44 | 315 | 24.84 |
| | Leave Later | 203 | 16.42 | 105 | 8.50 | 128 | 10.36 | 371 | 30.02 | 429 | 34.71 |
| | Turn Around | 482 | 40.10 | 220 | 18.30 | 123 | 10.23 | 197 | 16.39 | 180 | 14.98 |
| | Take an Alternate Route | 330 | 26.25 | 142 | 11.30 | 146 | 11.61 | 333 | 26.49 | 306 | 24.34 |
| | Cancel Trip | 658 | 52.72 | 147 | 11.78 | 100 | 8.01 | 153 | 12.26 | 190 | 15.22 |
| | Continue on Regardless | 422 | 34.36 | 223 | 18.16 | 143 | 11.64 | 228 | 18.57 | 212 | 17.26 |
| | Seek an Alternate Mode of Transportation | 806 | 65.48 | 132 | 10.72 | 104 | 8.45 | 106 | 8.61 | 83 | 6.74 |
| Survey III | Wait on the Roadway | 520 | 40.59 | 219 | 17.10 | 107 | 8.35 | 250 | 19.52 | 185 | 14.44 |
| | Stop at a Nearby Town | 250 | 19.87 | 145 | 11.53 | 122 | 9.70 | 413 | 32.83 | 328 | 26.07 |
| | Leave Later | 191 | 15.38 | 94 | 7.57 | 127 | 10.23 | 351 | 28.26 | 479 | 38.57 |
| | Turn Around | 439 | 36.37 | 213 | 17.65 | 129 | 10.69 | 226 | 18.72 | 200 | 16.57 |
| | Take an Alternate Route | 343 | 26.99 | 170 | 13.38 | 152 | 11.96 | 308 | 24.23 | 298 | 23.45 |
| | Cancel Trip | 577 | 45.68 | 152 | 12.03 | 116 | 9.18 | 204 | 16.15 | 214 | 16.94 |
| | Continue on Regardless | 459 | 36.72 | 210 | 16.80 | 173 | 13.84 | 223 | 17.84 | 185 | 14.80 |
| | Seek an Alternate Mode of Transportation | 812 | 64.60 | 143 | 11.38 | 106 | 8.43 | 108 | 8.59 | 88 | 7.00 |
| Survey IV | Wait on the Roadway | 311 | 27.97 | 199 | 17.9 | 92 | 8.27 | 266 | 23.92 | 244 | 21.94 |
| | Stop at a Nearby Town | 177 | 15.83 | 127 | 11.36 | 122 | 10.91 | 386 | 34.53 | 306 | 27.37 |
| | Leave Later | 168 | 15.37 | 101 | 9.24 | 99 | 9.06 | 305 | 27.9 | 420 | 38.43 |
| | Turn Around | 441 | 41.14 | 195 | 18.19 | 120 | 11.19 | 172 | 16.04 | 144 | 13.43 |
| | Take an Alternate Route | 270 | 24.22 | 150 | 13.45 | 114 | 10.22 | 304 | 27.26 | 277 | 24.84 |
| | Cancel Trip | 623 | 56.79 | 138 | 12.58 | 94 | 8.57 | 103 | 9.39 | 139 | 12.67 |
| | Continue on Regardless | 321 | 29.18 | 164 | 14.91 | 165 | 15 | 238 | 21.64 | 212 | 19.27 |
| | Seek an Alternate Mode of Transportation | 710 | 65.56 | 130 | 12 | 91 | 8.4 | 91 | 8.4 | 61 | 5.63 |

| | | Count | * | Mean | StDev | Rank |
|---|---|---|---|---|---|---|
| Survey II-a | Wait on the Roadway | 329 | 122 | 2.47 | 1.44 | 5 |
| | Stop at a Nearby Town | 326 | 125 | 3.19 | 1.46 | 3 |
| | Leave Later | 318 | 133 | 3.53 | 1.45 | 1 |
| | Turn Around | 292 | 159 | 2.43 | 1.49 | 6 |
| | Take an Alternate Route | 330 | 121 | 3.27 | 1.49 | 2 |
| | Cancel Trip | 303 | 148 | 2.15 | 1.48 | 7 |
| | Continue on Regardless | 312 | 139 | 2.75 | 1.44 | 4 |
| | Seek an Alternate Mode of Transportation | 314 | 137 | 2.06 | 1.34 | 8 |
| Survey II-b | Wait on the Roadway | 1261 | 182 | 2.61 | 1.54 | 4 |
| | Stop at a Nearby Town | 1268 | 175 | 3.32 | 1.46 | 2 |
| | Leave Later | 1236 | 207 | 3.5 | 1.45 | 1 |
| | Turn Around | 1202 | 241 | 2.48 | 1.51 | 5 |
| | Take an Alternate Route | 1257 | 180 | 3.11 | 1.55 | 3 |
| | Cancel Trip | 1248 | 195 | 2.25 | 1.55 | 7 |
| | Continue on Regardless | 1228 | 215 | 2.26 | 1.52 | 6 |
| | Seek an Alternate Mode of Transportation | 1231 | 212 | 1.8 | 1.29 | 8 |
| Survey III | Wait on the Roadway | 1281 | 171 | 2.5 | 1.52 | 6 |
| | Stop at a Nearby Town | 1258 | 194 | 3.34 | 1.47 | 2 |
| | Leave Later | 1242 | 210 | 3.67 | 1.44 | 1 |
| | Turn Around | 1207 | 245 | 2.61 | 1.53 | 4 |
| | Take an Alternate Route | 1271 | 181 | 3.04 | 1.55 | 3 |
| | Cancel Trip | 1261 | 191 | 2.46 | 1.58 | 7 |
| | Continue on Regardless | 1250 | 202 | 2.57 | 1.49 | 5 |
| | Seek an Alternate Mode of Transportation | 1257 | 195 | 1.82 | 1.29 | 8 |
| Survey IV | Wait on the Roadway | 1112 | 155 | 2.94 | 1.5534 | 4 |
| | Stop at a Nearby Town | 1118 | 149 | 3.46 | 1.4053 | 2 |
| | Leave Later | 1093 | 174 | 3.65 | 1.4511 | 1 |
| | Turn Around | 1072 | 195 | 2.42 | 1.4819 | 6 |
| | Take an Alternate Route | 1115 | 152 | 3.15 | 1.5326 | 3 |
| | Cancel Trip | 1097 | 170 | 2.09 | 1.4711 | 7 |
| | Continue on Regardless | 1100 | 167 | 2.87 | 1.5128 | 5 |
| | Seek an Alternate Mode of Transportation | 1083 | 184 | 1.77 | 1.24 | 8 |

**6. What resources do you NORMALLY use to determine a CHANGE in your travel plans? (Check ALL that apply)**

- ❑ Cellular Phone
- ❑ Radio Station
- ❑ Highway Advisory Radio
- ❑ Television
- ❑ Communication with Other Drivers
- ❑ Changeable Message Signs
- ❑ Camera Images on the Internet
- ❑ Notices at Truck Stops, Convenience Stores, Rest Areas
- ❑ Observations of Traffic Condition
- ❑ Touch Screen Information Kiosks
- ❑ Road/Weather Conditions Information on the Internet
- ❑ Travel Information Phone Number
- ❑ Other (please specify) _____

| | Resources | Use | Percent | Don't Use | Percent | Rank |
|---|---|---|---|---|---|---|
| Survey II-a | Cellular Phone | 139 | 30.82 | 312 | 69.18 | 5 |
| | Radio Station | 213 | 47.23 | 238 | 52.77 | 1 |
| | Highway Advisory Radio | 124 | 27.49 | 327 | 72.51 | 6 |
| | Television | 178 | 39.47 | 273 | 60.53 | 2 |
| | Communications w/ other drivers | 109 | 24.17 | 342 | 75.83 | 8 |
| | Changeable Message Signs | 164 | 36.36 | 287 | 63.64 | 3 |
| | Camera Images on the Internet | 56 | 12.42 | 395 | 87.58 | 12 |
| | CB Radio | 103 | 22.84 | 348 | 77.16 | 9 |
| | Notices at Truck Stops, etc. | 90 | 19.96 | 361 | 80.04 | 10 |
| | Observations of Traffic Conditions | 160 | 35.48 | 291 | 64.52 | 4 |
| | Touch Screen Information Kiosks | 4 | 0.89 | 447 | 99.11 | 14 |
| | Weather Info on the Internet | 86 | 19.07 | 365 | 80.93 | 11 |
| | Travel Information Phone Number | 110 | 24.39 | 341 | 75.61 | 7 |
| | Other | 18 | 3.99 | 433 | 96.01 | 13 |
| Survey II-b | Cellular Phone | 430 | 29.80 | 1013 | 70.20 | 9 |
| | Radio Station | 839 | 58.14 | 604 | 41.86 | 1 |
| | Highway Advisory Radio | 606 | 42.00 | 837 | 58.00 | 5 |
| | Television | 596 | 41.30 | 847 | 58.70 | 6 |
| | Communications w/ other drivers | 562 | 38.95 | 881 | 61.05 | 7 |
| | Changeable Message Signs | 701 | 48.58 | 742 | 51.42 | 4 |
| | Camera Images on the Internet | 297 | 20.58 | 1146 | 79.42 | 12 |
| | CB Radio | 475 | 32.92 | 968 | 67.08 | 8 |
| | Notices at Truck Stops, etc. | 370 | 25.64 | 1073 | 74.36 | 11 |
| | Observations of Traffic Conditions | 745 | 51.63 | 698 | 48.37 | 2 |
| | Touch Screen Information Kiosks | 10 | 0.69 | 1433 | 99.31 | 14 |
| | Weather Info on the Internet | 391 | 27.10 | 1052 | 72.90 | 10 |
| | Travel Information Phone Number | 728 | 50.45 | 715 | 49.55 | 3 |
| | Other | 87 | 6.03 | 1356 | 93.97 | 13 |
| Survey III | Cellular Phone | 470 | 32.66 | 969 | 67.34 | 7 |
| | Radio Station | 834 | 57.96 | 605 | 42.04 | 1 |
| | Highway Advisory Radio | 532 | 36.97 | 907 | 63.03 | 6 |
| | Television | 693 | 48.16 | 746 | 51.84 | 2 |
| | Communications w/ other drivers | 373 | 25.92 | 1066 | 74.08 | 9 |
| | Changeable Message Signs | 692 | 48.09 | 747 | 51.91 | 3 |
| | Camera Images on the Internet | 360 | 25.02 | 1079 | 74.98 | 10 |
| | CB Radio | 274 | 19.04 | 1165 | 80.96 | 12 |
| | Notices at Truck Stops, etc. | 278 | 19.32 | 1161 | 80.68 | 11 |
| | Observations of Traffic Conditions | 677 | 47.05 | 762 | 52.95 | 5 |
| | Touch Screen Information Kiosks | 9 | 0.63 | 1430 | 99.37 | 14 |
| | Road/Weather Info on the Internet | 458 | 31.83 | 981 | 68.17 | 8 |
| | Travel Information Phone Number | 683 | 47.46 | 756 | 52.54 | 4 |
| | Other | 102 | 7.09 | 1337 | 92.91 | 13 |
| Survey IV | Cellular Phone | 493 | 39.38 | 759 | 60.62 | 6 |
| | Radio Station | 691 | 55.19 | 561 | 44.81 | 1 |
| | Highway Advisory Radio | 516 | 41.21 | 736 | 58.79 | 5 |
| | Television | 486 | 38.82 | 766 | 61.18 | 7 |
| | Communications w/ other drivers | 466 | 37.22 | 786 | 62.78 | 8 |
| | Changeable Message Signs | 672 | 53.67 | 580 | 46.33 | 2 |
| | Camera Images on the Internet | 289 | 23.08 | 963 | 76.92 | 12 |
| | CB Radio | 422 | 33.71 | 830 | 66.29 | 9 |
| | Notices at Truck Stops, etc. | 365 | 29.15 | 887 | 70.85 | 10 |
| | Observations of Traffic Conditions | 631 | 50.40 | 621 | 49.6 | 4 |
| | Touch Screen Information Kiosks | 24 | 1.92 | 1228 | 98.08 | 14 |
| | Road/Weather Info on the Internet | 363 | 28.99 | 889 | 71.01 | 11 |
| | Travel Information Phone Number | 633 | 50.56 | 619 | 49.44 | 3 |
| | Other | 82 | 6.55 | 1170 | 93.45 | 13 |

**7. HOW IMPORTANT is the following traveler information for determining a change in your travel plans?**
***(Check ONE box per item)***

| | Very Unimportant | Somewhat Unimportant | Neutral | Somewhat Important | Very Important |
|---|---|---|---|---|---|
| Road conditions | ❑ | ❑ | ❑ | ❑ | ❑ |
| Weather conditions | ❑ | ❑ | ❑ | ❑ | ❑ |
| Occurrence of hazard/accident | ❑ | ❑ | ❑ | ❑ | ❑ |
| Location of hazard/accident | ❑ | ❑ | ❑ | ❑ | ❑ |
| Travel delays | ❑ | ❑ | ❑ | ❑ | ❑ |
| Average travel speed | ❑ | ❑ | ❑ | ❑ | ❑ |
| Availability of alternate routes | ❑ | ❑ | ❑ | ❑ | ❑ |
| Construction | ❑ | ❑ | ❑ | ❑ | ❑ |

| | | Very Unimportant | Percent | Somewhat Unimportant | Percent | Percent | Somewhat Important | Percent | Very Important | Percent |
|---|---|---|---|---|---|---|---|---|---|---|
| Survey II-a | Road Conditions | 60 | 14.53 | 28 | 6.78 | 5.81 | 88 | 21.31 | 213 | 51.57 |
| | Weather Conditions | 50 | 12.53 | 29 | 7.27 | 5.26 | 93 | 23.31 | 206 | 51.63 |
| | Occurrence of Hazard | 46 | 12.40 | 36 | 9.70 | 19.41 | 103 | 27.76 | 114 | 30.73 |
| | Location of Hazard | 42 | 11.48 | 36 | 9.84 | 18.03 | 104 | 28.42 | 118 | 32.24 |
| | Travel Delays | 35 | 9.62 | 35 | 9.62 | 20.60 | 119 | 32.69 | 100 | 27.47 |
| | Average Travel Speed | 49 | 13.65 | 51 | 14.21 | 28.69 | 81 | 22.56 | 75 | 20.89 |
| | Alternate Routes | 53 | 14.36 | 35 | 9.49 | 18.16 | 120 | 32.52 | 94 | 25.47 |
| | Construction | 60 | 15.83 | 44 | 11.61 | 19.53 | 105 | 27.70 | 96 | 25.33 |
| Survey II-b | Road Conditions | 160 | 11.40 | 86 | 6.13 | 4.42 | 269 | 19.17 | 826 | 58.87 |
| | Weather Conditions | 150 | 10.70 | 89 | 6.35 | 4.71 | 316 | 22.54 | 781 | 55.71 |
| | Occurrence of Hazard | 115 | 8.63 | 144 | 10.81 | 15.99 | 412 | 30.93 | 448 | 33.63 |
| | Location of Hazard | 117 | 8.79 | 115 | 8.64 | 14.05 | 402 | 30.20 | 510 | 38.32 |
| | Travel Delays | 132 | 9.96 | 153 | 11.55 | 17.43 | 470 | 35.47 | 339 | 25.58 |
| | Average Travel Speed | 195 | 14.94 | 257 | 19.69 | 28.28 | 323 | 24.75 | 161 | 12.34 |
| | Alternate Routes | 177 | 13.38 | 144 | 10.88 | 19.05 | 398 | 30.08 | 352 | 26.61 |
| | Construction | 189 | 14.09 | 259 | 19.31 | 20.81 | 388 | 28.93 | 226 | 16.85 |
| Survey III | Road Conditions | 142 | 10.04 | 95 | 6.71 | 3.75 | 317 | 22.40 | 808 | 57.10 |
| | Weather Conditions | 139 | 9.90 | 94 | 6.70 | 3.42 | 345 | 24.57 | 778 | 55.41 |
| | Occurrence of Hazard | 112 | 8.40 | 145 | 10.88 | 17.78 | 425 | 31.88 | 414 | 31.06 |
| | Location of Hazard | 112 | 8.41 | 133 | 9.98 | 15.47 | 423 | 31.76 | 458 | 34.38 |
| | Travel Delays | 114 | 8.52 | 168 | 12.56 | 18.68 | 490 | 36.62 | 316 | 23.62 |
| | Average Travel Speed | 187 | 14.03 | 252 | 18.90 | 28.66 | 339 | 25.43 | 173 | 12.98 |
| | Alternate Routes | 172 | 12.79 | 170 | 12.64 | 19.93 | 413 | 30.71 | 322 | 23.94 |
| | Construction | 165 | 12.11 | 270 | 19.81 | 24.21 | 398 | 29.20 | 200 | 14.67 |
| Survey IV | Road Conditions | 42 | 3.44 | 49 | 4.01 | 4.67 | 284 | 23.26 | 789 | 64.62 |
| | Weather Conditions | 43 | 3.49 | 62 | 5.03 | 4.7 | 303 | 24.57 | 767 | 62.21 |
| | Occurrence of Hazard | 50 | 4.33 | 92 | 7.97 | 15.77 | 418 | 36.22 | 412 | 35.7 |
| | Location of Hazard | 37 | 3.18 | 90 | 7.75 | 15.58 | 389 | 33.48 | 465 | 40.02 |
| | Travel Delays | 60 | 5.17 | 95 | 8.18 | 19.9 | 441 | 37.98 | 334 | 28.77 |
| | Average Travel Speed | 116 | 10.02 | 198 | 17.1 | 30.57 | 312 | 26.94 | 178 | 15.37 |
| | Alternate Routes | 116 | 9.89 | 119 | 10.14 | 20.55 | 377 | 32.14 | 320 | 27.28 |
| | Construction | 115 | 9.76 | 201 | 17.06 | 22.92 | 381 | 32.34 | 211 | 17.91 |

continued below…

| | | Count | * | Mean | StDev |
|---|---|---|---|---|---|
| Survey II-a | Road Conditions | 413 | 38 | 3.88 | 1.47 |
| | Weather Conditions | 399 | 52 | 3.94 | 1.41 |
| | Occurrence of Hazard | 371 | 80 | 3.55 | 1.34 |
| | Location of Hazard | 366 | 85 | 3.6 | 1.33 |
| | Travel Delays | 364 | 87 | 3.59 | 1.25 |
| | Average Travel Speed | 359 | 92 | 3.23 | 1.3 |
| | Alternate Routes | 369 | 82 | 3.45 | 1.35 |
| | Construction | 379 | 72 | 3.35 | 1.39 |
| Survey II-b | Road Conditions | 1403 | 40 | 4.08 | 1.38 |
| | Weather Conditions | 1402 | 41 | 4.06 | 1.35 |
| | Occurrence of Hazard | 1332 | 111 | 3.7 | 1.27 |
| | Location of Hazard | 1331 | 112 | 3.81 | 1.27 |
| | Travel Delays | 1325 | 118 | 3.55 | 1.26 |
| | Average Travel Speed | 1305 | 138 | 3 | 1.24 |
| | Alternate Routes | 1323 | 120 | 3.46 | 1.34 |
| | Construction | 1341 | 102 | 3.15 | 1.3 |
| Survey III | Road Conditions | 1415 | 37 | 4.10 | 1.33 |
| | Weather Conditions | 1404 | 48 | 4.09 | 1.32 |
| | Occurrence of Hazard | 1333 | 119 | 3.66 | 1.25 |
| | Location of Hazard | 1332 | 120 | 3.74 | 1.26 |
| | Travel Delays | 1338 | 114 | 3.54 | 1.22 |
| | Average Travel Speed | 1333 | 119 | 3.04 | 1.23 |
| | Alternate Routes | 1345 | 107 | 3.40 | 1.32 |
| | Construction | 1363 | 89 | 3.15 | 1.24 |
| Survey IV | Road Conditions | 1221 | 46 | 4.42 | 1.00 |
| | Weather Conditions | 1233 | 34 | 4.37 | 1.02 |
| | Occurrence of Hazard | 1154 | 113 | 3.91 | 1.10 |
| | Location of Hazard | 1162 | 105 | 3.99 | 1.07 |
| | Travel Delays | 1161 | 106 | 3.77 | 1.11 |
| | Average Travel Speed | 1158 | 109 | 3.21 | 1.19 |
| | Alternate Routes | 1173 | 94 | 3.57 | 1.26 |
| | Construction | 1178 | 89 | 3.32 | 1.23 |

| **What is your current state of residence?** | ❑ California<br>❑ Oregon<br>❑ Other _____ |
|---|---|

| | Survey II-a | | Survey II-b | | Survey III | | Survey IV | |
|---|---|---|---|---|---|---|---|---|
| **State** | **Count** | **Percent** | **Count** | **Percent** | **Count** | **Percent** | **Count** | **Percent** |
| California | 116 | 27.23 | 692 | 48.22 | 770 | 53.55 | 634 | 50.32 |
| Oregon | 200 | 46.95 | 461 | 32.13 | 465 | 32.34 | 370 | 29.37 |
| Other | 110 | 25.82 | 282 | 19.65 | 203 | 14.12 | 256 | 20.32 |
| | N = | 1435 | N = | 1435 | N = | 1438 | N = | 1260 |
| | * = | 8 | * = | 8 | * = | 14 | * = | 7 |

| What is your gender? | ❑ Male<br>❑ Female |
|---|---|

| | Survey II-a | | Survey II-b | | Survey III | | Survey IV | |
|---|---|---|---|---|---|---|---|---|
| Gender | Count | Percent | Count | Percent | Count | Percent | Count | Percent |
| Male | 282 | 66.67 | 930 | 65.45 | 889 | 62.52 | 844 | 67.95 |
| Female | 141 | 33.33 | 490 | 34.55 | 533 | 37.48 | 398 | 32.05 |
| | N = | 423 | N = | 1420 | N = | 1422 | N = | 1242 |
| | * = | 28 | * = | 23 | * = | 30 | * = | 25 |

| What is your age? | ❑ 15 – 24 Years<br>❑ 25 – 44<br>❑ 45 – 64<br>❑ 65 + |
|---|---|

| | Survey II-a | | Survey II-b | | Survey III | | Survey IV | |
|---|---|---|---|---|---|---|---|---|
| Age | Count | Percent | Count | Percent | Count | Percent | Count | Percent |
| 15-24 | 46 | 10.8 | 52 | 3.62 | 39 | 2.70 | 46 | 3.7 |
| 25-44 | 130 | 30.52 | 352 | 24.51 | 275 | 19.06 | 296 | 23.6 |
| 45-64 | 171 | 40.14 | 737 | 51.32 | 722 | 50.03 | 636 | 50.8 |
| 65+ | 79 | 18.54 | 295 | 20.54 | 407 | 28.21 | 275 | 22.0 |
| | N = | 426 | N = | 1436 | N = | 1443 | N = | 1253 |
| | * = | 25 | * = | 7 | * = | 9 | * = | 14 |
| | Mean | 46.6 | Mean | 50.49 | Mean | 54.54 | Mean | 52.22 |

| What type of vehicle do you normally drive over Siskiyou Pass? | ❑ Automobile/ Motorcycle<br>❑ Commercial (Truck, Bus)<br>❑ RV<br>❑ Ride as Passenger Only |
|---|---|

| | Survey II-a | | Survey II-b | | Survey III | | Survey IV | |
|---|---|---|---|---|---|---|---|---|
| Vehicle Type | Count | Percent | Count | Percent | Count | Percent | Count | Percent |
| Automobile | 289 | 71.53 | 870 | 62.28 | 1087 | 76.93 | 706 | 64.3 |
| Commercial | 86 | 21.29 | 462 | 33.07 | 235 | 16.63 | 267 | 24.32 |
| RV | 20 | 4.95 | 47 | 3.36 | 70 | 4.95 | 123 | 11.2 |
| Ride as Passenger Only | 9 | 2.23 | 18 | 1.29 | 21 | 1.49 | 2 | 0.18 |
| | N = | 404 | N = | 1397 | N = | 1413 | N = | 1098 |
| | * = | 47 | * = | 46 | * = | 39 | * = | 169 |

**General Comments:** **See Comments in Appendix D**

# Appendix C: Statistical Analyses

The demographic and traveler information data collected in the Siskiyou Pass Survey were used to define categories in significance testing. The analyses included Chi-Square tests to determine whether certain demographic and traveler information characteristic variables significantly influence the responses to various opinion-based questions. The t-statistics analysis determined if differences in responses across groups are statistically significant at a predetermined level of probability. For this analysis, a 5% significance level was selected for reporting purposes. The chance of rejecting the null hypothesis when the null hypothesis is true is only five out of one hundred.

