Developing A System for Consistent Messaging on Interstate 80 Dynamic Message Signs Phase II

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Disclaimer

ABSTRACT

Traveler Information Systems, a part of the larger field of Intelligent Transportation Systems (ITS), were originally utilized in urban areas to reduce congestion. Traveler information has become increasingly important in rural areas, especially in areas with adverse weather conditions such as Wyoming. Dynamic message signs (DMS) are often used to provide information during a traveler's trip. Current research literature does not contain guidance for the rural use of DMSs.

This report analyzes the effectiveness of traveler information, with a focus on the use of DMSs on the I-80 corridor between Laramie and Cheyenne in southeast Wyoming, using several different methods including surveys of both frequent and random travelers and a statistical analysis of the correlation between speed, weather and DMS data. The current message decision system utilized by the Wyoming Department of Transportation (WYDOT) is also described and evaluated. This report is a continuation of an earlier effort on this topic. The Phase I report, "Developing Systems for Consistent Messaging on Interstate 80 Dynamic Message Signs ─ Phase I" (MPC-09-211A), can be found at www.mountain-plains.org.

This report describes a research effort conducted at the University of Wyoming by Dr. Rhonda Young, associate professor, and graduate student Paul Ringenberg.

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1. INTRODUCTION

Driving is an everyday event for most people, yet a very complicated relationship exists between driver decisions and the road environments on which they are made. Most people have an intuitive sense of this relationship, and it is logical to assume that as weather gets worse, people drive slower. However, there is a need to have more than just a qualitative analysis on the issue. Therefore, a quantitative relationship between factors such as weather, traveler information and driving speed is made in this study.

Many factors come into play when managing traffic and the provision of traveler information. Weather, traveler behavior, special events and road maintenance are just a few of the potential factors. Gathering data on these factors is the first step in determining the correct approach to take. Dynamics message signs (DMSs) are one of the major ways to improve driver choices, which can lead to improved safety or mobility. Providing information about road conditions has become an important and extensively used part of traffic management on major arterials, particularly the interstates. The more informed drivers are about the conditions of the roadways they are considering using, the more time they will save themselves or the safer they will be. If the roadway condition is adverse enough, drivers may benefit from deciding not to take the trip altogether.

Accuracy is necessary in order to convey roadway conditions to the public. If the information given to them is not specific enough for them to comprehend and react quickly, then the information they gather will have little value. For this reason, there is also a need to make the information clear and concise. Drivers may see many signs and warnings, but if the message is not conveyed clearly in a relatively short message, they may misinterpret or lose a portion of what the message is intended to convey.

Several techniques can be utilized to provide necessary information to the public. These include websites (with graphically and visually displayed information), phone services, dynamic message signs, television and radio broadcasts and sometimes even a text or email service for those who sign up. The traditional flashing lights warning signals can also be useful. Of these information distribution tools, DMS's are one of the most widely deployed instruments and are used by a large majority of the traveling public. A dynamic message sign is any electronic sign placed alongside or above a roadway that displays messages that are changed remotely to adjust to changing road conditions. The obvious advantage of a DMS over other sources of information is that it is available to every road user regardless of other technology they may have access to. To use a DMS, drivers must only pay attention, read and comprehend the message. Although they are used primarily for conveying road conditions, DMS's can also be used for public service announcements or emergencies such as Amber Alerts.

Interstate 80 between Cheyenne and Laramie Wyoming has 12 DMSs. The section of roadway between the two cities is roughly 42 miles long and is located in an area with frequent severe weather that can cause traffic problems. If drivers do not utilize any of the pre-trip sources of traveler information about road conditions, the DMS system may be the only source of information they see.

1.1 Problem Statement

To minimize driver frustration, traffic engineers must gain extensive knowledge of driver behavior and preferences. Currently, there is a need for more guidance about the sign messages that most effectively convey the messages the public needs to see to drive as safely and efficiently as possible. The goal of this research is to gain insight into DMS message choices and driver behavior towards these messages that can be used in future decision support systems that will improve the consistency, reliability and timeliness of travel information between Cheyenne and Laramie along the I-80 corridor.