## Chi-Squared Analysis

In order to use the chi-squared analysis on a data set, the data must meet the following requirements.

1. The sample must be randomly drawn from the population
2. Data must be reported in frequencies (**not** percentages)
3. Measured variable must be independent
4. Values on independent and dependent variables must be mutually exclusive
5. Observed frequencies cannot be too small

The chi-square test compares the observed frequency of an event with an expected frequency to determine if the observed data are too different from the expected data to attribute the difference to chance. In our analysis, we compared the frequencies of all the traveler information to determine if our results varied by demographics. The results displayed below can be interpreted as follows. A white box represents a chi-square pass, where the traveler information and the demographic characteristic are independent. A black box represents a test where there is a dependent relationship between the traveler information and the demographic characteristic, a chi-square fail. A gray box represents a invalid test due to one of the five criteria set out above.

# Survey I (March 2000)

| | | Demographic | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Question | Responses | 1. Travel times/year | 2. Season= Spring | 2. Season= Summer | 2. Season= Fall | 2. Season= Winter | 10a. Residence | 10b. Gender | 10c. Age | 10d. Vehicle Type | 10e. Primary Purpose | 10f. Miles Traveled | 10g. Income |
| 3 | Traveler Info. | | | | | | | | | | | | |
| 4 Closure Options | Wait on Roadway | | | | | | | | | | | | |
| | Stop at Nearby Town | | | | | | | | | | | | |
| | Leave Later | | | | | | | | | | | | |
| | Turn Around | | | | | | | | | | | | |
| | Take an Alternate Route | | | | | | | | | | | | |
| | Cancel Trip | | | | | | | | | | | | |
| | Continue Regardless | | | | | | | | | | | | |
| | Seek an Alternate Mode | | | | | | | | | | | | |
| 5 | Reasonable Alternate Route | | | | | | | | | | | | |
| 6 Information Resources | Cellular Phone | | | | | | | | | | | | |
| | Radio | | | | | | | | | | | | |
| | HAR | | | | | | | | | | | | |
| | TV | | | | | | | | | | | | |
| | Other Drivers | | | | | | | | | | | | |
| | CMS | | | | | | | | | | | | |
| | Camera Images on Internet | | | | | | | | | | | | |
| | Notices at Stops | | | | | | | | | | | | |
| | Observations | | | | | | | | | | | | |
| | TSIK | | | | | | | | | | | | |
| | Internet | | | | | | | | | | | | |
| | Other | | | | | | | | | | | | |
| 7 Traveler Information | Road Conditions | | | | | | | | | | | | |
| | Weather Conditions | | | | | | | | | | | | |
| | Occurrence of Hazard | | | | | | | | | | | | |
| | Location of Hazard | | | | | | | | | | | | |
| | Travel Delays | | | | | | | | | | | | |
| | Average Speed | | | | | | | | | | | | |
| | Alternate Routes | | | | | | | | | | | | |
| 8 ITS Evaluation | CMS - Not Aware | | | | | | | | | | | | |
| | CMS - Accurate? | | | | | | | | | | | | |
| | CMS - Timely? | | | | | | | | | | | | |
| | CMS - Useful? | | | | | | | | | | | | |
| | CMS - Understandable? | | | | | | | | | | | | |
| | CMS - Accesible? | | | | | | | | | | | | |
| | 8. TSIK - Not Aware | | | | | | | | | | | | |
| | TSIK - Accurate? | | | | | | | | | | | | |
| | TSIK - Timely? | | | | | | | | | | | | |
| | TSIK - Useful? | | | | | | | | | | | | |
| | TSIK - Understandable? | | | | | | | | | | | | |
| | TSIK - Accesible? | | | | | | | | | | | | |
| | HAR - Not Aware | | | | | | | | | | | | |
| | HAR - Accurate? | | | | | | | | | | | | |
| | HAR - Timely? | | | | | | | | | | | | |
| | HAR - Useful? | | | | | | | | | | | | |
| | HAR - Understandable? | | | | | | | | | | | | |
| | HAR - Accesible? | | | | | | | | | | | | |
| | Internet - Not Aware | | | | | | | | | | | | |
| | Internet - Accurate? | | | | | | | | | | | | |
| | Internet - Timely? | | | | | | | | | | | | |
| | Internet - Useful? | | | | | | | | | | | | |
| | Internet - Understandable? | | | | | | | | | | | | |
| | Internet - Accesible? | | | | | | | | | | | | |
| | CCTV - Not Aware | | | | | | | | | | | | |
| | CCTV - Accurate? | | | | | | | | | | | | |
| | CCTV - Timely? | | | | | | | | | | | | |
| | CCTV - Useful? | | | | | | | | | | | | |
| | CCTV - Understandable? | | | | | | | | | | | | |
| | CCTV - Accesible? | | | | | | | | | | | | |
| 9 Willingness to Pay | Willing to Pay - CMS | | | | | | | | | | | | |
| | Willing to Pay - TSIK | | | | | | | | | | | | |
| | Willing to Pay - HAR | | | | | | | | | | | | |
| | Willing to Pay - Internet | | | | | | | | | | | | |
| | Willing to Pay - CCTV | | | | | | | | | | | | |
| | Willing to Pay - Equipment | | | | | | | | | | | | |
| | Willing to Pay - Signing | | | | | | | | | | | | |
| | Willing to Pay - Emergency Vehicles | | | | | | | | | | | | |
| | Willing to Pay - Hotline | | | | | | | | | | | | |

| |
|---|
| Chi-Square Analysis Passed |
| Chi-Square Analysis Invalid |
| Chi-Square Differences Found |

# Survey II-a (May 2001)

| | | Demographic | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Question | Responses | 1. Travel times/year | 2. Season= Spring | 2. Season= Summer | 2. Season= Fall | 2. Season= Winter | 8a. Residence | 8b. Gender | 8c. Age | 8d. Vehicle |
| 3 ITS Evaluation | CMS - NA | | | | | | | | | |
| | CMS- Accuracy | | | | | | | | | |
| | CMS- Usefulness | | | | | | | | | |
| | HAR- NA | | | | | | | | | |
| | HAR- Accuracy | | | | | | | | | |
| | HAR- Usefulness | | | | | | | | | |
| | TSIK- NA | | | | | | | | | |
| | TSIK- Accuracy | | | | | | | | | |
| | TSIK- Usefulness | | | | | | | | | |
| | Road/Weather Info.- NA | | | | | | | | | |
| | Road/Weather Info.- Accuracy | | | | | | | | | |
| | Road/Weather Info.- Usefulness | | | | | | | | | |
| | Camera Images- NA | | | | | | | | | |
| | Camera Images- Accuracy | | | | | | | | | |
| | Camera Images- Usefulness | | | | | | | | | |
| 4 | Alternate Route | | | | | | | | | |
| 5 Closure Options | Closure/Delay- Wait on roadway | | | | | | | | | |
| | Closure/Delay- Stop at a Nearby Town | | | | | | | | | |
| | Closure/Delay- Leave Later | | | | | | | | | |
| | Closure/Delay- Turn Around | | | | | | | | | |
| | Closure/Delay- Take an Alternate Route | | | | | | | | | |
| | Closure/Delay- Cancel Trip | | | | | | | | | |
| | Closure/Delay- Continue on Regardless | | | | | | | | | |
| | Closure/Delay- Seek an Alternate Mode of Transit | | | | | | | | | |
| 6 Information Resources | Resource Used- Cellular Phone | | | | | | | | | |
| | Resource Used- Radio Station | | | | | | | | | |
| | Resource Used- Highway Advisory Radio | | | | | | | | | |
| | Resource Used- Television | | | | | | | | | |
| | Resource Used- Communication with other drivers | | | | | | | | | |
| | Resource Used- CMS | | | | | | | | | |
| | Resource Used- Camera Images on Internet | | | | | | | | | |
| | Resource Used- CB Radio | | | | | | | | | |
| | Resource Used- Notices | | | | | | | | | |
| | Resource Used- Observations of Traffic Conditions | | | | | | | | | |
| | Resource Used- TSIK | | | | | | | | | |
| | Resource Used- Road/Weather Conditions on Internet | | | | | | | | | |
| | Resource Used- Information Phone Number | | | | | | | | | |
| | Resource Used- Other | | | | | | | | | |
| 7 Traveler Information | Traveler Info.- Road Conditions | | | | | | | | | |
| | Traveler Info.- Weather Conditions | | | | | | | | | |
| | Traveler Info.- Occurance of Hazard/Accident | | | | | | | | | |
| | Traveler Info.- Location of Hazard/Accident | | | | | | | | | |
| | Traveler Info.- Travel Delays | | | | | | | | | |
| | Traveler Info.- Average Travel Speed | | | | | | | | | |
| | Traveler Info.- Availability of Alternate Routes | | | | | | | | | |
| | Traveler Info.- Construction | | | | | | | | | |

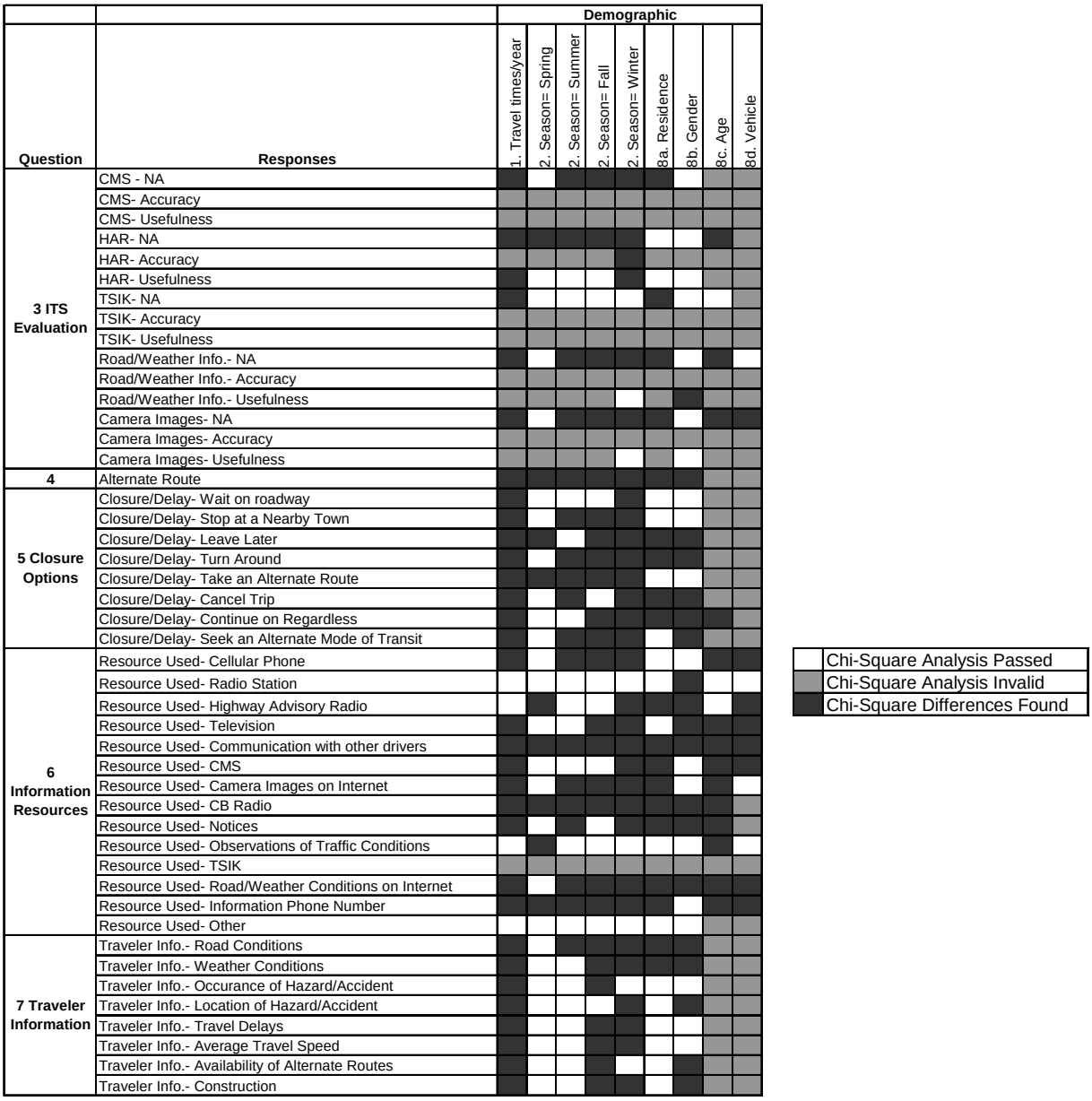
| | |
|---|---|
| | Chi-Square Analysis Passed |
| | Chi-Square Analysis Invalid |
| | Chi-Square Differences Found |

# Survey II-b (May 2001)

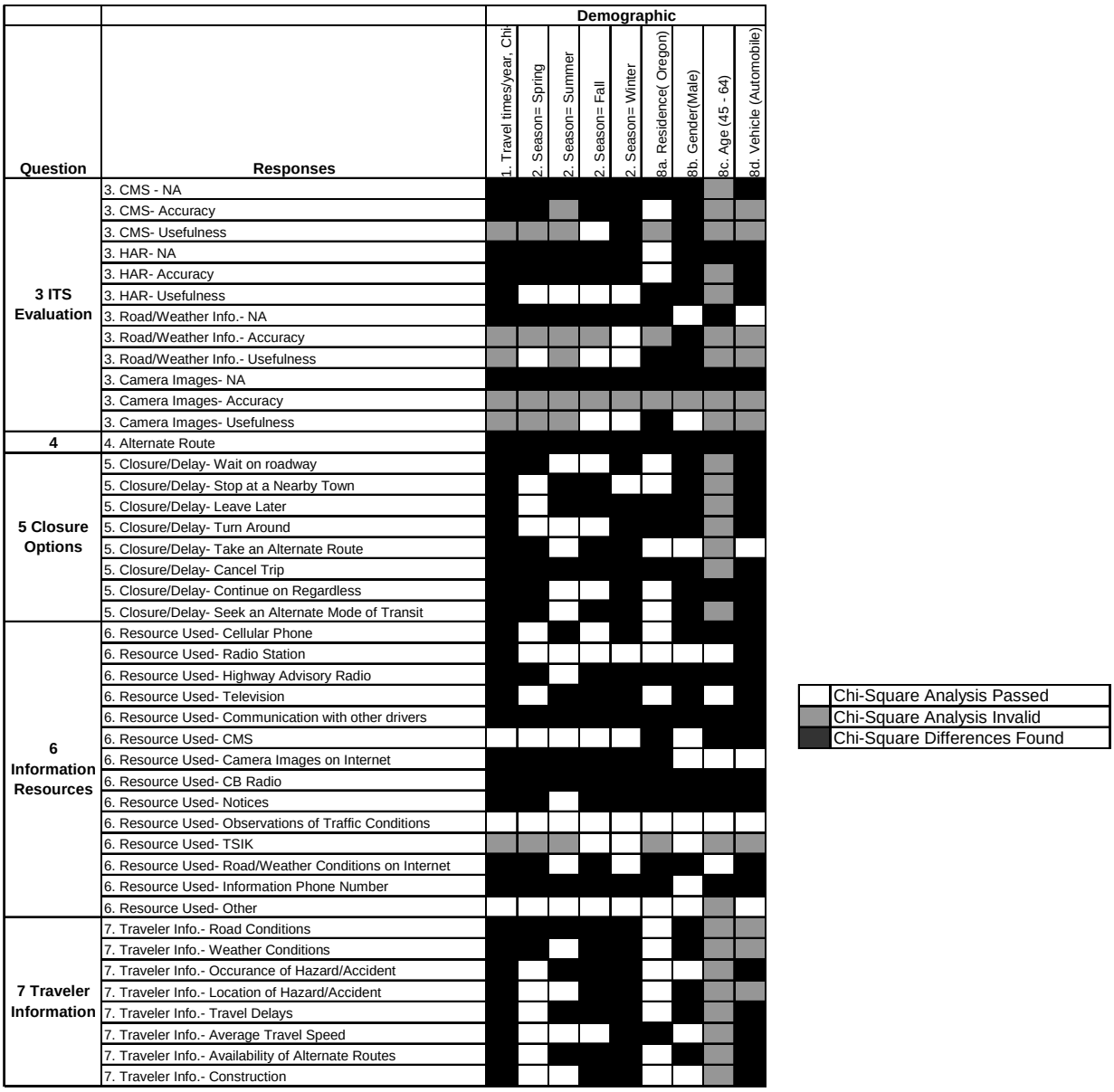
| | | Demographic | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Question | Responses | 1. Travel times/year | 2. Season= Spring | 2. Season= Summer | 2. Season= Fall | 2. Season= Winter | 8a. Residence | 8b. Gender | 8c. Age | 8d. Vehicle |
| 3 ITS Evaluation | CMS - NA | | | | | | | | | |
| | CMS- Accuracy | | | | | | | | | |
| | CMS- Usefulness | | | | | | | | | |
| | HAR- NA | | | | | | | | | |
| | HAR- Accuracy | | | | | | | | | |
| | HAR- Usefulness | | | | | | | | | |
| | TSIK- NA | | | | | | | | | |
| | TSIK- Accuracy | | | | | | | | | |
| | TSIK- Usefulness | | | | | | | | | |
| | Road/Weather Info.- NA | | | | | | | | | |
| | Road/Weather Info.- Accuracy | | | | | | | | | |
| | Road/Weather Info.- Usefulness | | | | | | | | | |
| | Camera Images- NA | | | | | | | | | |
| | Camera Images- Accuracy | | | | | | | | | |
| | Camera Images- Usefulness | | | | | | | | | |
| 4 | Alternate Route | | | | | | | | | |
| 5 Closure Options | Closure/Delay- Wait on roadway | | | | | | | | | |
| | Closure/Delay- Stop at a Nearby Town | | | | | | | | | |
| | Closure/Delay- Leave Later | | | | | | | | | |
| | Closure/Delay- Turn Around | | | | | | | | | |
| | Closure/Delay- Take an Alternate Route | | | | | | | | | |
| | Closure/Delay- Cancel Trip | | | | | | | | | |
| | Closure/Delay- Continue on Regardless | | | | | | | | | |
| | Closure/Delay- Seek an Alternate Mode of Transit | | | | | | | | | |
| 6 Information Resources | Resource Used- Cellular Phone | | | | | | | | | |
| | Resource Used- Radio Station | | | | | | | | | |
| | Resource Used- Highway Advisory Radio | | | | | | | | | |
| | Resource Used- Television | | | | | | | | | |
| | Resource Used- Communication with other drivers | | | | | | | | | |
| | Resource Used- CMS | | | | | | | | | |
| | Resource Used- Camera Images on Internet | | | | | | | | | |
| | Resource Used- CB Radio | | | | | | | | | |
| | Resource Used- Notices | | | | | | | | | |
| | Resource Used- Observations of Traffic Conditions | | | | | | | | | |
| | Resource Used- TSIK | | | | | | | | | |
| | Resource Used- Road/Weather Conditions on Internet | | | | | | | | | |
| | Resource Used- Information Phone Number | | | | | | | | | |
| | Resource Used- Other | | | | | | | | | |
| 7 Traveler Information | Traveler Info.- Road Conditions | | | | | | | | | |
| | Traveler Info.- Weather Conditions | | | | | | | | | |
| | Traveler Info.- Occurance of Hazard/Accident | | | | | | | | | |
| | Traveler Info.- Location of Hazard/Accident | | | | | | | | | |
| | Traveler Info.- Travel Delays | | | | | | | | | |
| | Traveler Info.- Average Travel Speed | | | | | | | | | |
| | Traveler Info.- Availability of Alternate Routes | | | | | | | | | |
| | Traveler Info.- Construction | | | | | | | | | |

| | |
|---|---|
| | Chi-Square Analysis Passed |
| | Chi-Square Analysis Invalid |
| | Chi-Square Differences Found |

# Survey III (April 2002)



# Survey IV (May 2003)



## Comparisons between Survey II-a and Survey II-b

A T-statistics analysis is used to compare two sets of quantitative data when samples are collected independent of one another. The t-test determines if the responses to the questions are too different from each other to be considered to be from the same population. In order to use a t-statistics test there must be a direct relationship between specific data points from two data sets, such as measurements on the same subject (i.e. important, not important). The samples are collected randomly from two different populations, or in this case, from the same population at different times. Finally, the samples cannot have a different number of data points.

When comparing one survey against another, a t-statistic was calculated and compared to a critical t-statistic value with a significance level of 5%. The critical t-value was determined using a particular significance level and degrees of freedom. If the absolute value of the t-statistic was greater than the determined critical t-value, it was determined that there was a significant difference in the mean of that particular question and we classify the result as "fail". The table provided below shows the results from the comparison made between Surveys II-a and II-b.