1.2 Research Objectives

- Analysis of the effect of traveler information on driver behavior on the I-80 corridor between Laramie and Cheyenne in southeast Wyoming, compared to project Phase I results.
- Analysis of the current decision system utilized by the Wyoming Department of Transportation (WYDOT) in the Cheyenne Traffic Management Center (TMC) and compare it to the de-centralized District Dispatch System used in Phase I of this study.
- Development of improved practices for the operation of the traveler information system.

1.3 Report Format

The report is to be broken down into the following sections:

1) Introduction
2) Project Description
3) DMS Data and Analysis
4) Survey Data and Analysis
5) Statistical Modeling of Speed, Weather and DMS Data: Analysis and Results
6) Summary and Conclusions

Section 2 contains a description of the project location in southeast Wyoming. Section 3 includes data collected about the DMS message sets and the analysis of this data. Section 4 includes survey data collected from random and frequent travelers and a further analysis of the findings. Section 5 describes the statistical modeling methods of speed, weather and DMS data used to determine the effects on the speeds of vehicles. Section 6 is the final section, concluding the research tasks and providing recommendations for the continued use of the DMSs.

2. PROJECT DESCRIPTION

The corridor of interest in this research effort is Interstate 80 (I-80) between the cities of Cheyenne and Laramie in southeast Wyoming. The Wyoming Department of Transportation (WYDOT) has divided the state of Wyoming into five districts. The entire project corridor is located in District 1. The corridor is an approximately 42-mile stretch of roadway extending from mileposts designated 317 to 359 that crosses over the Laramie Mountains. All but five miles of this corridor have two lanes in each direction, making it a four-lane interstate. The one section that has a fifth lane is located in the eastbound direction near the western edge of the corridor. This lane was added as a climbing lane, which commercial trucks use to stay out of the main flow of traffic as they drive slowly up the steep grade in a mountainous section named Telephone Canyon. A map of the entire section can be seen in Figure 2.1