**Comparisons between Survey II-a and Survey II-b**

| Question | Information | Threshold T Value | Degrees of Freedom | Result |
|---|---|---|---|---|
| 3 | Travel times/year | 8.34 | 4 | Fail |
| | CMS - NA | 2.57 | 4 | Fail |
| | CMS- Accuracy | 2.29 | 4 | Fail |
| | HAR- Accuracy | 1.52 | 4 | Pass |
| | HAR- Usefulness | 2.07 | 4 | Fail |
| | TSIK- Accuracy | 1.94 | 4 | Pass |
| | TSIK- Usefulness | 2.72 | 4 | Fail |
| | Road/Weather Info.- Accuracy | 0.53 | 4 | Pass |
| | Road/Weather Info.- Usefulness | 1.25 | 4 | Pass |
| | Camera Images- Accuracy | 2.89 | 4 | Fail |
| | Camera Images- Usefulness | 2.24 | 4 | Fail |
| 5 | Closure/Delay- Wait on roadway | 1.64 | 16 | Pass |
| | Closure/Delay- Stop at a Nearby Town | 1.38 | 16 | Pass |
| | Closure/Delay- Leave Later | 0.58 | 16 | Pass |
| | Closure/Delay- Turn Around | 0.48 | 16 | Pass |
| | Closure/Delay- Take an Alternate Route | 1.68 | 16 | Pass |
| | Closure/Delay- Cancel Trip | 1.15 | 16 | Pass |
| | Closure/Delay- Continue on Regardless | 0.95 | 16 | Pass |
| | Closure/Delay- Seek an Alternate Mode of Transit | 3.09 | 16 | Fail |
| 7 | Traveler Info.- Road Conditions | 2.39 | 16 | Fail |
| | Traveler Info.- Weather Conditions | 1.51 | 16 | Pass |
| | Traveler Info.- Occurance of Hazard/Accident | 1.98 | 16 | Fail |
| | Traveler Info.- Location of Hazard/Accident | 2.63 | 16 | Fail |
| | Traveler Info.- Travel Delays | 0.49 | 16 | Pass |
| | Traveler Info.- Average Travel Speed | 2.99 | 16 | Fail |
| | Traveler Info.- Availability of Alternate Routes | 0.05 | 16 | Pass |
| | Traveler Info.- Construction | 2.51 | 16 | Fail |
| 8 | Residence | 6.66 | 4 | Fail |
| | Gender | 0.45 | 2 | Pass |
| | Age | 4.65 | 9 | Fail |
| | Vehicle | 1.53 | 9 | Pass |

To further determine which method of distributing surveys was better, the number of responses to each question was counted and the percent out of the total surveys received was calculated. This analysis also counted the number of anecdotal comments respondents made. Respondents that did not follow directions were not counted in the analysis. The percent of response to each question was averaged for all questions and is included at the bottom of the table. The final row shows how many written responses were given for each particular survey. Based on these results, it has been determined that the methodology used to distribute Survey II-b was better than that of Survey II-a. This method yielded more thorough survey responses and a much larger number of comments, indicating that survey participants gave more thought when completing the survey. The larger value for each question is highlighted.

| | Survey II-a | | Survey II-b | |
|---|---|---|---|---|
| | **Percent** | **StDev** | **Percent** | **StDev** |
| 1. Travel Times Per Year | 95.79 | 96.08 | 98.47 | 193.39 |
| 2. Seasons of Travel | 98.45 | | 98.34 | |
| 3a. CMS Not Aware | 99.56 | | 98.26 | |
| 3a. CMS Accuracy | 75.39 | 0.85 | 84.96 | 0.78 |
| 3a. CMS Usefulness | 73.84 | 0.86 | 84.89 | 0.77 |
| 3b. HAR Not Aware | 99.11 | | 97.64 | |
| 3b. HAR Accuracy | 68.74 | 0.95 | 82.54 | 0.92 |
| 3b. HAR Usefulness | 70.29 | 1.09 | 82.74 | 1.04 |
| 3c. Kiosk Not Aware | 99.56 | | 98.34 | |
| 3c. Kiosk Accuracy | 22.39 | 0.91 | 10.53 | 0.83 |
| 3c. Kiosk Usefulness | 22.17 | 1.06 | 11.16 | 1.07 |
| 3d. Internet Info Not Aware | 99.33 | | 97.64 | |
| 3d. Internet Info Accuracy | 50.33 | 0.94 | 50.94 | 0.81 |
| 3d. Internet Info Usefulness | 49.22 | 1.03 | 50.87 | 0.99 |
| 3e. Internet Cameras Not Aware | 99.56 | | 97.78 | |
| 3e. Internet Cameras Accuracy | 40.35 | 0.90 | 42.41 | 0.9 |
| 3e. Internet Cameras Usefulness | 39.25 | 1.02 | 42.62 | 1.03 |
| 4. Alternate Route | 55.21 | | 77.55 | |
| 5. Wait on Roadway | 72.95 | 1.44 | 87.39 | 1.54 |
| 5. Stop at Nearby Town | 72.28 | 1.46 | 87.87 | 1.46 |
| 5. Leave Later | 70.51 | 1.45 | 85.65 | 1.45 |
| 5. Turn Around | 64.75 | 1.49 | 83.30 | 1.51 |
| 5. Take an Alternate Route | 73.17 | 1.49 | 87.11 | 1.55 |
| 5. Cancel Trip | 67.18 | 1.48 | 86.49 | 1.55 |
| 5. Continue on Regardless | 69.18 | 1.44 | 85.10 | 1.52 |
| 5. Seek an Alternate Mode | 69.62 | 1.34 | 85.31 | 1.29 |
| 7. Road Conditions | 91.57 | 1.47 | 97.23 | 1.38 |
| 7. Weather Condtions | 88.47 | 1.41 | 97.16 | 1.35 |
| 7. Occurrence of Hazard | 82.26 | 1.34 | 92.31 | 1.27 |
| 7. Location of Hazard | 81.15 | 1.33 | 92.24 | 1.27 |
| 7. Travel Delays | 80.71 | 1.25 | 91.82 | 1.26 |
| 7. Average Travel Speed | 79.60 | 1.30 | 90.44 | 1.24 |
| 7. Availabilty of Alternate Route | 81.82 | 1.35 | 91.68 | 1.34 |
| 7. Construction | 84.04 | 1.39 | 92.93 | 1.3 |
| 8. State of Residence | 94.46 | | 99.45 | |
| 8. Gender | 93.79 | | 98.41 | |
| 8. Age | 94.46 | | 99.51 | |
| 8. Vehicle Type | 89.58 | | 96.81 | |
| **Average % of Questions Answered** | **75.27** | | **82.52** | |
| **Number of Comments** | **75** | | **492** | |

# Appendix D: Survey Comments

# Survey I Comments

**Traveler Information Comments (7)**

- The current hotlines are fine, but the info is often hard to digest
- I use I-5 once/mo. and am interested in updates on the pass. It is a scary hill
- I wish CA had the travel info like cameras etc. that OR has.
- The CA road signs are good. Also I like the machines that tell you your speed.
- The technology should be used by motorists so they share the road with trucks.
- To find road conditions on internet was by chance. Radio is hard to understand.
- I live in SC and usually check Auto Club and TV weather for my route.

**Maintenance Comments (11)**

- Get DOT on the ball when the snow comes. 140Hwy is higher and not as much trouble
- I-5 really rough in places.
- I-5 very good.
- Less salt on road, more plows.
- Need to repair highway, very poor condition.
- Roads were open and well kept 3-20-00
- Siskiyou summit is worst road in winter we have encountered. poorly managed.
- The pass is very dangerous in the winter leaving people stranded at the WSRA
- They make trucks chain up when all they need is more sand on the road.
- Why do they make you chain-up when the road has no snow on it?
- Winter conditions need some changes in operation of dozers etc.

**Speed Comments (5)**

- Cars & trucks have same speed limits. States have same limits: reduces accidents
- Differential speed limits are unsafe. It is not a safety issue it is revenue.
- Please change speed limits for commercial vehicles. 65mph is nationwide avg.
- Raise truck speed limit to 65mph and there will be less accidents.
- Oregon should adopt same interstate speeds.

**Taxes Comments (8)**

- Comment to Question #9 They are already paid for by tax
- I feel everyone is already paying for the technology through taxes.
- I pay taxes.
- Money should come from gas tax. Kiosks should be at rest stops.
- Not willing to pay anymore money. Cut government waste.
- Part 9 Gas Taxes?

- Taxes pay for service, no more charges.
- We pay enough taxes already.

**Positive Comments (9)**

- Glad to see you are interested in traveler's opinions.
- Good Luck
- Have a great day.
- I hope this makes a difference.
- I like your highways.
- Satisfied.
- Thanks
- Thanks for caring about drivers.
- Very beautiful park. Serve coffee

**Miscellaneous Comments (14)**

- Cut fuel costs.
- Filled out quickly.
- I believe that if waste eliminated there would be plenty for services.
- I work at the Weed Rest Area and I like it a lot.
- If you are going to do surveys  then walk the walk and make things happen.
- Living in Ashland we are more aware of conditions on the pass than the traveler.
- Not too familiar
- Survey too long, would not have filled out if I had known.
- The above is none of your business. (Related to Question 10)
- This pass is extremely important for my travel.
- This rest stop has the very best water faucets; controllable
- We need help.
- What a toll road?

# Survey II-a Comments

**Rest Stop Comments (7)**

- None, Really nice rest stop!
- Rest stops are clean & shady. Great for handicapped persons like me.
- Excellent rest stops, particularly in Oregon & Washington
- Thank you for the clean restrooms at the rest stops.
- Find a way to hang the bastards that destroy rest stops
- Siskiyou rest area needs more light and coffee both
- "Rest Stop Closed" signs should be posted before the exit ramp to the rest stop!

**Speed Comments (6)**

- More policing of cars and trailers for speeders
- Speed limit is posted before Agricheck station but no max speed posted upon leaving station
- Higher speed for commercial vehicles - 65 mph
- Change truck speed to equal that of cars
- Truck 65 mph - cars 75 mph
- People should slow down and not be so hurried. If more people slow down, frustration levels will drop.

**Changeable Message Sign Comments (6)**

- The changeable message sign on I-5 near Abrams Lake needs to be updated. They have been talking of doing this for sometime and it would be very helpful.
- Multiple Alert Signs portraying similar message (Hard to pick up everything on same sign)
- Oregon only updates road conditions every 7 days - totally useless
- I'm a local resident is Siskiyou county. Message boards need to be accurate for travelers if you expect people to respect what they say.
- I liked the changeable message signs.
- Too complicated to be accurate

**Chain Up Comments (7)**

- Chain laws compared to worse conditions in other states is pathetic causing unnecessary delays
- Better observation of snow chain laws
- Need better descriptions of the restrictions during winter travel
- Re-educate and determine better judgment on chain control policy (driving10 to 15 mile on bare pavement is very rough on commercial vehicles)
- Last winter I heard on the radio reference to various tire conditions which were not explained. It was some code.

- Radio stations are a big help in winter conditions. Telling if need chains, to chain up or not.
- I have been forced to put chains on too many times just before cancellation

**Maintenance Comments (7)**

- Cal. roads in need of re-surfacing
- The roads are inferior I would say, noticeably
- Coming via WA + OR, road conditions are noticeably inferior
- Road seems well maintained for travel
- It would be much more comfortable for RV drivers if I-5 were repaired and paved over with asphalt.
- When I pass over Siskiyou, it's generally pretty good
- Devote more money to maintenance and snow removal

**Alternate Route Comments (2)**

- When it is snowy or icy, I go 101 near the coast. I plan this before leaving S.F. Bay Area
- When I-5 is snowed in I have heard people say they take the coast route in this area.

**Not Familiar Comments (7)**

- Sorry 1x a year doesn't help this much
- This survey would be real good if we traveled here very often
- Wish that I could of been more helpful
- Sorry, I am, as yet, unfamiliar with this area.
- I only go north about every 5 years
- Use this pass only in summer to go from Seattle to Redding and back once a year
- Survey questions don't relate to me, moving from AZ to WA, don’t often drive thru except today and twice before

**Positive Responses (9)**

- Keep up the good work
- Sure is beautiful drive
- Very useful info
- Thanks
- Excellent Survey
- Good progress
- Surveyor was a nice gentleman!
- Good to know that you’re on top of this!
- This is a very good questionnaire, wish you the best. Pam Himmel

**Miscellaneous (14)**

- Have more "Town/miles" signs for intermittent towns
- Pleasure driving to Port Angeles, Washington
- Yeshua is Lord Isaiah 53
- Ralph L. Faddel
- I am a deaf lady and can't hear the radio
- More information kiosks at rest areas and vista points
- I work for O.D.O.T. Siskiyou Pass
- Advisement over CB Radio
- Need more parking for trucks
- Change mile post signs in Ca. to match all other states!!!
- How about ice alert
- Keyla Sylva
- Update info more rapidly
- More updates

# Survey II-b Comments

**General ITS Comments (44)**

- Having advanced knowledge about road conditions from Eugene to Redding is very helpful and important.
- Timely and accurate information essential.
- The info is only important if it is current, which is not very often.
- It would be very helpful to know CA conditions from OR & vice versa on (800) numbers that are "up to date", not 3-4 hours late. Would like to be able to call OR (800) from Redding and CA (800) from Medford!
- When deciding a road closure due to hazardous weather conditions please try to do so next to an exit where one can decide to turn around.
- Just to be sure the information is updated frequently and to communicate to the public how frequently the information is updated.
- It would be helpful if on road reports the info for travel restriction for oversize loads in winter were more specific and updated more often.
- I live in OR, but work in CA and need accurate info in the winter especially at night. Thanks.
- The information on the road is very important. I live on the road.
- Most info sources fairly accurate. Had weather contract Siskiyou Co. airport 1994-1998.

- As a commercial truck driver, getting any and all information on road and weather is very important!
- Keep updates current and advise of immediate changes.
- Overall, I think we got good info - Time frame is short for problems getting over the pass.
- (Weather changes quickly) summit camera helps because it secures you're chances better!
- More current weather updates - meaning more often. Sometimes an hour can make a lot of difference.
- Winter time road condition information is not very accurate. The rest of year is OK.
- Give road condition reports on the weather channel
- Road conditions gave to the public should have an update and be accurate.
- When the road is open I have to go. There are no alternate routes. Half hour or hourly updating of information would be my suggestion. Everything that is out there is helpful, but needs to be current.
- Make sure that any road condition info is updated, at least, every 2-3 hours.
- Was unaware of the signs - radio - Touca Seron etc. More advertisement to the public. Thanks.
- We try not to cross the Siskiyou's in winter because of the ice and snow. We watch the weather reports on TV.
- Many times wind advisory warnings are not accurate.
- I feel that during winter storms, information needs to be updated more frequently.
- Updating information every hour is very important.
- More information on road conditions before going over the pass would be helpful.

- Need to have updates in winter for snow conditions, more frequently and more accurate. Easier access to information.
- It would be nice to have accident info on the radio advisory so we know how long and if we need to take another route or just pull off in the nearby town. The worst is not knowing how long a wait is.
- I've been driving truck over Siskiyous for 33 years, and many times I would never have left home (Medford) if the info was up to the minute. Instead, I drive up the hill and sign info is too late, so then I sit along the road be a sign before one pass the So. Medford exit and surely time to turn into Petro before one has missed the chance to exit there. Info at Ashland is too late.
- The state of California and Oregon give very good information on road conditions and also in keeping roads clear.
- Better Info on Road condition. Pardon for saying, see it should be cut down a lot more if possible.
- Good advance weather warning - have been caught in unexpected, unannounced blizzard.
- Road conditions reports need to be updated hourly.
- Most trucks have qualcomm weather and road conditions on Sat. which is very helpful; my company uses this method.
- We travel to the Reno area to see family. If conditions are bad, we stay home -really appreciate CA advisories.
- Many times its not posted soon enough if road conditions are bad (in winter).
- Improve cell phone service throughout entire pass - fix blackout areas
- Frequency of updates on road conditions.
- The best info available (road conditions) is being there.
- I am satisfied with the way the conditions are on the pass - very accurate.
- I travel this route 10-12 times per year. I watch weather reports Nov – March to make sure it is open.
- Sounds like you have some interesting technologies available...of which, I, as a traveler, am completely unaware. Advice: get the message out: unpublicized technologies are useless.
- In the winter, I have found that my scanner is helpful on hearing what the DOT or police intended to do. I.E. open or close the pass, etc.

**Changeable Message Sign Comments (20)**

- Live in Southern Ashland, too far SE of the "Changeable Message Sign" on I-5 Southbound for it to be of any use - use 1620 KHz radio, but its often highly inaccurate.
- Since the main alternate route for this pass is Hwy 58 and 97, then an advisory sign (changeable) near Corburg or Dunsmuir would be very helpful. Thanks.
- Keep changeable message signs updated.
- I'm touched that you care. Should have more message signs with more info.
- Sign boards farther north Blackwell hill, Grants Pass, for alternate routes. Faster updates to road sign boards.
- Need changeable message road signs put in place for snow advisory ahead.

- Those expensive message signs would be useful if they were current and accurate; but they are usually neither
- Move changeable message signs further out/or add to give travelers a more sufficient notice of existing conditions.
- Really like the radar screens on the hills.
- I find that message signs and highway advisory radio is not updated often enough. CB Radio is best way to get updated info.
- Road signs, weather channel, need to be changed faster for road conditions.
- Highway message signs should indicate chain requirements (R-1, R-2, etc.)-Calif.. 1-800 message should indicate when last updated (as OR. does).
- I live 5-6 hours from the summit. I will start driving unless current conditions (1-800 road condition & internet) and weather forecast look bad.
- Time, date, and location of latest hazard or "clearance" for continued no passage - or - proceed with caution! On TV or radio or police! Or changeable message signs (usually not current)
- I like the message sign, I check it if going up to ski, however it seemed to not work very often. I didn't know there was info other than the sky cam on then internet. I really like the idea!
- Need a changeable message sign north of Yreka.
- Emergency flashing road signs and radio warnings are critical, very useful for me.
- Winter 00-01 both Oregon and Calif.. had great controls in place for trucks –keep up the good work! If the air temperature were posted on the message signs it would be very useful. Most drivers over the Siskiyous have no idea when the temperature drops below 32. Once the temp is at 27-26 degrees, it seems trucks have no traction, I'm sure cars have very little traction either.
- I have never seen changeable message signs show any information. They are always blank.
- Message signs are great in local area. Camera on TV generally has poor picture. At least on our local viewing area.

**Highway Advisory Radio Comments (9)**

- Quicker updates on radio alerts - as they happen and when its over
- Better (more powerful) radio stations
- More updates on radio and phone
- Often times I have trouble receiving the 1610 AM station on my car radio.
- In severe weather conditions or construction situations, radio pass updates need to be more frequent.
- Travel advisory radio broadcasts usually have a signal too weak to be of much value.
- 3b-AM radio broadcasts are loaded with interference and can hardly be understood. Also speaker doesn't speak.
- Re. Hwy. Advisory radio, California is not nearly as accurate (reliable) as Oregon
- Highway advisory radio well before alternate route.

**Road/Weather Information on Internet Comments (19)**

- Availability of accurate weather predictions for the following 24-48 hrs in winter prior to leaving Washington! Either by telephone or internet.
- Thank you for doing this. I would use the internet source of information if I knew the website address. I wish you had included that information in this survey.
- Add location / "address" of internet information.
- Promote internet road info better if it exists.
- In the winter months, keep us advised daily whether or not there is snow or ice over the pass or not, via the internet.
- If Siskiyou summit is to be closed due to weather/snow/ice it would be nice in Medford to show status of Hwy 199 to go the coast route and bypass I-5. Regarding Hwy. 199 status, It would be nice to have this info also on the internet.
- I am not on the internet
- I don't have a computer for answers #3 d and e.
- Why didn't you list the internet web sites?
- I would like the zip code of the pass, then I could find it on the internet.
- Not have access to Internet on the road or know where to go on the internet.
- #3 D and E don't work in a car!
- I would not use the internet for road travel info or plans even if I were "aware of the technology (questions 3 d-e) simply because I despise the internet. Also my travel over Siskiyou pass is for work not pleasure, which is definitely a determining factor in my answers.
- I would use info on internet to plan my trips, but I don't know where it is.
- I feel the internet is the fastest, most reliable source of info. The camera is great!
- Would like to know how we can get road weather conditions information on the internet for Siskiyou Pass. Thanks.
- I do not have a computer or do not know how to use one. I do not have a cell phone.
- I try not to be there if driving conditions are likely to be poor. Internet is my primary source of reaching go / no go decision.
- Need more information for internet, sent to terminals, for drivers home use, check before trip.

**Internet Camera Comments (16)**

- Question "D and E"! While the information is accurate, it is useless to a commercial trucker who doesn't stop at truck stops
- The camera on the southbound lane is out of focus I5, Siskiyou
- I love the internet road cam!!! Thank you so much.
- I would like to know the website for camera conditions over the pass
- Would be helpful if internet camera images were updated more frequently.
- Road cameras (live) very helpful
- Wish they had a road camera at Mt. Shasta
- Update video camera and internet more often, especially when conditions are changing.

- The camera is stupid. Plow earlier and keep truckers off in snow, and we will all love one and another.
- I would like to see California have camera on I-5 like Oregon has and call boxes
- I rely heavily on the camera images. Wish Calif.. would get their act together and go on-line.
- New technology has made the mountain more safe in winter. Wish they had it to south from Yreka. Mt. Shasta video camera often not working.
- Internet is now really useful, keep the info up to date. Make sure you have a phrase like "Siskiyou Pass Traffic Conditions" in the text so search engines can find you. Also, cameras are highly useful, as are forecast construction projects.
- Internet road cams are great in reporting weather and road conditions. I would also like to see internet reports of accidents and construction delays.
- Cameras are the biggest help. I didn't know there were any reasonable alternate routes.
- The cameras on summit are great - but when weather gets bad - it seems to be "unavailable". More cameras on I-5 south to Yreka would be great! CB unreliable here.