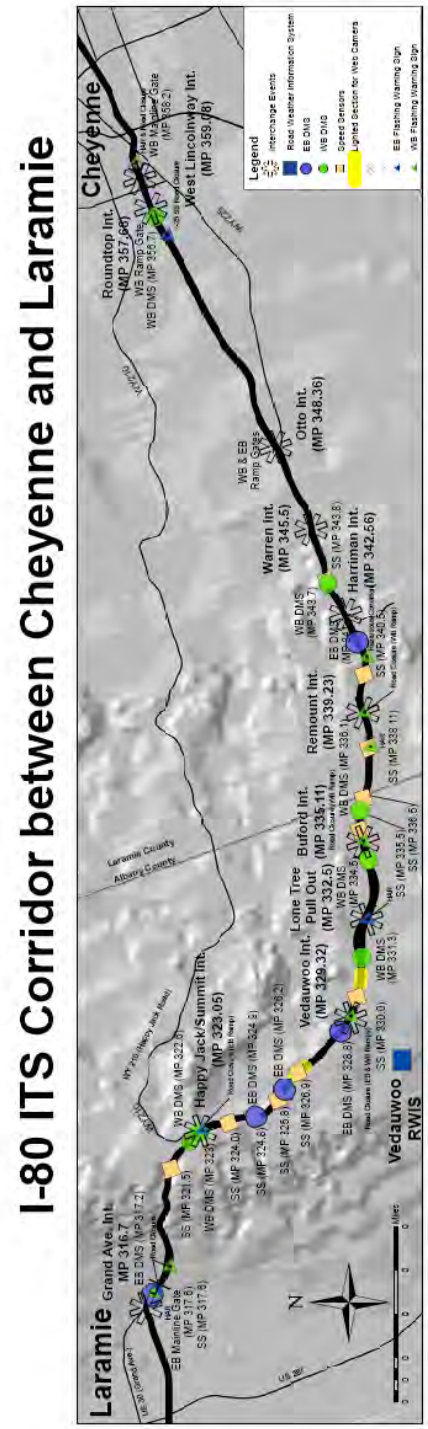

Figure 2.1 Project Corridor Map

One of the key characteristics of the I-80 corridor is the amount of commercial trucks that use it on their delivery routes. According to the 2007 WYDOT Fact Book, roughly 60% of the traffic on this section of I-80 comprises heavy trucks (Wyoming Department of Transporation 2007). This is evidence of how critical freight corridor I-80 is to allowing the flow of goods between the central and western portions of the United States. Along the stretch between Cheyenne and Laramie, the roadway reaches an elevation of 8,640 feet, which the highest point on transcontinental I-80. This corridor is known for its extreme weather that results in frequent adverse driving conditions, including high winds in excess of 65 miles per hour, heavy snow, ice and fog. These conditions give rise to numerous road closures and vehicle accidents, especially during the winter months. When counting a closure in either direction as a single closure, there were over 213 closures from 1998 to 2009, with the average closure lasting more than six hours.

Perhaps the most important consideration of this project is the economic aspect. It is estimated that an eight-hour closure has an economic impact of $8 to $12 million in delay costs (Young & Liesman 2007). Approximately 89% of these closures took place during the seven-month winter driving season (determined to be October through April). Closures were attributed to weather 49% of the time, weather and accident 31% of the time and accident-only 20% of the time. Figure 2.1 shows the breakdown of road closure cause by year. Although urban areas can experience more frequent travel delays, the principle of low travel time reliability having negative economic impacts remains the same for rural conditions where the duration of travel delay and the lack of alternative routes can cause significant impacts.

Figure 2.2 shows a breakdown of the number and cause of road closures in each year from 1998 through 2009. During this time period, over 49% of the closures were attributable to weather alone, while 20% were due to accidents and 30% were due to either a combination of both accidents and weather or another cause.