**Travel Information Phone Number Comments (14)**

- 1-800 road information is not as accurate as I need. In Cal. would be useful if gave info over the pass.
- I called the 800 info # from Calif., for ORTrans road info and they would not honor calls from Calif.. I was furious! I pay for it.
- Winter months: phone weather & road conditions over Siskiyou summit need to be updated frequently with time of day assessment made (include entire pass, not just to Cal/Ore border)
- The 1-800 road conditions need to be updated more often - inaccurate information - could we have an officer cell phone report on scene - recorded with an 800# for people to check when there is an accident?
- Update road conditions on phone more often.
- I own a B&B in Ashland, and often use the ODOT phone info line for them, esp. if they are traveling over Siskiyou Summit.
- Ca. CHP phone info - not reliable and no update time - Or. State Patrol road info (phone) is accurate and gives time of update - no time given - therefore is useless.
- Like the internet camera but less useful at night (dark imagery). Like the 1-800 number but the menu is tedious.
- Your 1-800 number is not updated after a closer.
- The information I get while traveling over I-5 N or S bound Siskiyou Pass is generally pretty good and accurate. Mainly CB radio or 1-800 weather number
- In winter we rely on 800 # travel info. We have 4WD vehicle.
- When we call (530) 842-4438, the lady speaks so fast we usually can't understand her.
- Need information updated more often (especially in Oregon) on 1-800 number and electronic signs.
- Weather station on scanner should give road conditions as part of programming. 800# not up to time - 3 or 4 hours old.

**Road Maintenance Comments (32)**

- Repave a lot of I-5 between Hilt, Ca and Redding, Ca / People are nice at Bug inspection station.
- Fix I-5 in California, too many pot holes and raise speed limit for trucks!!! (Also note attached)
- Paving project starting in July....Please not one lane up hills!!! Too many trucks!!
- It would help if cones were wide apart so as to get through construction, don't have room enough to get through
- Fix the road, beat to death. Smile.
- Hway Cal. side to Yreka very rough!
- I-5 is an unreasonably rough road in many places with ridiculous patchwork, I challenge DOT managers and politicians to ride it in a big truck, we are to keep and it's repaired the worse.
- Please fix road!!
- Bad bumps in right lane.
- The trips are usually uneventful, which is good. Road surface still need a lot of improvement (Northern California). You do good work! Keep it up!
- Road maintenance in winter on Siskiyou Pass is very poor.
- Please resurface the freeway in the upper California area - it is quite rough on equipment, cargo, and the body. Thanx.
- We have traveled over the Siskiyou Pass several times in spring and summer – on this trip we found the road to be in good shape with no problems.
- Please do more road construction work on right hand lane on the California side of the border of I-5 (Rough-bumpy-potholes)
- I appreciate road construction. It keeps the roads safer. Thanks.
- South of Ashland to Yreka, CA is really in need of fast repairs. Very rough.
- Highway was in good shape. Thank you!!
- California needs to focus their resources on replacing the roadway! Not this technology mentioned in this survey.
- Grants Pass - road a little rough do to large trucks
- Repair the rough patch work. Resurface road. What are those new boxes and antennae for???? Is Big Brother watching????
- Most of I-5 needs repaving in the Siskiyou Pass very badly.
- Looking forward to repairing efforts. This road is in pretty bad shape.
- We would be very happy if the road would be fixed in places that needed it, not just where the money is.
- Make the roads in CA as smooth as the roads in OR.
- The only problem I have is the extremely poor condition of the Calif.. Interstate Hwy. system.
- Very bad road from Or. - Ca. border to bug station in Ca. before Weed Ca. too.
- California needs to keep their roads up to Oregon standards.
- Fix the road where they are bad.
- SB I-5 from CA stateline to Klamath Falls rest area road needs resurfacing or ground down.

- Fix the roads on Ca. side and chip get off of professional drivers back let us make a decent living.
- Asphalt over patched sections of cement road repair.
- Improve roadways – smoothness

**Winter Maintenance Comments (21)**

- Please continue using the liquid de-icer (Calcium Magnesium Acetate) it has improved road conditions substantially.
- Buy more snow plows or use the ones you have.
- Oregon needs a quicker, more aggressive response to winter conditions over the pass.
- California side needs to be repaved!
- Please plow road from Happy Camp to Oregon border (to Snowpark)
- Special thanks to those who plow and sand. Thank you for a job well done.
- Would like to see more liquid ice remover used in winter
- Oregon snow removal crews are disgracefully undermanned. A.M. radio advisory should be available at points along I-5 for 100 miles in each direction. I-99 is 50 miles away and usually the only south bound alternative. Chain requirements needs to be answered and current not done at convenience of highway department.
- Use more salt in winter conditions.
- Get the sand trucks out earlier and use salt. It's the best.
- Keep road sanded and grated during storms.
- Be more concerned with black ice north side of Mnt. / gravel on Cuider Road on downhill side north bound.
- Need quicker response from road crews and more equipment (snow removal) on roadway.
- California should use the same road prep as Oregon during winter. (i.e. road de-icer)
- California and Oregon needs to work closer winter months.
- Inconsistent snow removal operations and lack of coordination of efforts by states causes delays - as chain requirements, etc.
- The past few winters the highway dept. has done a much better job of keeping the pass open. Thanks!
- Don't let ice build up on road. Plow and or use the de-icer.
- Find a proven way to de-ice. This is a major problem. (Heat tape strips – hot water pipes...)
- Snow removal should start before problems occur.
- Salt and sand road before they get hazardous to traffic both ways.

**General Maintenance Comments (23)**

- Well maintained - keep it up!
- Your welcome to Calif.. needs to be replaced or repainted
- I enjoyed the scenery and the well-maintained highway
- Question 3B-taped radio message is often several hours old. ODOT and Caltrans have done a great job of keeping Siskiyou pass open the past two or three years.

- You are doing a very good service for the greater U.S. Public Transportation...
- Thank you for keeping all Hwys. so clean and taking pride in individual cooperation.
- Highway in general looked very good - no problems.
- A few times a bit more warning on lane closure in construction areas would have been nice.
- As a Cal. resident I am embarrassed and irritated by the south bound I-5 leaving Oregon.

- I like it like it is. Thanks god never a problem. Maybe some improvements on signs.
- ODOT is doing their best - drivers are the one's messing up.
- It would of been easier to build I-5 around Anderson Grade (Yreka, Ca.), than over it in the winter
- I appreciate DOT making equipment, drivers, and roads safe for all!
- I would like to congratulate the dept's responsible for the vast improvements to this road section over the past 25 years.
- Why does Caltrans wait for so long to clear roads or be prepared?
- In past 20 years, I've used pass for round trips from Portland to So. Cal. in all seasons. IT is well maintained and easy to use. (Only snow close option is go to coast and back) after pass ends = Long Delay, so I just used chains/4WD. Bill
- Do not close Hwy. Every time something falls on the roadway. Not everything is toxic...

- Have appreciated I-5. It's usually smooth sailing.
- Thanks for keeping the road in such good condition year round.
- My husband and I travel twice a month, there's no delay so far even on bad weather.
- Parts of I-5 south between OR and ag inspection station need attention.
- Keep up the good work on road.
- Road construction is fine, when done at night, less traffic.

**Chain Up Comments (44)**

- About 1/2 the time when they make us chain up it is not necessary.
- Chain req. during the winter is used when there are not enough hazards to warrant them. (mostly dry pavement).
- Please continue to issue citations for commercial drivers who refuse to chain, which then creates a total mess!! Thank you - its been over due (LETTER)
- Appreciate the apparent success with the "de-icer" when used - frustrating with time delay when chain requirements can or have been lifted....
- Signs and radio should always tell what chains are required to be legal before we reach chain control check.
- CalTran requires chain law when not need or for too long distance with no snow or ice to drive on.
- Require all vehicles to chain up under winter weather conditions no exceptions, single or double axle.
- Both Oregon and California should stop making commercial vehicles chain up and drive on wet pavement for 45 - 50 miles.

- Better info on snow conditions. Stop requiring chains on all 18-wheelers when no snow on Rd. Also require autos to chain up sooner.
- Don't like to chain up when I have 4WD and snow tires!
- Show alt. route on signs & picture of trucks with axles to chain up (semi, doubles, etc.). Update info at truck stops better on road info. Have Caltrans & ODOT trucks with sand and blade load convoys at times over pass preventing disorder on speed
- Empty log trucks should be allowed to proceed without tire chains.
- Post clear message: Do 4WD studs qualify as chains? Do Cal and Or have the same regs?
- California and Oregon need work on chain up laws
- Someone needs to advise those chaining up when chain requirements are dropped.
- Keep the new info current and up to date! Don't turn the chain up sign off 2 hours late. When the road is open and clean, turn the sign off NOW! Thank you. It is a lot of work to put all the truck chains on for nothing and tear up the road.
- Put up to date snow or ice advisory on Oregon side, as we see a lot of RV's stopped there because they think there's snow ahead because of the "chains advised" signs.
- Road closure and chains required to 4X4 vehicles are often not necessary
- Chain law vs. adverse conditions that aren't adverse to delay progression are ridiculous. CHP needs training other states know when to delay or shut down road. CA. has to stop protecting us from ourselves. Wet roads with changing conditions don't require chains. Wait until the roads are at least covered w/ snow. Learn from other state requirements.

- Would be helpful in winter to post chain requirements well before chain area southbound I-5 and to screen trucks in Yreka before they get to Oregon State Line!!
- I don't mind putting on tire chains when they are needed. Twice I've had to put chains on when they were not needed. I do not like to drive on bare pavement with chains on.
- Trucks should not be allowed over the Siskiyous during mandatory chain requirements.

- Caltrans or highway patrol usually jump the gun too quick to put up chain control on dry pavement. Tears up chains.
- Generally avoid winter when chains are required - if necessary, have driven along coast highway.
- Improve chain requirement accuracy. I've taken the S. Ashland entrance, traffic was stopped for miles behind me for chain control and the pavement was clear and dry the whole way.
- If chain control is on, don't let everybody go over the hill at once.
- Put in more places to park a truck for putting on and taking off of tire chains.
- Chaining requirements are never accurate! These need to be broadcast on CB radio in real time.
- No need to carry so many sets of chains (snow) in winter, 3 singles is enough!
- Changes in conditions, particularly chain restrictions, are slow getting out, and then not to the motorists at or near the scene. (I.E. - Bottom of the hill chaining up.)
- Don't chain up go quick 97 Hwy. Don't chain as much road is better to run in winter.

- When chains are required don't run trucks 20-30 miles on wet pavement to get to area requiring chains. Chains are expensive. Damage to equipment is expensive. Someone use some common sense.
- Problem for truck drivers is in bad snow getting info on how many chains are required - maximum or minimum.
- Stop big trucks when icy. Give special permission to Mt. Ashland bound 4WD's for entry without chains.
- Chain requirement need to be more on time more current with the bad condition.
- Many times I am forced by ODOT to chain-up, when it is unnecessary. It seems there is not communication between the snowplow drivers or and chain control. This is bad for chains and the highway.
- A big problem truckers have is knowing just what is required at chain up. Sometimes you chain up everything and they are tell you to go with just drivers and a drag chain. It would help those drivers from out of state to know just what they are requiring also.
- It would be extremely helpful to coordinate actual chain control conditions with your electronic signs. (I.E.) when restrictions are lifted, turn the sign off.
- Road closure and chain control never updated going north. Why do we wait 6-8-10 hours after chaining?
- We need safe areas for chaining in the winter in Oregon and California
- Chain laws are a little ridiculous. To use 4 single chains on your drivers causes more road damage than using 2 triples on one drive axle. Common known fact between many experienced drivers.
- Quit requiring chains when there is little or no snow and when there is don't require them so far from the snow that they worn out before we get there.
- Enforcement of chain restrictions for commercial trucks has made a tremendous difference in decreasing the amount of time the Siskiyou Pass is closed. Thank you ODOT!
- Make all vehicles chain up fully if any other combination (doubles) has to -many 4 wheel vehicle drivers and semi-truckers do not read conditions well. Also quicker notice down line when spin-outs cleared on top of hill. CB unreliable here.
- If Siskiyou Pass has chains required (or is likely to), I take Hiway 199 from Grants Pass to Crescent City and continue south on 101. However, because the first CMS on I-5 isn't until Medford, this means having to double back to Grants Pass. If a changeable sign (or Highway Advisory Radio) was placed north of Grants Pass on I-5 advising of the chain requirement, it would be great. The internet road conditions are great. Unfortunately, I must look at it about 5-8 hours before I get to the pass, so the info sometimes changes.

**Sign Comments (21)**

- Many truckers don't realize that the wide shoulder can be used when they are rolling slow. There should be signs posted saying this.
- Post highway condition phone numbers on highway signs/billboards during bad weather.
- Close road when needed and post everywhere possible
- I drive from Salem to Pleasanton. It would be useful to have the same info on Grants Pass. In the future I will use the internet. Why not make a road sign with the like.

- I also like the speed warning signs for sharp corners and advance orange 2 diamond warning signs for upcoming speed decreases.
- There needs to be a sign before leaving Yreka that says whether Siskiyou Pass is closed, alternate route is open, and whether there is a delay or not.
- Elevation signs are nice. One at the summit would be great!!
- Road working signs very important + speed.
- Would like to see more signs in the pass as to information on road conditions.
- Post more speed limit signs
- Post more speed signs
- Make better public notices about the upgrade of your different signs and advisory help.
- Road close information comes very or opening of road. There should be portable road signs at north end of Yreka for opening of road.
- Weather info on the highway signs.
- Post road conditions at Henley off ramp - north bound
- Need a sign to give elevation of summit. Weather reports give snow level which is helpful. Note: I started 5-01-01 a delivery to Medford from Redding 5-6 times per week.
- I think there should be a message sign on the northern border of Weed for Hwy 97/89 & So Ca. residents going north.
- There should be billboards with jokes on them - boring drive.
- Road blockage during inclement weather needs to be posted and kept current.
- Would like to see more signs in the pass as to information on road conditions.
- One sign showing a box (truck body) falling sideways, I assume was to show what happens when speed around a curve is excessive. Fun, but extravagant use of taxpayers money

**Speed Comments (26)**

- No split speed limit, too dangerous for all parties
- Speed limit on freeways much too fast
- Oregon freeway speeds are too slow. California is too cautious, closing roads due to mild weather.
- Higher speed for trucks would help, especially getting up the hills. (Crank up area as going over Donner in Calif..)
- Slow the trucks down from MT Shasta to Redding, especially TNT trucks. Best way redaway all the same.
- Variable speed signs over the pass (i.e. Snoqualmie Pass)(Wash. State)
- Raise the speed limit where it's safe to do so.
- Fix roads and bring speed limit for big trucks up.
- I feel Oregon makes Siskiyou pass more dangerous by not just using a 35 MPH maximum speed for trucks, buses, and motor homes.
- Lower winter truck speed.
- The greatest problem we as drivers have is slowing down 4 wheelers. They cut in and out, pass on clear right side over fog line. Need more stiffer patrols in Oregon and CHP.

- Trucker's speed needs constant monitoring!!! I wish there was a way to heavily fine truckers for tossing bottles and jars of urine on the summit. I'd help with a band of volunteers if the state of Oregon would fine the perpetrators and the speeders.
- Increase speeds on I-5 in Oregon to match California!!
- More patrol of 55 mph limit. (Calif.. side)
- More police control of the signs 55 max / 65 max (speed). Issue tickets when 55 and 65 speed exceeded
- Raise the speed limit so cars and trucks travel the same speed.
- Installing of remote control speed signs to slow down traffic when danger ahead.
- When I drive the speed limit in right hand lane, trucks barrel down on me. Who is monitoring these big trucks?
- Need to change speed limit in CA and OR, very dangerous to mix 55 mph traffic in with 65 mph. It all should be the same 55 or 65. Every trip I make there are several potential head on collisions. Head light usage over in daytime hours is terrible ideal. Too much headlight glare. It makes a driver very tired. It promotes eye strain and headaches. It also teaches people to drive faster instead of slowing down. They see no light and here they come. People are very clueless. Too much speed, no patience, and bad judgment. Hwy 97 in OR is real dangerous. If you would like to talk more about problems contact me anytime.
- I think it would be great if you raised the speed limit to like 80 or something!
- I think the speed should be 65 over the pass. Good freeway curve speed can be reduced if needed. It's more realistic.
- Stricter control of speed limit violations both Calif. & Ore sides, esp. trucks.
- Get speed limit up to 75 mph.
- Why does Oregon have such low speeds? Oregon drivers (particularly Portland) are the most disobedient drivers of the NW area. In Washington they go in excess of the 70-75 range. Strange!
- Tell your highway patrol to cool their jets, man.
- Speed limits need to be the same for all vehicles.

**Safety Comments (19)**

- I live in Oregon and work in Yreka, Calif.. It is essential for me to be able to travel safely and timely to work.
- I travel over the Siskiyous 4-5 days a week and the semi-trucks are a real problem for me, especially in the winter. They don't pay attention or care, and I've been boxed in by them a few times where one goes to pass another one and then I'm in the middle when another will get behind me and they stay there forever. It's annoying. I think they shouldn't be able to.
- Truck traffic needs to stay in their own lane. Some are very dangerous drivers.
- Need more police on MT. Ashland to site 4-wheelers that think it's funny to cut off big trucks in bad weather causing them to brake and lose traction. Police need to site 4 wheelers who refuse to dim high beams.
- 18 wheelers (big rigs) are probably safer than 4 wheelers on snow.
- We need more highway patrol on the highway.

- Need a slow vehicle land on downhill in or Nob to Ashland area - Real Hazard with only 2 lanes.
- Control trucks during snow conditions. Trucks. Trucks.
- We need to be able to report dangerous drivers or conditions at bug station and get help.
- Accumulation of snow is allowed even in a small snow storm. Travel becomes hazardous especially with the heavy truck traffic on I-5. Trucks are allowed to go over the pass without chains which causes great delay and even death when wrecks occur. Sanding or spreading gravel on icy roads would be welcome to prevent accidents.
- Don't let commercial vehicles and cars over the pass at the same time when icy and snowing.
- Siskiyou Pass is a long, lonely stretch requiring more emergency services.
- Even coming from WA and ID, this pass is worst I've ever encountered!
- When the cones are out and the lanes aren't closed within a shorter distance, some people are inclined to think nobody is working, therefore causing accidents
- If everyone would observe speed signs and warning signs, there would be a lot less accidents.
- The trucks always cause the delays and hazards with ice. Even in good weather they pull out to pass when they think they are going a little faster (5 mph?). I am slowed to 30-40 mph when the trucks "drag race"!
- It would be great to have a "safety lane" (as in Oregon) for California side of Siskiyou Pass
- Very pleased with drive (route). Nice to see many safety precautions and signs along the route.
- Keep the Siskiyou Pass open, always - when traffic is stopped when it begins to snow it builds up to 6" or more and then the road is opened - this makes it horded for a lot of drivers.

**Alternate Route Comments (10)**

- Basically only long term delays of 12 hours or longer would make me consider alternate choices
- ODOT generally, now, does a good job keeping the pass open. Local traffic (Ashland/Medford) should be allowed to take old highway to bypass accidents/ 6" snow. Cooperation between OR & Cal depts. (HP & DOT) seems nonexistent.
- In regards to # 7, if I have a load going south I have little choice on route and must put up with whatever conditions there is.
- An alternate route over or around the Siskiyous (Hilt to Ashland, Ore) is needed
- Our alternate route would be Hwy 199 to the coast then down into Calif.. This adds a considerable length to our trip-as once on the coast we must go back to Hwy 5 in central or southern California.
- An alternate route would be ideal!
- Put underground heating elements on top of the pass for winter safety. Plans for creating an alternate road!
- Don't build another highway through the Siskiyous!
- Pass should not be closed unless you have an alternate route.

- More ahead of time warnings and maybe future alt. routes over Siskiyous! Mahalo!

**Tunnel Comments (6)**

- Build a tunnel
- Build a tunnel
- How about building a tunnel with a fixed toll, both north and south.
- Regular update of conditions. Tunnel would be great.
- Make a tunnel in the Siskiyous. Thanks.
- Publicize internet and radio #'s or sites, widen existing road - tunnel thru MT.

**Rest Area Comments (8)**

- Keep rest stops open and stiffer penalties for littering
- Beautiful country -nice rest areas. We like the elevation marker signs and info
- Need a rest area / rest stop near Ashland, Oregon.
- Please return the "Rest Area" that was northbound prior to Ashland. Removing it deprived a lot of Ca. residents traveling to Oregon, especially those of us with kids.
- Enjoy stopping at the rest areas, usually very clean.
- If the road is closed we go home and travel another day. Since the rest area relocated off the interstate, it is useless.
- I-5 needs northbound rest stop shortly after Oregon border. (Between Ashland and Talent?)
- Would like to see welcome sta. (at rest stops?) as in several other states. Cal map - would tour more.

**Positive Comments (60)**

- Never any major problems; except road construction delays. (Oh well) Better roads are nice! Keep up the good work.
- The filled water bottles along the pass highway are a thoughtful deed.
- Nice road
- Beautiful view & good service all along highway 5 especially in Oregon.
- I consider this route to be very good Southbound, I use 97/58-5 north bound
- The scenery is beautiful
- Roads and signs very good and nice people at check point. Thank you Mr. D. Supernaw
- Overall this is a very good pass.
- We enjoyed our travel on your roads - found them to be very safe.
- We appreciate all that you do. Thank you.
- So far so good!
- Keep up the good work
- I appreciate a survey with such an excellent format and clearly worded questions
- At the checkpoint the men are very pleasant and helpful.
- Hope many people respond to make this a worthwhile survey. Good luck.
- Great Work

- Good Work.
- This was my only time thru this area. If what I have answered is useful, good!
- Thank you for asking.
- Thanks.
- Thank you for your interest!
- We are glad to be aware of more ways to gather info. Thanks.
- You guys are doing a fine job.
- Never had a problem traveling over Siskiyou.
- Fantastic highway!
- We've been lucky with very nice trips. Pleasant and enjoyable.
- Very courteous employees at Oregon - Calif.. inspection station.
- Thank you for caring!
- It's a beautiful trip and always enjoy that first site of Mt. Shasta – Lovely area that god put his hands on!
- Have had no problems, so far.
- Thank you for the survey. I'll be checking the internet and kiosk at Ashland.
- I have been taking this route for 16 yrs. without any major problem, Thank you.
- Doing a great job!!
- I'm satisfied with my experience of travel.
- Beautiful Hwy. Weather info is very helpful. We have been caught in a bad storm here before.
- Good Work.
- I certainly don't know how to do it better. You are doing a great job. Thanks.
- I am a visitor from Australia and my 1st time through the pass. Beautiful comprehensive rest stop. Plenty of room for big RV's.
- Thank you for caring.
- Thank you for doing this survey. I learned about the kiosk in Ashland today.
- Good to see this survey come out!
- I always hit the mountain at "noon" - never had a problem.
- Thanks for asking!
- I never had a major delay in the past 4 years. I only travel to Portland in spring and fall.
- I believe you are doing the best.
- Keep up the good work / research
- Thanks for doing this survey.
- Keep up the work
- Didn't know a lot of this info existed. Will check it out before I leave next time. Been traveling this route S or N since 1955, not many problems. Scenery outstanding.
- First of all, sorry about the mess and second every time I travel everything has been current and everything has gone just fine, drivers are always well aware.
- Overall pretty good.
- Sorry I couldn't be of more help. Keep up the good work! It's a beautiful area
- Very pretty area
- Thanks for asking.
- Good questionnaire - Keep up the search!!

- You all are doing a great job!!!
- We have seen so many "Highway Pass" and other road improvement in the past 20 years!!!!!! "Thank You"
- I think this is a very important survey because I found things I didn't know of.
- Very satisfied with your service.
- I think you guys are doing a good job. Thank you.

**Miscellaneous Comments (90)**

- I drive the pass to go skiing at Mt. Ashland every weekend in the winter.
- Most of my answers reflect the fact that I have no choice, most of the time.
- Now that I'm a graduate student, I understand the significance of research.
- All that are for the 18-21 yr driving O.T.R. should take this pass with one.
- Have not encountered very adverse conditions on the pass for the past two winters.
- Weather condition is much more important when riding the motorcycle. Most travel is in automobile. Weather sometimes decides which vehicle to use.
- Travel 9 A.M. to 5 P.M. in winter
- See attached note
- Put information kiosk at the Petro in Medford, OR or at the TA in Redding, CA.
- Sorry about the mix up on Question # 7, but I'm from Florida (Ha Ha)
- More parking areas beside side of road on top of a hill
- I drove alone on this trip. Had my husband answered this survey it would have been much different.
- I traveled through the area for the 1st time on May 25th. Nevertheless, I apply the same criteria in my travel in CA.
- I drive an 18-wheeler from Oregon to California hauling groceries to our stores We have to get there on time daily.
- Can I have the $100?
- Keep exits open for alternate routes.
- We do travel some in the winter but only if pass is clear.
- Although we have a navigational system it is more of a toy as we have gone this route so many times. Very few problems.
- Some of these items are more distracting then helpful - we simply would not travel during the winter months. Thanks for asking!
- Since I am retired we travel the pass only for pleasure under perfect conditions.
- We live in the area and frequently use the route.
- From 1992-1999 I traveled 48 times per year (each week) over the summit.
- I have been traveling over the summit since the middle 30's. It sure has changed
- Make kiosks more available with internet pictures.
- Since I live in Yreka, if weather conditions aren't good I don't leave home.
- Not always sure what fruit & veggies I can buy in Oregon that will be OK to take over the border back to Calif..
- Highway safety is #1 & communication is our greatest fight against accidents.

- Nothing beats common sense and good judgment when determining travel plans. Keep it Simple!
- Question 1 does not indicate round trip so the answer I gave is one count per use either way.
- Do not allow single drive axle trucks with multiple trailers on the pass when there is snow/ice on the roadway.
- When going north the signs say one thing, then you get to the ODOT check station they say something else.
- Front wheel drive vehicles w/ traction tires should be classified the same as 4X4's. Over the pass I drive a Honda and have no trouble on the pass or the steeper old highway (alternate route). It seems ridiculous that the web info can be hours behind.
- Stop the snow
- Need to tell Yreka side when road is closed on summit so don't have to sit for hours when closed because of snow
- Questions D&E on other side are not applicable to myself as I don't have or use a computer.
- Please excuse my changes in answering - Late night after a long day in Medford.
- Check on long haul trucks closer
- You need to hire a professional firm to create your questionnaire.
- Conditions can change on the mountain quickly. I've had to change my plans and cancel trip many times, especially when pulling a horse trailer in winter.
- I haul produce, so, regardless of road conditions, I try to go, road conditions help to judge my E.T.A.
- Very limited exposure to items 3a & b - no exposure to 3c, d and e.
- You need to bring back the sticker for local residents to pass through bug station. After going through there 50 times a year, I know what I can and cannot bring.
- The Ag. Inspection Station is a farce. There are other routes. Who or what stops the FLYING bugs? Mighty Mouse?
- K.E.E.P. I.T. S.I.M.P.L.E. (KISS)
- At 86 and a driver since age 12, I am a fair weather, conservative driver. Trips are preplanned.
- When going from Oregon to California at the border, if a car is going to be searched, for produce, etc. it should be asked to pull over so cars do not back up behind it.
- When visiting close relatives in Oregon you are subject to conditions upon arrival.
- I do not understand why the check points coming into California are only open sometimes.
- I like to travel so I hope to be going to Oregon soon again.
- A flatter route needs to be made from Yreka to Medford
- We live on OR coast and usually go to CA via 101, but use Interstate 5 in late spring and summer, not in winter.
- There is a great deal of concertinity among truck drivers if they can legally use the lane right of the fog line.
- The weather can and does change rapidly in the Siskiyou Pass area.
- This questionnaire should be formatted positive to negative.
- Should have put heat strips under the pavement at the top of the pass.

- I truly wonder about both the reliability and the validity of this survey. Were any trial runs made to see if you'll get the information you're after or if the information is relevant to the users (the public) as opposed to glorify some bureaucratic government agency. You might check the environment psych. dept, U of A for valid research methods. Perhaps the public has other needs than those determined to be by various DOTS!!!
- Views great, rest stops great, road surface needs resurfacing especially in truck lane, stop road herbicide spraying, plant native vegetation, and mow roadsides. Higher taxes on diesel fuel users, ship cargo by railway eliminate herbicides.
- Historically since the 1840's weather has been the determining factor. I do not see any signs of our ability to change that. Still it's the weather. Thank you for asking the public!
- Too much construction on I-5.
- Improve the highway to 3 lanes each way if economy permits!
- Good luck. If you could reduce car and truck traffic by improved rail facilities it might help.
- Normally out of route for where I am going.
- Need more rest stops! Need better road system from Hwy 1 to I-5 in CA to use alternate route: need to maintain roads better over mts. in CA.
- I generally avoid mountain driving during the winter months if possible. I fly then. I did buy cables for that pass.
- Need to give business vehicles transporting persons for medical treatment special allowance for passing when road closed.
- Need truck lane or open up shoulder to trucks in California north bound. Thanks
- All these things that are available help, but probably won't change travel because it's a necessity.
- I didn't read #7 real good so the very unimportant and somewhat unimportant should be switched to very important and somewhat important. Sorry
- Siskiyou's can be hell in the winter.
- Interesting questionnaire
- I live in Yreka and work in Grants Pass. If freeway is closed I will find a way to work. Hilt-Ashland maybe Hornbrook-Hilt then over taking dirt roads if needed.
- Cannot get big rig to section C, kiosk.
- a, b, & e were just recently installed on the CA side of the Siskiyou's (5/01)
- Restrict trucks to right lane only.
- Pickup with trailer or boat.
- When attending our ranch at Border Creek, fruit should not be taken away.
- My husband is a dialysis patient and has to be in Medford 3 days a wk.
- Some questions are the same.
- Before my husband's death, we had a 4WD pickup and studs so weather didn't stop us in travel, but my car doesn't have studs.
- Too many trucks
- I have to cross the pass daily it doesn't matter if opened or closed. I have to wait and pass when open.
- I-5 continues to fall apart from one end to the other. Very little is being done to keep up with rapid deterioration. The bureaucrats will pay.
- Truck drivers are less considerate than they were 10 yrs. ago.

- Hey, I would fill this out regardless of the drawing.
- My $100 can be cash or check. Thank you.
- In the winter when roads are supposed to be bad (via radio, TV, and CHP) lots of times they aren't. We have stayed home when we could of gone over the pass.
- The only alternative route for us is Hwy 58 to 97 (197?)/ Making that decision has to happen 3 ours before we get to the Siskiyous and 4 hours from home. Other than bad weather, adverse conditions change so much in that time that internet, etc. are not helpful, and by the time we get there, we're pretty committed: 3-4 hours driving, alternatives that are slow and dangerous (i.e. to K Falls, even from Eugene). Coast is unthinkable.
- I have answered these questions as a commuter not a traveler, and only thinking of the winter season.
- Having a drawing is a great way to ensure responses are returned!
- I do not mind the road conditions. Only if it is a "bad" snow storm or heavy fog.

# Survey III Comments

**General ITS Comments (14)**

- impressed with new tech
- it's unfortunate that you didn't include information here about the unknown sources of road/pass information. I'd like to know the 800# and the internet URL's. that info should be better publicized
- I would use the highway advisory radio, but it seems that in the past I have never heard anything on that channel. Then again I do not think it would change my plans b/c I would already be in the road. Think the best resource for me will be the internet once I find your site . thanks for the concern
- critical to use of internet , radio & other notices is to update frequently - I become lazy and distrustful if they don't of the information
- Ques 3-(d-e) I don't use internet. I always call 1-800(roads) before travel in winter. I then decide on 101 or 5
- radio and internet advisories are often several hours old. many areas unable to receive cell phone or internet. Have info available greater distance away from pass or event to allow for alternatives keep electronic signs current to w/in 15 min I use internet info a lot
- More cameras are needed one of my phone numbers is an old Caltrans number. I can say by experience that most / many truckers call Caltrans directly for information!
- without a computer I have great difficult in learning of Siskiyou pass road condition. Phone road condition reports are poor and get worse all the time. In the winter I feel very insecure about heading for Ashland or Medford and rarely dare attempt the trip since Ii have no reliable information on road condition over the pass.
- on telephone recording & internet info it would be helpful to have info as to where a wreck is located , so the available route ( old sisk hwy) can gauged . Should I get all at callahan's or continue on? Wreck location is key info, rarely included
- changeable message signs are not far enough away to do any good . Hwy advisory signal not strong enough and message not clear
- highway advisory radio is often not on the air or up to date. I always tune anyway in the hope it's active. Cameras / and or / internet information is interesting but may be outdates by time u reach the pass.
- haven't seen kiosks but the would be great in truck stops if accurate. That's the problem with radio not accurate in winter weather conditions
- we only travel this area about every 5 years but think any of the information devices are great if people are aware of them
- Advise kiosk for grants pass & Medford - " in the mall". Camera on internet - where is “site”?

**Changeable Message Sign Comments (16)**

- I appreciate the changeable message signs most, also the internet information
- two changeable message signs would help , as trucks sometime obscure - you wonder what you missed
- I like how you've widened the free way over the pass. Changeable message signs are great!
- we love changeable message signs and would love to see more of them
- changeable message sign only @ Ashland (S. bound) Don't remember a north bound sign
- changeable message lighted signs on highways should reflect temp on pass all winter road condition on pass
- message signs confuse public they don't read all of message
- add temp to changeable message signs identify alternate routes
- the changeable message signs that tells you, your speed are very helpful( when going onto a turn)
- changeable message signs are useless as very little info is posted on them. many times inaccurate
- more info on road signs
- place message signs even farther north & south of the pass . This would allow better access to services EG< Motels , food, gas, purchase of chain are normally sold out. Either all jammed at Ashland or weed hard to find rooms and chains with so many people in one place
- changeable message signs -for pass updates as far north as Eugene
- you need more changeable message
- changeable highway signs should not continue to require chains when road( above 32 degree , no ice at all ) wet at top off pass , thanksgiving took over 2 hrs to go 20 miles because of an needed chain up traffic
- I like the road signs very much . Keep them up dated

**Highway Advisory Radio Comments (13)**

- # AM radio
- update high ways advisory radio more often
- have never been able to get the radio station instead on sign need to update road conditions on phone and radio more frequently
- we use weather advisory radio station mount. Ashland. Don't you want to know if travel over pass is business related or personal? That affects decisions!!
- road conditions should be more specific as to the time of the report on conditions, when I hear an advisory I don't know how old it is
- more frequent updates of road/ weather conditions on 800 and radio advisory would help great -10 to 24 hrs old reports do not help very much
- highway advisory radio to be updated
- more signs for HWY advisory radio
- update info on radio advisory , message signs more often on CA Side is great.
- road conditions need to be updated more frequently

- road conditions need updated more frequently on recorded phone
- need more publicity about road / weather info on the net and the Siskiyou pass camera pictures on the net. It is not common knowledge how to get this info . Thank you.
- radio info could be more updated in spring – fall. Seems to be pretty good in winter!

**Road/Weather Information on Internet Comments (22)**

- the loads always have to be delivered your internet site is great !
- I do look up weather info on the internet; however ; I have not yet stumbled across weather info for the Siskiyou pass or the camera images. These would be very helpful if I had the web address! Question # 2 I don't get to travel over the pass as much in winter because of poor weather
- it may be more helpful if the local radio stations mentioned the wed address for the conditions over the pass
- need information on internet
- I live 800 miles from Ashland summit. I can only check internet before leaving home- 1.5 days too early to do any good 2. Access info for 4 wheel drive would be useful
- I have no computer or access to internet in my home
- publish and inform travelers of internet information site
- where do I find out about alternate routes? Updating information on road weather & camera images more often on internet
- I prefer ODOTS internet site to cal trans site
- would use internet technology if internet address were made available . Please publicize them in the area
- advertise availability of info on internet
- move internet cameras through out the Siskiyou and advertise the website
- we have not used the internet for weather info but it is likely that we will
- nice to know there is information on the internet
- wish Ca had internet cameras like Org
- a small flyer given 1 scales /rest stop that lists avail internet address for current info on road conditions & weather
- the internet information is the most useful to me
- website for internet - I check another side
- internet service.
- tell us how to locate road condition, information for Route 5 in OR + Ca on the internet
- Internet is a major information source for us! Gives us live cameras and advisory's on Road Conditions

**Camera Images on the Internet (8)**

- when the weather is bad I normally check the camera on the Siskiyou before I leave home then wait for things to clear up.
- I like the cam views info on the net . My ex-husband was a trucker - he used to call home inquiring about road conditions on route. It was of a great help
- love the camera shots on web

- we appreciate the internet cam shots and weather forecasts ; and depends on them totally
- web cam needs written info on what you are seeing and updates hourly
- really like the road cams that ODOT has in operations all over Oregon and wash Ca would follow suit - not just for traffic flows as in L.G area
- love the internet pass cameras - most helpful to actually "see" the current road traffic states - no alternate routs that I am aware of?
- winter can be hazardous, I try not to travel the pass, if I must , I rely on the new camera images so far so good
- sometimes hard to see camera image due to frost on lens

**Traveler Information Phone Number Comments (15)**

- Cal road conditions & # 800 needs to be more accurate & specific as to areas
- telephone to state dept of Trans is always busy- usually no help - busy & frustrating
- Oregon 1800 # does not work in California . More info by Redding Ca would be very helpful
- 800 road condition message - doesn't seem like it if changed (updated) often enough
- we use the phone as a first choice for road conditions . This is somewhat inaccurate because they don't update often enough especially on the week ends
- pictures & info on local TV news is helpful. "800" state road condition phone # needs to be updated more frequently
- 1-800 updates behind were told pass icy snow .it was clear & dry when we got to 1 hr later
- the 800 number only gives from the state you are calling from when you really need to know what the conditions are on the other side
- Calif. 1-800# are good ; OR 1-800 # are usually un reachable
- there needs to be more emergency phones so women don't have to rely on creepy men helping them on the side of the road!!
- phone road information needs to be updated more promptly
- my only comments : why does 1-800 # information for weather condition not work from CA to Oregon? Because sometimes more information is need for winter conditions over Siskiyou from Redding to Ashland summit Oregon
- access to 800# of out of state highways
- I use the local phone #842-4438 in winter/stormy weather for road conditions over pass but it is most often not current
- 842-4438 very useful

**General Communication Comments (36)**

- put out more info regarding if closed to mobile homes if it is also closed to other oversized heads this is very important to us
- needs work on keeping road conditioning updates up , not every 4-6 hrs unto every couple hrs or hourly
- travel info is not posted in a timely manner condition closures and chain requirement frequency seem unnecessary

- accurate road condition and accidents in progress in stormy weather much needed info.
- CHP- DOT-OSP need more and better communication- sooner
- C.H.P/O.S.P used + Responded to CB calls in the past, seldom now.
- these responses mostly apply only to winter, since snow weather is really my major consideration.
- I appreciate knowing about technical advances and warning available/ alternate /alternative routes would be helpful
- keep your information up to date!
- so far I've been informed of changes in the highway
- haven't been able to access Calif. rd conditions by phone from Oregon
- sometimes sign says windy but doesn't seem to be that bad , or at all
- send out fliers during snowy - icy season raising awareness of how to get info on travel conditions
- a " CB frequency " to go to provided by state police for " correct information" about what chains are required or other pertinent out information that could help trucks on the road
- I think Cal + OR . Do good job on road info
- Conditions are often different when I get to the pass
- I listen to the OSP scanner during my trip from state line to Ashland & Medford south
- I think this new tech. is great, 20 yrs ago all I had to gauge travel was a phone call.
- be nice to call from Oregon to California for road reports
- more info where to get it
- I don't feel that the notifications are NOT updated often enough. i.e. once "chains have been required "- reverse notification isn't updated until hours after road conditions have changed.
- we work at hill on the Calif./ ocean border - travel over Siskiyou daily - nice if hill exit had this info before entering north bound and being help up . We need to get to exit 1 to return south or take old 99 over Siskiyou via 4x4
- it would be nice to have pamphlet on what produce, plants that can be bought back into Ca from Oregon.
- do we know longer have state info handout magazines with coupons and things to see? I had always enjoyed them in the past
- more updates on conditions
- we live in San Diego and travel to Seattle when weather is likely to be good . We haven't been that aware of nor have needed travel info- just likely? ( use national weather forecast)
- driver safety is greatly improved with these advances in notifications technology
- want more detail on weather channel on NOAH i.e. …MT Ashland not city of Ashland. Not North central CA. But more pinpoint information. And need information further away then 50 miles. Like from Roseburg and Colny.
- love traveling I-5 & rally love that California is finally putting up mileage exit #'s!
- I am new to this area and just started making a regular commute for work Ashland to Yreka. I appreciate all your help and plan to use more of your information devices - thanks
- most important to me is : easy availability of current road condition and number of types of delays I can expect. Frequent revision / update critical

- That pass closure or chain requirement be posted much further south. Past Yreka is too late.
- all information sources now being used are seemingly slow - ( not current) other that O.D.O.T
- I have 2 homes I work in Oregon I travel Siskiyou pass a lot all information is a great help
- stop traffic closer to Ashland when snow closes the pass so people don't wait so long and end up having to be towed
- Every thing helps when it comes safety we will be making this trip more often in the coming years

**Road Maintenance Comments (34)**

- repave I-5 Redding or to state line
- CA side of pass road is in desperate need of repair. Why does Caltrans and Ortrans care now? They never did before!
- from CA state line to Redding needs repair " bad"
- very good on Oregon side need to find up work on CA side
- I believe that road conditions and service provided to motorists is very excellent
- California road are getting very bad
- repair freeways!
- should improve road surface
- the state of CA needs to fix our free ways?
- fix pot holes, before someone gets lost in one , get a new governor
- fix roads " please "
- complete construction projects quickly ! CA the US 89 off ramp closure from is A as been closed for months! This is intolerable
- fix I-5 south in California so it does not beat us to death
- "fix the rough roads"
- need better road repair on California side of the Siskiyou pass
- good road , feel safe, too many repair hold ups
- fix the rough roads on the CA site
- truck lane then OR- Cal need desperate repair. The road jar your eye teeth outs!
- fix your hyway
- more attentions need to the quality of the road surface for years the right lane of travel has fallen between good path and dirt road
- California roads are a disgrace!!!
- southern side too rough
- road conditions are always average to satisfactory, at times great
- 1st layer blacktop, then oil, then gravel over oil to make roads tougher 25% stronger road (use this process to make your roads and they will last longer)
- improve smoothness of roads
- I believe that California high ways should be repaired and maintained by California workers namely Caltrans and not contracted at!
- road is rough

- clean up the roadway imperfections at the CA/OR border, CAL side is a mess ! Otherwise road is Great!
- the right side of the free way was very rough and hard to drive on, I know this was due to road construction needs to be fixed ASAP
- California road maintenance is terrible , having to travel in the R lane is a nightmare! Need to wear a kidney belt & have my truck realigned P.S. the truck is new but will shocks, after a few more of these trips to CA
- improve condition of road surface
- Ca road surface condition are close to the worst in the lower 48 states !
- CA roads are junk OR is not much better
- condition of 15 is very poor in CA pot holes & patch work need to be fixed

**Winter Maintenance Comments (13)**

- use smaller stones in the winter and during snow or ice conditions - very important
- if Oregon and Calif.. Highway depts would begin plowing snow immediately during storms with 2 plows one in each lane and stop traffic while plowing if required and require mandatory speed limits . It would be the solution. There is very little snow fall the last 10 years
- Siskiyou pass is a real driving problem - winter worst you can imagine summer always 2 to 6 to 8 autos/ p up's of Rv's overhead of experience mechanical failure-needed is 1/4 mile spaced emerg ones
- snow removable quickly
- wider area along highway to put on chain, along highway during winter/ get off road!
- Oregon's Cal trans do a very poor job of snow removal!!!!!!!!
- try to clear snow on hwy when it starts not when it all ready to late and has stop traff
- Oregon should start sooner with sand /plow they wait to long - usually after the first pile-up
- in winter appreciation the disks that change color indicate freezing temps.
- less snow in the winter please!!!
- sand CA side of Siskiyou much more aggressively , keep lane open for commercial trucks
- sanding trucks are an extreme hazard when they throw into coming traffic - we find or DOTs response that is a "normal" winter roadway hazard unacceptable - never had this happen in any other state.
- I have never been delayed - I've noticed the winter driving need for safety or closure.

**General Maintenance Comments (26)**

- clean the pass more often
- need more truck lanes
- glad a lot of the construction is finished
- coordinate const zones better very untruck friendly. Thanks ( very safe zones) good job.
- construction delays are somewhat of a inconvenience. They should be plan more in the spring or fall of the year if possible.

- I have never had any trouble on the pass there has been some delays because of construction, but never a problem
- I hate road construction and delays
- keep up the great work construction at night when there is less traffic?
- need more equipment and people on the job when show shuts down the road
- have used pass in all types of weather . Worst hazard is not road or weather, its poor drivers and inadequate patrol. No info will change that.
- glad to see the attention in the slow / south bound lane ( N of inspection station ) is being addressed
- the detour on 89 - poorly marked! Going So. on I5 When is this problem ever going to get resolved?
- please push the resurfacing project
- road works always seem to occur at holidays and peak travel times
- we are one of the lucky ones who have never been stuck up then for 6 hrs. no major complaints, they do a pretty good job keeping it clear
- for O.D.O.T to stay ahead of winter storms on Siskiyou pass - not to get caught with its " pants down"
- recruit engineers that can built , maintain , and repair , roadways, recruit inspectors ( for road const & maint) that won't be bought -off by these so -called " construction companies " we need better roadways
- Roads could he better But their being fixed so that's very good
- maybe due road construction at night when less traffic on the roadway to help flow of traffic moving
- construction contractor & state does an excellent job of control & warnings
- I-5 is a beautiful H.W. - our business in NEV . Makes it imperative we travel on time & on certain days. Maintenance of I-5 is very important waiting is a privilege.
- pass is better last winter - chemicals prior to 2001 /2002 worst maintenance in the west !!
- my experience is you do a good job in keeping the roads passable , warnings as far in advance as possible would be a great benefit
- was struck on the roadway once n/b just above Yreka whose the dept of trans. Metered traffic across the pass. It was ridiculous! No inclement weather for the previous 5 hours !!!!!!
- have traveled pass only this one time safe well-maintained road
- commercially registered light van ( glad to see southbound Hwys being paved!)

**Chain Up Comments (22)**

- chain advisories are oftentimes inaccurate
- for winter driving with snow and ice not updated enough or very accurate Oregon needs to be more accurate on road condition for drivers at chain up areas last year they didn't let you know what the chain up requirements were after they tell you and turn you around to add more chain you go back thru the check point
- chain up only when snowing , not on dry pavement
- have someone better/ smarter call or not call for chains
- encourage private chain - up services to offer installation of our traction devices for a fee

- I hate having to chain up truck when there is 1 inch of snow or ice on road
- requiring chains for 2 inches of snow is absurd. This is done frequently on Siskiyou summit
- chaining up on dry pavement and driving 6 or 7 miles before you hit any snow.
- chain controls up in Yreka
- Calif. CHP is to be commended for their requirement for truck chain up . The two times I was caught on MT due to accident it was Oregon side - truck - no chains
- there should be an indicator for northbound chain requirements closer to Redding
- give estimate on when chain restrictions will be lifted over radio. Tired of chaining up to over dry pavement on pass
- require chains for trucks before things get really ugly instead of waiting for a truck to jackknife before imposing chain restrictions. Also, clear snow with tears of 3 or 4 plows in a staggered row - like you do in Montana
- when required , the chain control laws need to be enforced by the law for all vehicles . Commercial and otherwise.
- longer pull out chain up areas information sign at chaining area for the required amount of chains to be installed on commercial vehicles
- I feel chain requirements are ridiculous in present practice: required when conditions do not warrant
- chain required sign on when roads are clear ( causing much delay & work)
- I suggest better communication between Oregon & Cali in the last 2 hrs of working in Ashland I find Oregon was to late to put "chain up sign & then 18 wheelers crash & close roads & I am late to work due to closure that could be prevented if chain control started sooner
- stop using 3 rail tire chains on twin screw or ( drivers) truck, California roads
- if Oregon & California would start clearing roads sooner we would have a lot as problems in winter and get us a lot closer to snow before we have to chain up it would help save our chains
- trucks chain earlier or must stay in right lane - no passing pavement very rough
- when it starts snowing please start the snow plows sooner . The longer you wait the greater the problem ; also set up chain screening for all vehicles at an earlier point to eliminate congestion the pass!

**Truck Comments (16)**

- too many trucks in fast lane
- more highway patrol visibility as the semi's travel way over the speed , drive recklessly and endanger others.
- control downhill speed laws for truckers
- build separate Hy way for trucks out of truckers fee's & maintained by them - as rail roads due
- highway condition - Roads taking a beating with so much traffic "trucks"
- don't like getting caught on opposite side when the weather changes. Very unorganized truckers are always in all lanes blocking traffic . Need to write more tickets!

- needs signs to encourage trucks to use emergency parking apron when clear. Prohibit trucks from using left lane.
- put some containers on the top of the pass for the truckers who park there to throw their trash in ! It's a mess mash of the time.
- In snowy conditions ,make trucks and 2 wd vehicles chain up , but don't be quick (or even slow) to close freeway
- keep up the good work thanx CHP fun getting the cowboy truckers off the road
- commercial truck area only to switch drivers, mgs , etc ( not intended for > 15 min stay)
- trucks are major problem the Siskiyou in winter due to storms and ice on roads
- control trucks during snow
- keep large semi trucks in for right
- in bad snow conditions divert all trucks to hwy 58 to 97 . Having them park in the middle of I-5 @ the first grade of the Siskiyous to put on tire chains is idiotic
- slow down truckers , crack down on urine bottles being thrown on roadway

**Agricultural Inspection Station Comments (10)**

- stop wasting $$ on agricultural "check" station you could bring anything on!!
- get rid of that worthless bug stations
- weather is the most significant for me as I live in Ashland, each way I get news of road conditions . The employees at the agric check station are always courteous and professional
- I have been very satisfied traveling 1-5 in any weather although snow & fog are scary. The only negative has been poor road near CA border - now being repaired. Agricultural employees very nice also!
- personnel at agricultural station so of Oregon-CA border very friendly coupon books good way to motivate drivers to complete surveys
- the Calif. border stop seems pretty ridiculous
- this bug station is a waste of the tax payers money!
- the bug station is a nuisance
- I believe the agricultural inspection stations are a waste. They may be better suited at national borders only.
- the people at the bug station are very polite friendly

**Tax Comments (5)**

- the amount of $ ca drivers pay in license fees makes our roadways a crime they are in such a deplorable condition
- spend highway funds on maintaining adequate surface conditions, not on costly high-tech " improvements"
- I wish I knew where the highway tax money goes? ( salaries?) interesting questionnaire.
- use tax money for the hoied road condition - 1/2 diesel cash is tax
- tell Cal legislature get their hands out our pockets and fix the damn road

**Survey Comments (8)**

- I would like to know why you are taking this survey- is the reason given accurate?
- questions not very well constructed e.g. # 3 no choice for don't use.
- my husband & I both had input on this survey
- publicize b-c more widely
- need to review your survey questions
- have never tried 3 (F)
- I have no idea what problem this survey addresses
- Very bad survey not enough thought given to questions – always a way around a given spot – old hwys etc

**General Travel Comments (38)**

- I like the road signs very much . Keep them up dated
- have gone through pass Cal to WA 3 round trips only - try to always do if in daytime
- we are intermittent road travelers- usually go by airplane. Haven't been 15 for @ 5yrs
- I live 1 1/2 hours from the pass and its been my experience that the pass is usually open by the time I get there. Only once in 10 years have I had to turn around.
- we feel comfortable going over the mountain in our 4 wheel drive in inclement weather
- I use pass once a year or go on long distance trip . By time I arrive, I am committed to trip
- we drive a Subaru outlook (4 wheel drive)
- we plan travel for spring or fall so don't usually encounter detours -
- not a regular traveler over the pass
- I commute between Sacramento and Medford area every week, work in sac -live in OR, need reliable travel conditions
- dly travel occurs during periods when weather is not a factor
- average traveling twice a year for 27years its gets better each year
- when I travel its clear, so I have no problem's
- we travel in truck w/camper
- we visit older relatives in Calif.
- I travel over the Siskiyou pass for 6 months a year 1 to 2 times a month
- we enjoy traveling and easily discouraged by any occurrences
- our son and grandchildren live in Washington- friend in Oregon. Visit when we can
- when it snows at the pass we stay home
- hate snow & ice will not travel in winter even though I live in horn brook I will leave house in winter
- we always drive a 4 wheel drive in the winter
- my family and I decided yrs ago to travel over the pass when snow very unlikely ! Hence spring and summer only
- road closures almost always seem to be uncalled for especially north bound.
- new to the area & love the drive from Klamath falls on to Redding, Ca
- did travel motor home husband passed away - now use auto

- I try & make sure the pass is very dry with good forecasts
- front wheel drive as good or better this many 4 wheel drive vehicles
- until 1999 lived in CA traveled to WA an average of 2-3 times per yr for 36yrs on I-5
- we drive as a team, average 2 trips Portland, OR to LA,CA a week - freight must deliver!
- must get freight to state so will get there any way possible
- retirement house hunting trip - almost never travel this area
- this is probably our 1st time over the pass in several yrs - route from Seattle/ Vancouver to san Francisco before heading east & home
- I have never driven over Siskiyou pass in really bad weather , only in a little rain
- I need to drive all of I-5, and delays hurt my business. Flying is not a good alternative for me
- I live in Hornbrook CA & work in Ashland ,OR so the Siskiyou summit is a huge part of my daily commute.
- I run oversize loads and will continue on regardless unless D.O.T shuts us down.
- I will be traveling to Roseburg several times per year and have doing it since 9/01 (also to bend)
- other drivers who are driving in opp direction

**Speed Limit Comments (11)**

- truck - auto speeds should be equal/autos pass large vehicles too fast to be safe
- I try to abide by the law . Speeds in Oregon are the worst - Portland the worst the 65 MPH disgusts me . I drive lot . Just drove to the east coast and back most speeds 75
- I think Oregon and Calif.. state are doing real good but car drivers needs more education how to drive under severe weather conditions because they drive reckless regardless of any condition and I believe speed limits "55" on flat is a way to slow. Need to do something. TNXS very much
- raise the speed limits to a safe level! 60 MPH too big split,55-65? Stupid
- Raise the f***** speed limit for trucks!!!!
- increase speed for all veh. To 65 mph . So truck are not in the way all the times.
- the speed of all vehicles needs to be monitored more closely- also chain control on trucks need to be enforced more closely
- change the speed limit going up the submit from California. Good highway with moderate curves. 55 too slow
- every time we travel this state we take a pay cut of $ 2.2 per hours . Speed limit needs raised to match other states
- please raise the speed limit for trucks to 70 MPH. No more split speed limits ( ticket traps)
- Speed limit too slow in both California and Oregon

**Safety Comments (17)**

- put out signs to slow traffic when closing off a lane such as 55 then 45 then 35
- lack of miles markers in Calif. is a hazard (if you break down you cann't pin point location!)

- no available continuous route over Siskiyou pass weather condition important
- 4 kinds of signs in construction area's road work ahead , flagger ahead, prepare to stop and Pilot Car a Head "Safety for all"
- less cones in construction areas
- I've been using Siskiyou for a years, most problem wrecks which are not accessible for emergency vehicles due to (no) passage through center barrier
- I have been driving over Siskiyou pass for 50 years drivers who do not know how to drive in snow are the biggest problem
- please stop using liquid deicer on passes. I ruins your aluminum & co. roads your wiring.
- winter travel limited for black ice condition possible on Oregon side
- seems to me - speed control - in winter people just don't seen to want to slow down in relation to conditions. From the Bend, OR area, I've watched camera coverages of Santiam Pros (on tv) . They seem to be quite helpful. Would seem to be applicable for 2 miles each side of Siskiyou pass.
- can be very dangerous coming north over summit - fog - icy wet slippery
- the Oregon side of the pass should use ice melting material - often the accumulation of ice inches thick
- the slow lane from Yreka to Medford is always rough and a hazard if traveled at posted speed limits.
- like to see more Oregon hi way patrol officers during bad weather & sooner not when the hi way has been closed for hours.
- black ice on summit appears unexpectedly - signage would indicate possibility of black ice
- Perhaps sharp curves should be “signed”” as to degree of curve. Grades should be highway " signed" as a percent of grade either up or down.
- the speed signs advising what speed your at around 50 or 60 MPH curves!

**Alternate Route Comments (13)**

- there is no good , safe alternate route for a women traveling alone!
- would like to know of an alternative route over Siskiyou pass/199 through grants pass is as bad in the winter
- built a alternate route
- improve hwy 97, weed CA, to Kfalls And back over to I-5 Medford.
- build an straighter road from Redding to eureka /coast - to many curves
- a separate road for trucks
- Alt. routes may not be close to problem so need to notify public early.
- an alternate - less inclined Rt. For commercial vehicles only would be a large help!! I.E. I-5@grapevine. Autos would be less of a hazard
- MT need another truck lane from Ashland summit down of Ashland very dangerous trucks pass each other cutting fast moving cars off around and down curves in road.
- usually flexible enough to use 101 in bad weather . Other wise the grade seems reasonable to drive
- north bound we were advised of a potentially bad toxic " spill " we opted therefore to return to meet and proceed north on highway # 97 then back to I-5 to Eugene

- better access to the coastal roads - info earlier that , would be available to determine necessity of alternative routes would be greatly appreciated
- keep I-5 OPEN REGAR LESS OF WEATHER OR GIVE AN ALTERNATE ROUTE

**Tunnel Comments (4)**

- how about a tunnel?
- I cost benefit analysis should conclude that the annual cost of snow removal is greater over the past 50 years than the cost of building a tunnel
- we need a tunnel !!! The Swiss would have had one 100 years ago.
- questions 4-over the years it has been suggested boring a tunnel or not around east horn brook

**Rest Area Comments (3)**

- you have great roadside stops very clean and nice
- would like toilet seat covers at all rest areas, rest area near Button Willow, Ca was very dirty
- the numerous rest stops along I5 in Oregon improve traveling 100?

**Positive Comments (46)**

- the web cams are great! Also use internet weather( noaa.gov) for radar + winderground.com for general forecast
- had a very pleasant trip over the pass, beautiful traffic good!!!
- highway in good condition, thank you
- I think you all do a fine job
- like the new paving on the California side - nice & smooth!!
- I like the lighted speed checks machines that tell you what the speed limit is and fast you are traveling
- very pleased with road conditions road is always well organized
- keep up the good work
- for such a busy interstate , I think the Depts. of transportation do a very good job.
- I appreciate the survey & interest in improving travel conditions
- always friendly personal courteous and helpful
- thank you for continued improvements
- Enjoy life !
- beautiful trip- truck lane extremely helpful
- I find in general travel information is good over all. HP very courteous
- Beautiful through the Siskiyou
- keep up the good work , I think you try very hard to keep things going
- I believe Caltrans does a terrific job - I'm please they are finally paving I-5 state line south !!
- driving across cal border into Oregon side was pretty nice! Road conds services are exits nice scenery & service people friendly

- Beautiful ride
- educational survey!!
- keep up the good work and may god bless you all
- good will - thanks for asking
- I've enjoyed the new road on the Siskiyou. Can't wait until its all finished
- they keep pass open very well
- it's a lovely drive -whenever
- glad to see road improvement this year finally
- I respect the fact that you are trying to make a difference
- good job being done now
- I think you're doing a fine job!
- crews do good job in keeping this route open in winter!
- smooth out some of the bumps please. It's a very beautiful place
- both ODOT's Caltrans due an outstanding job with the pass
- over all I think you guy's do a great job keep it up
- Beautiful area - always look forward to the drive well kept - appreciate the informative messages and advisories
- over all I think Caltrans does.a good job.
- you are doing a good job! Keep up the good work!
- improvements that are being made are good
- I am happy they are fixing the road on the CA side. It sure is nice. I hope they continue on down farther.
- construction is going well- but hurry up!!
- always room for improvement but overall excellent performance . Thanks for opportunity to participate
- this is my favorite stretch of highway in our travels
- thank you for safe passage up and back
- it is a beautiful trip in this area
- the pass is a beautiful area of our country. The road is well kept and marked and is enjoyable both in California and Oregon .good Job!
- Siskiyou pass is one of the places that says "California" to me lets keep it national, raw & open !!! No glitz!!!!

**Miscellaneous Comments (9)**

- if public transportation were available it would be seriously considered as an option
- I need the $ 10000 to aide in building my house , thank you, for the opportunity
- all does questions are verry important so I do beleave I'am the winner?
- police do not help in the travel over the pass. I have watched police pass cars on the side of road too often
- include free coffee coupons in each survey packet"
- more motels to stay at in emergency cases and gas stations, restaurants etc
- I now use " on star"
- I am a local resident of Siskiyou county.
- in winter for 9 AM to 5PM

# Survey IV Comments

**General Technology Comments(43)**

- Keep Road conditions current
- Choice of information options far more informative when at "home" instead of en route. Also purpose of trip influences go/ no go decisions quite strongly.
- (3b)Difficult to understand sign since there is usually a lot of static
- Keep info as current as possible in the winter form Sac north and bend, OR south to minimize mishaps/Acc. It will give drivers time to find a place to wait.
- Sometimes you have to check for self because information is unreliable!
- Good info on road conditions up to date very important for winter especially.
- Update road conditions more often
- OCP's & CHP to use CBs more often in bad weather to help with communications and road conditions when called on
- More up to the minute road conditions in winter Wednesday and weekends.
- Something (lights?) to help with the horrible fog in the winter months (3a - - Usefulness) especially during the winter 2002
- Seems CA. has different requirements than Or. Has at times for restrictions. System used on Donner (I-80) seems quite effective. What about road info. available on NOAA radio? Thank you for looking into this matter - sure needs some improvement.
- OR TV covers from Ashland north/CA TV covers from Redding south. Need info available as far north as Eugene, OR, so can use Hwy 58 and Hwy 97 when going south if they are in better conditions (8d) Del. Travel trailers & boats w/ diesel PU.
- The systems in place are very efficient for conveying delays or snow in plenty of time to stop or plan alternately. Good job. J
- Update conditions more frequently during snow season
- Would like to know wind conditions, this is important when pulling an R.V.
- It's a beautiful highway in excellent condition. I like the speed signs that show both the limit and the speed of your car and the dangerous curve warnings. (3c) no computer
- Continue the travel assistance messages.
- All advisory and caution signs are helpful and appreciated. During winter months ice and snow conditions can be very hazardous.
- The CB is the only tool to tell you if you can make it. You get 10 minute or less info on snow and traffic conditions. It usually tells me destination 60 seconds to know what the mountain is doing. If you turn on the radio you will get 24 to 48 hour old info.
- I think that cell info a road conditions should be continuous have one state to another. On the internet and by phone. (3) I don't have internet
- We are aware of radio but have never used it. Same with internet info, and camera images. We use our car to travel during spring and fall. 4W drive truck in winter if conditions show necessary.
- Keep visual aids well painted for night/storms driving safety
- Make it easier for potential travelers to get an accurate and easy pass info (as if you aren't trying, eh?)

- (3a) Read board is only useful to traffic North of central point (3b) not used (3c) not as current as I would like (3d) by time we are at location (of cameras) conditions could have changed greatly.
- Update road conditions as close to peak times as possible (3b) not always updated
- More frequent updates on weather and road conditions.
- Travelers need to rely on information provided regarding road conditions therefore it must be current, concise and accurate to be of any real benefit.
- Most information available is well behind the current conditions. If you know the weather, you can judge conditions most of the time.
- The weather changes very fast. Some of the information is old and not up to time of what is going on. Need more updates. Thanks
- Information update in a timely manner (i.e. visitor info, correct info)
- Rely heavily on cell phone (3b) All I get is static on AM
- Better cell phone service in area. I call spouse checking on internet for conditions. Thanks.
- Implementation of the freeway phones on the balance of the Calif.. I-5 and there and including all of the Oregon section of the 5.
- Need better information on Southern CA roads (NBC) in order that we are informed as to construction, weather, etc. There is little information in our area.
- South of Roseburg on 6/2 a truck accident was announced 8 mi in advance by a lighted portable sign - I found this notice useful. Some motorists were leaving I-5, evidently for other parallel routes. Being unfamiliar with the options, I stayed on I-5. When reasonable by passes are available, notifying motorists would be useful. (Although I expect that Siskiyou Summit gets a lot of local traffic it is also an interstate w/ much long distance traffic - many drivers will not know local secrets.) The internet is not a useful communication devise for short term disruptions such as accidents. Long distance travelers (may be) less able to change plans or wait out a traffic interruption. Long term disruptions such as road construction are suitable fodder for the internet - although I rarely think of it. In the same area as the truck accident there was bridge construction at two locations. Northbound on 5/31 these projects represented no delay. I am guessing that the mid-afternoon delay southbound was more due to the accident than the construction; however at other times of day the construction could be critical & worthy of on-highway notification.
- Further and advance notice of closures would be great, so-100 miles ahead of closures
- Winter of 2002 the weather problems were south of Siskiyou Pass-S. Of Eureka @ Weed. Did not know of I-5 closure until we were over the pass. Suggest wider range of geographic coverage when providing (3c) forgot we used this for return home of 2002 road condition info (we had to turn around return over pass & drive to coast to go south.)
- Need road condition signs for Black Butte summit also. (weed)
- I rarely have to be anywhere on time as I can wait it out in a motel until the roads are cleared, but I need to know when to hole up!
- Need more Hwy info Siskiyou to let us know what is going on up on the mountain.
- Going North notice@ Hilt, CA off ramp so you don't get stuck up at pass in bad weather, but as there is an Ashland, OR!
- Early Warning of Pass closure (alt. Route = OR 58, US97, I-5) Eugene or Redding

- When going from Yreka, information needed before you leave Yreka at the latest point.

**Internet Comments(15)**

- I appreciate learning of availability of travel info via the internet and would use that resource before future travel, especially during winter months.
- (3c) Don't have internet
- I love the camera images on internet. My family check anytime someone travel. I can cheek the road conditions. Just like I was standing there.
- Would like to see images and information on internet and telephone updated more often.
- Media publicly of the internet service would expose many more travelers to its existence.
- Please get Caltrans to get the road cam between Yreka and the Summit to work. It is very nice having the cams to check on the internet.
- We love the summit camera! It would be nice if telephone road reports were updated more often during snow season.
- Needs a sign for website for weather and camera. I found it accidentally.
- Update web cam more frequently
- Its hard to get internet from OR on the Calif. side
- Though I don't personally use the internet services available (Pass camera (3c) No computer in the home & road/weather info.) I know many people who do. Great Service!
- I think the most important information is observable on the road cam
- Link O-DOT & CAL trans web cameras together.
- The Siskiyou Camera Images on the internet have been especially helpful as well as the changeable message signs.
- Having the web cam is GREAT for winter driving conditions

**1-800 Phone Comments (9)**

- 1-800 phone number needs to be updated more often. Sometimes it is 3-4 hours off.
- 1-800 road condition phone message not updated often enough. If I'm going over at 8:00 am I don't need to know the conditions at 4:00pm the previous day.
- CA needs to re-work their 800# for road conditions. As is now, I have to listen to all CA road conditions for I-5 starting in Southern, CA. CA can take a hint from the OR 800#.
- Update 1-800 road conditions every 4 hours in the winter months so we know current conditions. (6-1-800)No of dated often enough
- Have an 1-800 travel or road condition phone number that is the same in Oregon and California.
- The 1-800 road condition information PH# are never ever not busy. I have never, in all lower 48 states ever been able to get thru to hear road conditions by calling it. More lines and operators would be great. Thanks.
- An 800-Number line w/ pass news would be nice.
- ODOT 800 number and internet information are very useful
- If internet and 800 # info could be updated more frequently it would be wonderful! Thank you (I hope this helps)!

**General Phone Comments (5)**

- More frequently update of telephone road info
- Update road conditions more often than every 6 hours during winter months for the phone
- Telephone Info usually old
- Better update on phone travel conditions from both CA and OR
- Recorded road info on telephone often not updated/inaccurate

**Changeable Message Sign Comments (22)**

- More Amber Alert Signs
- Keep more current road condition reports - instead of waiting 4-6 hrs for updates have reader board updated hourly.
- Turn on the road sign in Hornbrook, CA it was installed 2 years ago & hasn't worked yet!! (3a-accuracy) didn't work
- Signs placed earlier w/ radio stations where we can obtain info on road conditions, etc
- Information signs are great as long as the information is kept as current as possible
- At the bottom, show the temp. at the top of the pass. For winter driving
- Keeping the information updated & on the money. Sometimes the signs are way behind.
- Signage on both sided of crucial areas (trucks can block the signs on the right.)
- With today's knowledge in technology it has benefited a lot of US. I'm thankful/grateful for how information is processed many ways. I like the changeable message signs. They're accurate & processed, throughout the freeway, getting any message across to the public. Being on I-5 we need these signs! (3a) very good idea <helpful> (3d) But will lok into it. Neat! Heard about it!
- Changeable message sign are played to slow. You pass by before you are able to read sign. This happens to me.
- The changeable sign (manually changed) at Siskiyou Blvd. And Crowson Rd. (south end of Ashland, Oregon) should be changed promptly when the conditions change.
- Reader board signs are good if placed far enough (at Medford or Redding Exits) down road to change plans and kept up to date.
- Need to keep changeable message signs updated better. Oregon could update radio and road info on phone better also.
- I found the changeable signs very helpful last year when there was that fire hear Medford. Very good.
- It would be great to have an information sign just north of Redding.
- Update info on sign boards and highway radio stations more often.
- Changeable using signs are eye catching and current. The releve tension by explaining delays / snow traffic. Could be used to suggest alt route for non-locals, could refer driver to radio for more detailed info. (3b) aware, did not use (5)My trips over Siskiyou are occasional, long distance trips. Local conditions unlikely to after plans, would use detour, if suggest. (5-- take an alternate rout) if know
- Changeable signs left on the long after problem is removed. Internet useless, can't drive and run computer.

- Message signs are great. (expensive) Please, Please do not clutter these signs with non-sensical message like "drive safely, prevent forest fires, etc) Use the signs only for special purposes.
- Changeable Message signs are the best
- Changeable message signs are the BEST source of road info, but must be updated every 15 to 20 minutes. (3d) could be very useful if done live (6) ask drivers from direction I wish to travel
- The changeable message signs where extremely helpful, and in the case of an accident ahead, allowed us to moderate speed in plenty of time.

**Radio Comments(17)**

- Please update signs and radio more frequently
- Would appreciate radio info updated with most current information.
- The pass is better than a few years ago. Keep up the good work. Message signs and Hwy Advisory radio could be updated more, but good.
- Quicker updates on road conditions on radio.
- The highway advisory radio, the changeable message signs, camera Images on the internet, and the road/weather conditions on the internet are not up dated often enough; They lag behind the actual weather and road conditions.
- It's a piece of cake. Only been delays. 1 time in 3 years - with the CB radio I know whats ahead a least by 50 to 100 miles away those big changeable message signs…what a waste of tax payers money that could finance our schools.
- Not a strong enough radio signal to pick up on our radio.
- Highway advisory radio is the best legitimate way of informing the public if kept up to date
- Local radio stations do not give good, accurate road info (California side)
- Signs and radio info must be current . Like chaining required when the road has been open for 2 hrs.
- Need NOAA to transmit summit info from Portland to Sacramento. By time we hear it, we are there, too late to actually be of use. Thanks.
- Pass conditions should be part of National Weather Service Radio broadcast. Chain conditions controls and such.
- More frequent radio up dates as conditions change
- Highway Radio Advisory: it is difficult to tune in radio while driving.
- If hwy advisory radio was in real time and accurate, or cb broadcasts for the check point for chains. The biggest problem is lack of real time info. Road condition (exact location of problem) estimated time for reopening. Matching chain requirements to equipment and conditions. Not an automatic blanket maximum requirement wearing out hundreds of dollars worth of chains traveling on pavement for miles to cross 1 mile of snow pack. Maybe someone traveling the chain up line talking to drivers with accurate info.
- It would be extremely helpful to install a system which would update radio advisories on real time, as conditions change rapidly!
- Update radio and phone info more often

**Speed Limit Comments (15)**

- Calif.-Repave Hwy! ORE - change spd limit to 70 mph everywhere! ORE and CALIF. - coffee booths at rest stops like in Washington state - not machines! Coffee booths with real people!
- Raise the speed limit 65 and do without the spots speed zone (like 65 cars, 55 trucks) and add super center Wal Mart store!
- Going to quit coming to Oregon & California - 55 mph is a good way to go broke! Suggest you find alternate way to move freight!
- Oregon State Troopers target CA plates for tickets-really discourages tourisms. They should give a warning at least!
- It was often difficult to determine speed limit traveling to Oregon through Mtns. It often changed varying from 55-65 often
- Oregon speed limits too low
- Should end split speed limit as this is dangerous and can result in a deadly situation
- Put speed the same as the cars for trucks. One speed for all.
- Faster Speed Limit
- Keep speed limit same either 55 on 65 but no split speed dangerous.
- Usually no problem except other drivers and speed driven - lack of experience
- Ca. needs to raise truck speed limit at least 5 mph
- Have all traffic travel at same speed. Less chance of accidents. (3b) no reception in some places (4) I would go 199 to 101, but 53 trailer are not allowed
- Very poor communication and warnings by police. VERY POOR MONITORING of truck speed and passing - this is a real problem.(5e) if possible
- More highway patrol, state patrol for speeders

**Road Maintenance Comments (17)**

- Don't tie up lanes in construction when no one is doing anything in them - concentrate one section at a time -- can more be done at night ? (6b) but hard to get here
- Caltrans road conditions are probably the most important when conditions are bad. I stay home and don't go to my home on the cost. I live in Yreka
- I will be glad when there finished with their road work.
- Would not have the slightest idea how to improve any road conditions anywhere.
- They do a good job keeping the road cleared for travel year round.
- The highway in Northern CA are maintained very well and driving over them is quite enjoyable. Roadsides are kept very clean too.
- I believe the transportation department has done and still is doing a great job on our roadways.
- Road conditions are very poor and in need of major repairs, Washington and Oregon - I-5 are in much better shape.
- I enjoy buzzing over Siskiyou. Smooth surface, truck lane, parking on top accurate speed/ curves signs
- Pave the roads in Calif.. In Shasta City area!
- That gate across I-5 at Montague ramp really tells the story!

- Sometimes construction info is left out after workers have left for the day and the condition no longer exits. Suggest removing signage when work done/ work left.
- Always under construction and lanes to narrow in construction zones! Less sharp turns!
- The areas of the road newly paved are wonderful. Can you repave all of I-5 next? (HA HA)
- There should be at least one more lane in each direction. Snow shed at summit might be helpful
- Have daughter Fly into Redding in winter because of weather and/or road conditions to Medford.
- Previously having driven commercial trucks all over the US. I find that this pass is the easiest to negotiate wither in auto or large truck.

**Winter Road Maintenance Comments (43)**

- Better working between California and Oregon keeping snow off road
- Weed, CA becomes a log jam near the truck stop during a storm. The town does not plow the roads until after the story. Causing traveling long delays getting out of parking lots.
- In winter, Oregon could clear roadway sooner of snow than they do and keep clear. Work snow plows! Use sand!
- Because I usually travel over Siskiyou pass in the winter it is helpful that the trucks sand the roadway.
- Provide extra snow plows close scales in bad conditions on CA side steep incline Shasta scales dangerous conditions.
- (1) Calcium, Magnesium Acetate. Whoever discovered this stuff gets the Nobel prize! (2) Require basic skill and competency testing for RV drivers.
- New signs have helped deicing truck very helpful when temps is 28 degrees or so. Push trucks helpful. Should be better plowing though.
- In the future all weather conditions will be high tech master roads with heated fibers for snow and ice. Implement in roads for safe traveling.
- The de-icer works, but eats chrome and aluminum wheels up. I think they shut the hill down too much, they should be able to keep one lane open. (3a,b,c) Don't use (4) old Hwy
- Timely application of de-icer and snow plows not waiting till roadway impassable to begin operations!! (4) Old highway 99, 5, 58, 97, 5
- We try to plan our trips not driving winter, but when we do travel we have found roads very well taken care of.
- They shut it down over even slightly bad road conditions. Due to many poor drivers - From southern climates.
- We appreciate that any closures are brief. Road generally in good condition.
- Can you please have it snow on road or if it does can you use deicing like CA and CO
- Too many closures in winter months for minor accidents and spin outs - keep traffic moving
- Close pass to all traffic both ways as soon as storm is apparent.
- Stop using deicer hard on wiring, brooks, frame, paint

- We where caught in an April snow storm around 10am several years ago and were very impressed with the speed and efficiency of the road close.
- Send snow plow drivers to take training on Cogaualla Hwy in B.C. They would learn what snow is all about.
- Oregon side of pass - needs help !!!! Eliminating snow. Help!!! Traffic Control--
- Weather and road condition alerts very important useful in winter. (4) not for me
- In need of major road repair. During winter months you are one of the very best to keep up Rd conditions. Thank you
- When the Siskiyou's start getting snow or ice on road close it ASAP to all trucks, buses, motor home then keep open longer.
- The I-5 pass and the roads on both sides are so improved this past year it has been a pleasure to drive it. The winter weather was wild this past winter, but the weather is very unpredictable. Chain requirements are very important.
- Need better road maintenance for removal of snow and ice. Quicker response to road hazards, i.e. inclement weather.
- [Snow] pack is easy. Extreme caution in ice or snow conditions.
- When traveling over pass before dawn to be very aware of deer in roadway. More gravel on hills during ice and snow.
- Only concern is that it seems to me the plow/sand trucks never come around until there is already a wreck/stop page or too much snow on the ground! (3b) Reaction is usually "BAD" (3c,d) Accessible at the nearest truck stop?
- Oregon needs to be less stingy with the sand on icy roads.
- A pain in winter!
- Conditions have improved since the Highway Patrol has been monitoring used of chains during snowstorms, though I wish the process could be speeded up.
- More snow removal equipment in winter storms (8a) Canada
- Don't close road just because of a few show Flurries!!!
- ODT needs to be more timely with snow removal. When conditions are bad it is usually big rigs that cause road blockages.
- Learn how to prevent ice and snow from accumulating. Be prepare (ODOT) to immediately remove crashed trucks & other large vehicles. Drill a tunnel under Siskiyou summit.
- Snow is our biggest problem. We go to the coast to avoid having to use chains
- Winter road maintenance
- Being I worked for Caltrans for 34 years and 20 years going over the sis, they need during a storm to maintain it quicker when snowing (4) only the old road at exit 1 but may be snowed in
- Very little traveling during snow conditions. Highway poorly maintain at night 7 pm - Thurs 7 am
- I work for a local cellular company and travel over Siskiyou Pass in all conditions. The road is usually cleared quickly in winter months.
- Everywhere caught by a surprise snowfall in April, we find the Transportation Dept and Highway Patrol try their best to get us through.

- The States (CA, OR) could be better prepared for adverse weather - especially during winter months and begin clearing process earlier than they do now. (3b) never saw light flash!
- When weather is bad, close it. Have more snow plows out and more sand or salt. Put posted speed limit signs up for bad weather to remind people to slow down (Example slippery 25 MPH)! (4) Note: Hwy 97) from Weed, CA to Hwy 58. But in the winter it is more dangerous)

**Road Suggestion Comments (32)**

- I've noticed several slow vehicles using shoulder, in many areas it's not wide enough and could lead to accidents could those areas be widened?
- The pass is mainly unsafe because of the knuckleheads who drive too fast. (3b) never use it!
- Water ports both sides at summit
- I 5 is a very good route. Truck lanes are provided for most steep grades.
- Open the rest stop on the north side of the summit.
- Leave it alone. Distraction not needed
- Truck only lanes on uphill grade - not shoulders
- Add more view point/rest stops. Avoid construction delays by working at night.
- A good road, but not one I look forward to because of the steepness on both sides and the often heavy traffic
- Need a passing or slow lane for slower traffic. Room for emergency pull off.
- The Lines and center reflectors on the southbound Oregon side aren't very visible, especially when it's raining.
- Dig a tunnel. Also have a female voice on the radio.
- I would suggest that with current traffic on freeways between Yreka & Grants Pass, that expansion of the freeway 2, three lanes each way will alleviate this problem & set up this area for the urban growth situation that this area is experiencing. The sooner this is addressed the taxpayers save!
- A third lane would relive some of the congestion during holidays and general traffic when show trucks are on the hill.
- Better marking of snow truck lane so all trucks will use it. PS please have CA dept. of Ag. Inspection station create an inspection area to have vehicles inspected and put into and not block flow of freeway (3b) Always "pre-cautions" needs to be somewhat disconnected (3d) use this most (5h) fly?? (8d) pickup
- Mt. Sexton - a group of people keep water jug beside road
- Hwy 101 should be open to longer length of truck w/ trailer
- Somewhat pleasurable, but could use better rest stop facilities. Weed is too small.
- Be sure to distinguish what the pass for 2-way tourists that might not know (with regards to surveys).
- Larger pull-off and chaining areas on both sides of pass. Require drivers and all persons of vehicle to wear orange reflective vests for safer visibility. All drivers to surrender the lane closest to the vehicle chaining or the shoulder. (6) and thank you so much for all the ODOT and others that work all hours of the night to keep roads safe.

- Close bus station
- Need more truck parking at Siskiyou pass
- Oregon's highway look so much better kept than California's . I realize our money must be spread further, but we should pay attention to our impression we make upon arriving in the state.
- More extensive truck lanes
- Buses and trucks trying to pass using both R lanes, who will not pull over to far R. lane when they don't have the power to pass.
- 1) need more than 1 rush truck on duty south-north 2) need more sand down on pass keeps traffic moving.
- Bug station on CA side is in the wrong place. Should be around Yreka some placed not at the bottom a steep Grade.
- Get aggressive with aggressive drivers. Clear accidents or institute alternate route faster.
- Provide portable restrooms at top of Ashland grade
- We would like to see exit numbers on all freeway. More signs in advance re: next exit example going from Pearblossom on the Highway 14, you are there before there is any sign to indicate it is coming up. (4) How about making 97 into a freeway? That would help Hi-5 to be less congested (7g) Would use alternate routes when available (7h) Signs in construction areas are deceiving. One lane traffic and NO ONE working!
- Large truck pull off area at top of summit is always congested and somewhat dangerous.
- More highway patrol, state patrol for speeders

**Chain Up Comments (62)**

- Make Trucks chain only where there is snow pack. Chains on bare pavement ARE damaging & make no sense
- Better truck chain up areas. Stop vehicles from chaining in middle of road blocking everyone. Make RV crowd get training for their vehicle
- I suggest that California not shut the road down or have trucks chain up when only a small amount of snow dust is present it ruins our chains.
- Carry chains when snow flies
- Make all drivers under adverse snow/ice conditions chain up at same time, before bad spots. Not just doubles
- Chain required when no ice on road below or on top nonsense
- If chains are required one side of the pass and not the other, you should be informed. Twice I have went up the south side dry and it's ice and snow on the north side with no chains on and informed once. Share on ODOT.
- When chains are required on big rigs they should be required on all vehicles. Cars cause most problems.
- Damage to chains due to dry pavement - chain requirements - 6 chains too many - too often 2 singles 1 drag
- Making sure there is a good snow pack on the Hwy Before putting chain on the tire so with out snow pack it is very hard on the road and the chains Rail snow chains on twin drive axels. Not needed and doesn't help at all.

- California puts up chain law in effect to early. Roads are only wet and you have to chain. It tears up equipment and the roads.
- For winter driving it would be nice if they had wider shoulders for installing chains
- Don't make vehicles run snow chains on dry pavement. Use more gravel on roads at the start of a storm by initiating chain law
- Usually uneventful. Now carry chains "in case"!
- More recourses in winter to keep Hwy open without chains - expand chain up areas
- Information most needed to commercial drivers is chain requirements. We never know for sure how much we need to put on our chains.
- Sometimes the radio says that chains are required when they're not.
- DOT needs to really know if chains are need. Sometimes I chain up my semi and I never hit any snow or ice.
- Need better safer unchain area north bound, possible old rest area.
- There should be a clear accurate source of information regarding chain requirements --- instead of 2nd hand info on the CB
- Earlier warning, north and south of chain requirements during winter months
- It would be nice if there was more coordination between Hwy Dept, concerning the turning off of chain requirement signs when the road has been cleared i.e. single axle truck chained up on wet pavement from Hilt to top of pass
- Why do we have to chain up when cars don't? (3b) not on internet
- Need to let 2 drive axle tractors with trailer over pass sooner without chaining - we sometimes are driving on dry pavement.
- Allow 4-wheel drive to pass as vehicle with chains or traction drivers. (its good enough for the Teton pass, WY)
- Need more info available on Calif.. Side. Also need clarification on use of shoulder lane on their right lane by trucks in Oregon. More info on actual chain requirement for all types of trucks in both CA and OR
- Accurate chain law, info chains reg or not on all vehicles single axle only, etc.
- I don't feel like you guys use the signals enough even more, so when it comes to chain control
- #3 c&d I am not computer savvy - we need safe place to install and remove chains. Very important. Possibly open up old north bound rest area for chain removal only. Build much wider places away from moving traffic to install chains. Message signs and highway radio needs to be updated more efficiently. (7) I can't change plans. I drive grocery truck and we go to the pass and get in line and wait, not matter what conditions or weather.
- Would be very helpful if some way was found to let drivers who are chaining up when chaining requirement are lifted. Always have people wondering if they are in effect or not.
- Keep vehicles off road side that refuse to chain and waits for release of chains. They tie up road for people who needs to chain.
- Keep highways advisory signs up to date and how when chains are required.
- Need less chain restriction on loaded comm'l trucks
- Lighten up on the chain law a bit.

- React, don't over react. Monitor pass and put up chain sizes before spin outs, don't require a set of chain when the pass has been just plowed and sanded. (3a) in California through Wed (3b) don't have AM
- Put chain law in affect more often put everybody same playing field 30mph not some 50 mph and some at 30 mph. Everyone would have to slow down.
- Put chains requirement on message signs like R-1, R-2 and so on.
- Give plenty of advance notice of snow conditions on the pass especially chain requirements. Give trucks alternate route - they are dangerous!! Try to slow the traffic on the downward slope.
- Running chains on Bare pavement is not good for chains or highway. There needs to be a way to get closer to the snow before chaining. I've chained and run on wet pavement all the way on the top of the Siskiyous.
- Need more room south bound by Ashland to take chains off.
- Enforce chains for all when needed and fine if vehicle/truck doesn't comply.
- Road closures and chain requirements need to be accurate to posted in a timely matter, too much confusion between state Patrol, Road Dept. and traveling public.
- ODOT & OSP need to communicate to each other and with all agencies in Cal. Oregon needs to be proactive in enforcing chain control. N/B on I-5 with an enforcement, not park ranger, etc.
- Make the semis chain up more often, the ones who don't chain up are the ones that end up blocking the road when they spin out. Everything else is fine. (3c) no computer in vehicle (3d) old 99 (5a,c,e) depends on which side of pass we are.
- Better real time information while waiting at pass as to what the chain requirements are.
- Timing of chain requirements, start putting them on then the restrictions come down (unlike Donner pass)
- Chain controls are many time unnecessary, estimated time of when chain controls will be lifted or Hwy re-opened put on message board.
- Chain requirements should reflect the ability of your vehicle. Some of us have purchased equipment with built in traction devices. We should not be reduced to the lowest common denominator.
- Relax tire chain requirements for commercial vehicles; except; restrict single drive trucks with double trailers - they cause the majority of traffic jams in snow. Most other delays and traffic jams are caused by Oregon and California DOT!! They are mostly ignorant, incompetent fools imposing their limitations on the public.
- Have more snow plows in winter and use more sand for traction. When chain law is up make Auto's chain. Also reduce speed limit signs to 35 mph in winter when snow cover for all vehicles.
- Oregon needs to keep up on snow removal. They expect trucks to chain up and beat it of the pavement instead of plowing.
- Calf. is very unreliable when it comes to there chain up law
- Lift the chain up laws for experienced snow drivers, like those of us from Butte, MT.
- There is no accurate info on close in because of storms and much condition about CA/OR chain Info (They have you chain up even in road is clear a grand waist of time)

- It would be helpful if the Oregon State Police would make 18 wheelers chain up when conditions are bad so they do not jack knife and close I-5. Then we are stranded for four hours with no information when we can move forward.
- Don't stop/delay commercial trucks while letting all other vehicles travel over pass. Trucks once "chaining-up" in necessary must keep driving!
- When the chain sign left off CA to slow - to change the sign.
- One truck will block roads north and south chain up
- Keep Big rigs off the pass in bad conditions or make them chain up. They are always the cause of winter delays and road closures.
- Don't stop the flow of traffic for chain check in California!
- Improve communication and accuracy of pass conditions regarding chain requirements. It would be great if the requirements were dropped more quickly when they are unnecessary.

**Trucker/Pass Comments(20)**

- Provide rest room facilities for truckers at the top. They leave plastic bottles all over.
- `I work in the Yreka and go back to Bend (Lane) on the weekends. I have no complaints about Siskiyou pass except trucks pass each other for 2-5 miles a time, blocking lanes.
- Increase Hwy. Patrol presence-Slow down the big semis. They really speed along, tail gain smaller vehicles.(3ab) no signs?) (3c) didn't use) (3d) didn't use
- Please trash containers at top of pass for the truckers!
- Control trucks
- Public facility on the pass.
- Need more porta-toilets for truckers, clean-bottle full of yellow fluid along roadway. Very unappealing
- Trucks too fast! Trucks change lanes dangerously. Two overturned trucks in 4 day span.
- Good. Truck usually going to fast downhill!
- It's good that Oregon lets trucks use the shoulders lane when going slow up hill!
- Main complaint = large trucks that change lanes abruptly (little or no warning)
- Specific lanes for chained up cars and for trucks.
- Hold back semi's when conditions are bad
- To put signs up saying that commercial trucks can drive on shoulder over Siskiyou.
- No more truck parking on top of hill. It's not a dump. Keep traffic moving. It's a pass not a parking lot.
- State's wide - increase your speed limits for commercial vehicles for safety reasons or lower speed limits of regular vehicles - split speed limits do more harm than good.
- Trucks never observe their speed limit!
- Make trucks stay in the slow lanes all times --- they jump in and out of front lane - very unnecessary.
- Place phony cameras and anti-litter warnings on the top to help control the foul situation. (3c) no computer (8a) WA
- Put trash cans on top where trucks check their brakes, it looks horrible up there.

**Inspection Station Comments(3)**

- Agricultural Inspection Station is a waste of taxpayer dollars, particularly in this area. Please consider a bypass lane for local residents (3a-Accuracy) Signs have been in operation long enough to comment on accuracy
- Get Rid of inspection station! It's a waist of tax money when you can say no to their question and take anything you carrying into Calif.
- Why do you pay people to ask "any fruit" at check point. I always say no and always have lots of fruit. Not very affective.

**Travel Decision Comments (16)**

- Usually no problems. It's too bad that years ago you don't tunnel through much of this area. What a savings over the winters.
- Travel is only restricted during winter storms and then usually only for a few hours
- Presence of snow on the pass very important when making trip plans.
- Elevation is low enough that we rarely don't get over the pass regardless of any situation, I also have a chain up business on that pass.
- Most delay in our trip over pass is winter driving conditions.
- A lower elevation detour would save everyone time and money, it would be safer too!
- Most of the time it is a pleasing drive
- When it snows we no go
- There was less construction than we usually encounter. We only go through about once a year.
- Work in Ashland so always make the trip - no matter!
- Can there be a tunnel make to cut down on mtn snow driving
- We just usually check our own local road condition & then make our plans accordingly. (3a) We call our local "Yreka, CA" & then are good --
- Good late spring thru late fall. Winter subject to weather problems but I'm not here (R-Ranch) then. (1) 12 round trips (5)An R Ranch member. So none apply this question.
- We try and travel when the weather is good
- Luckily, we plan our trips to Medford/Ashland when the weather is unlikely to be hazardous.
- During good weather no problem, one has to be careful when wet. I have been lucky never to encounter heavy snow.

**General Travel Comments (15)**

- We usually have no problem going over the pass - we avoid winter travel
- In wintertime I go once in good non-frequently weather only, or in emergencies only.
- Don't want to travel in mtns. In winter
- Only drive this route about once a year, in the Spring time
- We never change plans for roadwork, we always travel over Siskiyou pass on wet or dry roads, never on ice, or snow.

- We do not have a lot of problems with Siskiyou Pass. I go over about 1 time a month to R.A. Doctor. Pass is usually open.
- As a local resident we tend to be less intimidated by the pass.
- It is in most cases a very good drive over the pass
- Winter sucks
- Usually not a problem. Very scenic route.
- It is much better now that the highway is finished. The old radio was miserable. Gray Back is always an option.
- #7 alone is virtually important. Some years we tend during winter (Christmas) Need all the info possible.
- I just go on Sisk. Pass from 10am to 6pm in the winter time.
- Maybe travel over pass once every 2-3 years.
- My trips are planned in spring and fall so I have good weather and road conditions. I do not have a computer or internet.

**Alternate Route(20)**

- Siskiyou Pass is the only route available to large trucks traveling between the points of Weed, CA and Cottage Grove, OR. Therefore, road conditions, weather, construction, or other delays are unavoidable3, therefore inconsequential to truck drivers; basically we're stuck with whatever happens. Since we must still deliver our freight.
- There doesn't seem to be an alternate route
- Happy to find out from this survey that pass info is available on line-The alt. Route then the pass or 97 through Klamath Falls, an ugly drive. You need lots of advanced notice to go this way either north or south, because most drivers need to pass the Cascade/Sierras twice to go that way. Enjoy Bozeman…Mt is a lovely place.
- Alternate routes are needed for winter months (major Hwy/ Heavily Traveled)
- Don't know any alternative between Yuka and Medford - please advise.
- We are very satisfied with travel over Siskiyou Pass and see no need for an alternate route.
- An alternate route would be helpful additional TV cameras on California side of pass
- An alternate route would be helpful!
- Would like to see the length limits on U.S. 101 increased to fit the need of larger trucks used as an alternate route around the pass.
- If I know ahead of time regarding delay or immediate weather I will take an alternate route or delay trip. (6) There are too late to make changes
- Try to provide an alternate route when there is a prob. Or construction for com. trucks we are on a deadline.
- Question #4, I've heard from long time Siskiyou County residents that there is an alternative route through Hilt, CA. Signs would help if there are road delays, etc. (4) is there one? (5e) available
- Alternate routes are all but non-existent as are alternate modes of travel.
- Post alternate route suggestions

- `If there is another route outside of 101 I would like to know about it as that takes an extra 4 hours. I suppose if there were it would also be snowed in at the same time as route 5.
- Question 4-the route is a reasonable way around for locals but probably not for some other drivers.
- Usually use route if weather use costal route
- The location of a wreck determines whether or not I take an alternative route. Info relocation of wrecks (on radio/internet/telephone message, etc.) would be very helpful. Thanks. (4) not in the winter.
- We do use the old highway if road conditions are bad, but it is dangerous road to have trucks on and they should be banned during adverse conditions!
- I-5/101 in bad weather - 97' for road problems.

**Positive Comments(94)**

- In 12 years I have never had a problem
- You guys are doing a great job keeping our roads safe! Keep up the good work!
- You do a fine job!
- Beautiful drive!! J
- P.S. I love to visit relative in Montana, too!!
- It is kept up very well. Thank you J
- Very good road conditions and very friendly information personnel at Inspection Station
- Appreciation of this survey will conduct to improvement. Thank you.
- Keep up the good work, especially the highway patrol in both states…Thanks!
- Generally pleased with the job the DOT performs.
- No suggestions, but like the route
- Good. California need help!
- Even if there are delays it O.K., because it's a beautiful drive!
- I really like the ice repeet. Keep up the good work
- The more resources for information, the better! Thanks!
- Keep doing what you are doing
- Enjoy the drive
- Beautiful place!
- Generally good
- Generally well managed
- Its much better than 20-30 years ago!
- Glad that you are seeking public input
- Nice Job on road resurfacing outside of Ashland!!
- Travel over the Siskiyou Pass in general is good. (1) two times a year
- Beautiful - thanks for keeping the roads so well! Caltrans our heroes!
- Good Job
- It's beautiful! (8b) Washington
- It's a good freeway, well-marked, alerts you to grades up and down hill).
- Very good hwy

- Highway 5 is great! Continuous to keep it smooth.
- A good idea --
- The cameras are a great idea!
- This survey is a very good idea. I hope it helps.
- All-in-all, Caltrans and ODOT dose excellent job w/ construction and weather related conditions on Siskiyou Pass.
- Always nice drive.
- It's a beautiful drive.
- It's gorgeous! J
- Will maintain
- good
- No problems last 20 years
- Few problems
- Great road
- You are doing a find job, keep up the good work and GOD Bless!!!
- It is beautiful around the Siskiyou Pass
- Very useful
- Good
- Good luck, this is a wonderful survey! Thank you for getting are travelers' over the Siskiyous safely! Truckers should be required to staying the extra lane and right lane during the winter.
- Road well maintained
- Thanks for conducting this survey ! Shows you are trying to improve our roads.
- Road is always in good condition when I use it.
- I enjoy the drive
- The new technology that's in play is way useful.
- It is a beautiful drive when the weather is half way decent.
- Thank you for RT. 5, without it Or becomes far less accessible.
- Generally feel that ODOT and CALTRANS do a good job on the summit.
- Summer no problem. Thank you for interest in our opinion.
- Trip cheek is awesome!!
- It is a beautiful drive. I always enjoy it.
- I think every thing you all do is great keep up the good work
- It is usually a pleasant experience.
- Pleasant ride
- As trucker, I'd like to thank the road crews for keeping the roads plowed and treated and for keeping rest areas clean and clear
- The drive is truly a beautiful one!
- Thank you California and Oregon Departments of Transportation.
- ODOT and Caltrans both do remarkable job of keeping the road clear, under extremely adverse conditions. Bravo!!?!
- Wonderful trip. Beautiful vistas. Well maintained. Open grad asphalt overlaps is a great idea for winter conditions…a good investment. (3a) did not encounter, as I recall (3b) do

not use (3c) do not, have not, but will use in future; Could be promulgated along major areas along with other net info sites by state.

- In my opinion the west coast is very well informed of weather conditions. (if more people would use the info, there would be less delays).
- We love this drive, its pretty! We love the curves, they are fun to drive. The mountain is beautiful! J
- Overall it's very organized pass.
- Keep up the good work.
- Just keep up the good work.
- Lots of good information
- Beautiful scenery --- appreciate roads in good condition!
- I started traveling over the Siskiyou pass as a child when it was 2 lane and very twisty. It is a great improved highway.
- Excellent road way and posted advisories. Trip check is an excellent resource. I was not aware of.
- It's great to have such a large amount of space at side of road at top of mountains pass for checking brakes. Our vehicle ran into problems and it was great to have the space to look at our problem. J
- Beautiful area. Worth the effort.
- The past 4 years have been better. The gravel crews are more on the ball. Thank you.
- The road surface has greatly improved over the last three years. Thank you very much. (3c) Not an E-subscriber
- We appreciate all the road info we can get. It allows up to wait (at a comfortable stopping spot-rest stop /town) until the highway problem is solved.
- Maintenance crews (Calif.. and Oregon? ODOT and Caltrans?) do a fantastic job!! kudos to them and thank you.
- Not much to suggest. The crews are doing a upstanding job when taking into consideration the amount of drivers and there driving ability.
- I have been pleased in general with information re travel over the pages.
- Beautiful area but when roads close very difficult to get around without more delay
- Very nice controlled and handled by highway system.
- DOT has always done well on information
- Caltrans and O-DOT already doing a great job
- A pretty drive, but hard on equipment.
- We appreciate the splendid view from Mt. Shasta
- I find it very enjoyable in good weather.
- I loved it; but can see that in winter, I'd fly to Portland and bus it down to Ashland. (1) Once in a lifetime (2) late May, early June
- Great Idea! Communication is our greatest asset (4) maybe 140E -97s, but not as well maintained
- It is much better now than it used to be
- I think addressing problems - much better than in past. esp in ( Rd. Maint.) I've been doing the I-5 Cord since 1961 in trucks. TKX.

**Miscellaneous Comments (35)**

- Neutral
- I travel only to Oregon to shop. California should have a progressive tax (sales) near borders-less tax the closer to the border - to encourage local spending. If that were the case, I would rarely cross the pass. (3) Haven't seen enough to say if accurate?
- I did this for myself only. I do run (2) trucking companies in southern Oregon. Maybe I can help more! (3b) I never tried it.
- None(4) Hwy 97 through Bend
- None
- As far as mountain passes go - Siskiyou is one of the better ones
- In 50 years of driving (all season) I have never had to delay my trip (8a) Wash Canada
- Information is critical to skiers to Shasta & Mr. Ashland.
- Less taxes/more work for state & Federal Employees.
- How much did this survey cost?
- Drive with caution (3c) I don't have a cpu
- This survey is a waste of money and paper.
- Be very careful
- None
- NA
- Be careful
- Knowing a rest area is unavailable only when seeing the sign closing of the area is frustrating. People decide when they will go to the bathroom in advance.
- We are out of state travelers who will probably never be on this road again.
- I'm a commercial truck driver carrying perishable produce (food)
- Show me the money
- Too long
- None at the moment
- DO NOT HAVE A CLUE? sorry
- Traveled this hiway on return vacation trip to Washington.
- No problem-common sense driving in areas under repair.
- So far we have had no trouble, because of the good up keep from both CA and OR road transportations. (ATTACHED NOTE) June 5th around 7:30 or so outside Yreka they were spraying white lines oh hyw I-5. I have black 2002 car it has white spots now. I believe they would put a screen around the spraying nozzle people like me would have to have my car detailed after a trip. Hold up Traffic while spraying. Do something to protect people's car. Thank you
- Use Reddaway
- Just common sense - you'll do fine/ don't rush
- Hope it works
- I am new driver in the pass since January with a new CO. for me that routes cover around.
- During winter wk hard room to park 100+ trucks this is a real safety issue, but nobody listens.

- Dodge 4 x 4 truck
- I represent a trucking Co. 12-trucks.  We service the I-5 corridor.
- Have never encountered a problem
- Always a way to be informed

# Appendix E: Incident Management Contacts for Task 1

**Professionals Contacted for Incident Management Plan Task 1**

| Contact | Company | State | Country |
|---|---|---|---|
| Althauser, Jerry | Washington DOT | Washington | US |
| Bender, Bruce | Vermont Agency of Transportation | Vermont | US |
| Briglia, Pete | Washington DOT | Washington | US |
| Brookes, Joni | Colorado DOT | Colorado | US |
| Checini, Frank | FHWA | California | US |
| Clark, Merv | BC Ministry of Transportation & Hwys | British Columbia | Canada |
| DuFresne, Jon | Virginia DOT | Virginia | US |
| Eck, Ron | West Virginia University | West Virginia | US |
| Fischer, Edward | Oregon DOT | Oregon | US |
| Gaulke, Glenn | Wyoming DOT | Wyoming | US |
| Helman, Dave | FHWA | | |
| Hoffman, Bill | Nevada DOT | Nevada | US |
| Hutchinson, Steve | Idaho DOT | Idaho | US |
| Hutton, Pam | Colorado DOT | Colorado | US |
| Isaksson, Marita | Swedish National Road Admin | | Sweden |
| Jacobson, Les | PB Farradyne | Washington | US |
| Kiljan, John | Colorado DOT | Colorado | US |
| Knopp, Martin | Utah DOT | Utah | US |
| Koser, Steven | Pennsylvania DOT | Pennsylvania | US |
| Kosik, Al | Texas DOT | Texas | US |
| Larkin, Tracy | Nevada DOT | Nevada | US |
| Legg, Bill | Washington DOT | Washington | US |
| Leonard, Dan | Pennsylvania DOT | Pennsylvania | US |
| Lewis, Ray | West Virginia DOT | West Virginia | US |
| Martin, Kerry | Queensland Dept of Main Roads | Queensland | Australia |
| McDermott, Joe | McDermott and Associates | Illinois | US |
| McLaughlin, Glenn | Maryland State Hwy Administration | Maryland | US |
| Mead, Rod | Colorado DOT | Colorado | US |
| Meadors, Alan | Arkansas DOT | Arkansas | US |
| Miller, Dave | FHWA | Alaska | US |
| Noyes, Pat | Pat Noyes & Associates | | |
| Owen, Steve | Arizona DOT | Arizona | US |
| Parkes, Norm | BC Ministry of Transportation & Hwys | British Columbia | Canada |
| Pento, Robert | Pennsylvania DOT | Pennsylvania | US |
| Ranson, Tom | Utah DOT | Utah | US |
| Rayman, Colin | Ontario Ministry of Transportation | Ontario | Canada |

| | | | |
|---|---|---|---|
| Smith, Brian | University of Virginia | Virginia | US |
| Smith, David | North Carolina DOT | North Carolina | US |
| Snyder, Peter | New York DOT | New York | US |
| Tervo, Ross | Montana DOT | Montana | US |
| Travis, Jimmy | North Carolina DOT | North Carolina | US |
| Villnave, Mike | Idaho DOT | Idaho | US |

# Appendix F: Snowflake Meeting Notes (10/26/99)

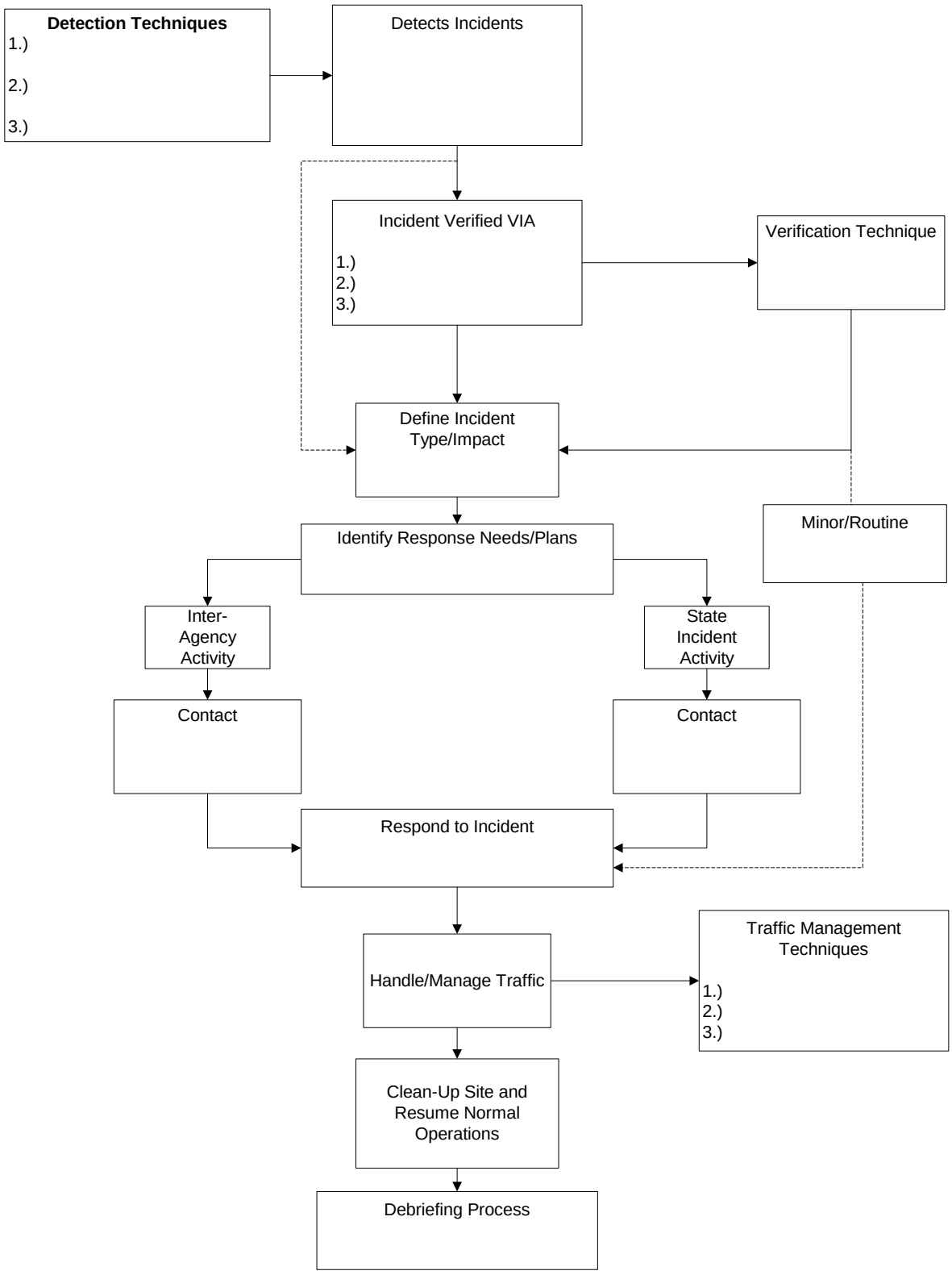
**These notes were taken by the Western Transportation Institute when they attended the annual Snowflake meeting on October 26, 1999.**

- Robert Tolman is the maintenance manager from the shop who manages Siskiyou Pass
- talked about chain control and how many people are needed to efficiently manage chain control when it is needed.
    - Said there should be about 5 personnel needed
        - 3 on the South bound lane of the Interstate
        - 2 on the North bound.
- This group consists of people from Oregon State Police (OSP) and Motor Carriers
- Motor Carriers said that they need more lead time when it comes to the decision of having chain control
- OSP said that they need more consistence in chain requirements
- The struggle is that Pass managers want to let some of the trucks go that have minimal chains to get the traffic flow going, while OSP wants to adhere to the letter of the chain law so that all trucks are compliant with the requirements.
- A lot of the struggle comes down to communication between maintenance and OSP, Motor Carriers. What happens is that maintenance sees a queue building and then alleviates the need for strict chain requirements. Others on the hill are not made aware of this change and are still enforcing the original requirements.
- One suggestion that was made was to go to a minimum/maximum chain requirement for the area. That would allow some flexibility within the law.
- One solution to the communication problem might be to always let the communication center in the area know of the decision regarding the chain requirements so that they can be a distribution center. Need real-time information.
- Snowplows on the hill consist of 3 wing plows, 2 4WD sanders and if it gets really deep, a grader or a snow-blower.
- When things get heavy on the hill, it is necessary to pull others from the region to help clear the Interstate since it is the priority.
- Since the Pass is in a mountainous region, it is difficult at best to predict storms and their severity.

- ODOT communication: New dispatch center opened last winter.
    - dispatch center can control VMS for Robert Tolman based on current conditions.
    - It uses a fax machine to distribute current conditions to a predetermined list.
- Are faxes and communications adequate for communication between CA and OR?
    - Move CA up on the list.
- Towing: What are some of the towing issues?
    - Rotations of tow companies in the area
    - preference tows (when an individual has a specific request for a tow versus just going with the rotation)
    - stealing tows
    - this is kind-of a money issue for the towing companies
- How is the Internet working? The updating of the web sites should be more frequent.
- California has radio communication capability with Oregon. Typically don't use it. Admitted that they could be in better touch that way in the future.
- Road closures: It would be nice if a guess was made as to the length of time the road will be closed. This is difficult because conditions change so rapidly.
- The communication as to the status of the pass should be better.
- Chain control is often times lifted but there are still people at the chain up areas that are unaware of this. Someone needs to make a drive-by and inform the people currently chaining up of the change.
- Ashland Police/Fire/Ambulance says that communications are excellent. Ashland PD would like to know when Pass will reopen.
- One of the tow companies wanted to know if he could keep a chained-up tow truck at the maintenance yard plugged in and ready to go for quicker dispatch. To make it fair, the DOT would have to offer that service to all of the tow companies. That might be a bit too much for the DOT maintenance yard to handle.
- They are going to put a camera at milepost 2. There is currently a camera at milepost 6. These are to give a more accurate estimate of road conditions.

# Appendix G: Handouts for Incident Management Interviews

## General Incident Management Steps



**Incident Classification Example**

| | Incident Classification | | | |
|---|---|---|---|---|
| | **Level I** | **Level II** | **Level III** | **Level IV** |
| **Types of Incidents (examples)** | Vehicle stall on shoulder | Vehicle stall in travel lane(s) | Minor passenger vehicle accident | Serious passenger vehicle accident |
| | | | Minor commercial vehicle accident w/possible load spill | Serious commercial vehicle accident w/possible load spill |
| | | | Tire chain requirements due to weather | Road closure due to weather |
| **Anticipated Duration of Lane Blockage** | None | 0-30 Minutes | 30-60 Minutes | >60 Minutes |
| **Types of Response** | Motorist assistance | Motorist assistance, possible traffic control | Police assistance | Police assistance |
| | | | On-site traffic control | On-site traffic control |
| **Activities** | | | Debris removal/HAZMAT response | Debris removal/HAZMAT response |
| | | | On-site tire chain inspection | Traffic diversion strategies |

# Appendix H: Incident Management Operations Guide

(**click here to go to Appendix H**)

# Appendix I: Incident Management Message Guide

(click here to go to Appendix I)

# Appendix J: Winter Response Plan

(**click here to go to Appendix J**)