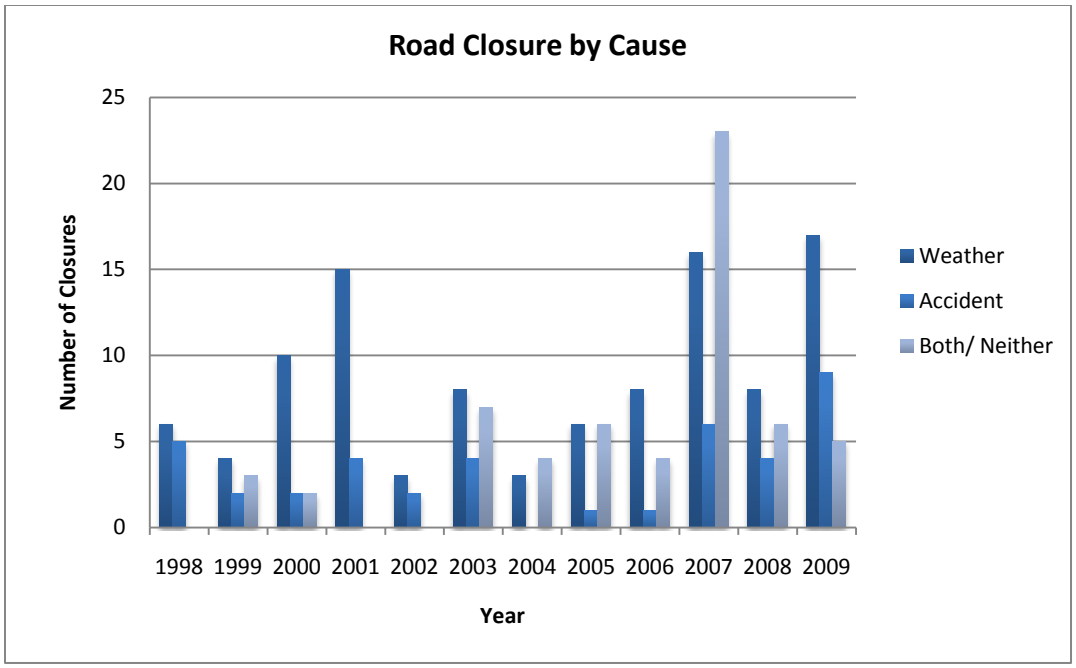

Figure 2.1 Number of Road Closures by Cause

According to the crash database maintained by WYDOT, in the years 2001 through 2009, a total of 2,669 crashes were reported on this corridor. The winter driving season resulted in approximately 74% of these crashes. When considering that this percentage of crashes occurred over seven of the 12 months in a year, drivers are more than twice as likely to be involved in an accident on any particular day in the winter months (October through April) than during the rest of the year according to the crash data maintained by WYDOT. Of the total crashes, 71% occurred when the road surface was not dry, with the most common crash condition being ice related. The majority of these crashes occurred between mileposts 320 and 332, where the weather is most severe (Sanchez, Carter and Mitchell 2007). The focus of this project should therefore be to improve the message communication during severe weather events.

2.2 Current Procedures

With the high elevation and severe winter driving conditions, there is a considerable need for providing accurate road and weather information to travelers before and during their trips. WYDOT uses several methods to convey road conditions to drivers. Classical sources of information included broadcast radio, flashing caution signs and television broadcasts. To provide information to travelers, numerous ITS components have been installed by WYDOT along this portion of I-80 in recent years. Among these ITS components used to convey information to drivers (either before or after they start driving) are telephone service, DMSs, a weather website managed by WYDOT and texting/e-mail services (called 511 Notify). All traveler information in the state of Wyoming is currently controlled by a central TMC, which opened in August of 2008 in Cheyenne. The locations of these ITS components are shown in the project map in **Error! Reference source not found.**. It is possible that in the next few years that variable speed limit signs will be installed on this corridor.

Twelve DMSs are located throughout the corridor: five in the eastbound direction and seven in the westbound direction. Four of these signs are three-line overhead signs, and one sign is a one-line, blank-out sign. Pictures of these signs can be seen in Figure 2.3 and Figure 2.4. The remaining DMSs are side-mounted, two-line signs located adjacent to the roadway on the right side, as shown in Figure 2.5.

Figure 2.3 Three-line Overhead DMS at Milepost 356.7, westbound

Figure 2.4 One-line Blank-Out DMS at Milepost 322.6, westbound

Figure 2.5 Two-line Sidemount DMS at Milepost 343.7, westbound

The messages displayed on the DMSs are selected either by the plow operators working on the corridor or the TMC operators. The plow drivers are trained on how to read and report the weather and road conditions and have specific guidelines about the proper reporting procedures. Sometimes, plow drivers or other dispatch drivers will give the TMC operators the exact message they want put onthe sign. Other times, they will only give the conditions and let the TMC operators determine the appropriate message. If the operator sees significant changes in weather or wind speed from web cameras or weather sensors, he or she will post the DMS message without dispatcher verification.

A predetermined list of message sets are used to select the specific messages displayed on the sign. However, the TMC operators most often type in the message manually, as this method is considered by them to be faster than looking up the message. The disadvantage of entering messages manually is there is a chance that messages could contain spelling errors and could be inconsistent, which could lead to driver confusion.

A certain amount of discretion is given to the TMC operators about how fast wind must be before wind conditions become severe enough to warrant a weather message. Two general guidelines are used by the TMC. If the road condition is dry, wind conditions generally are not posted on the sign until gust wind speeds reach 45 miles per hour or greater. If the road conditions are icy, wind conditions are posted on the sign whenever the average wind speeds have reached 35 miles per hour or greater.

Twelve speed sensors situated over the length of the corridor collect speed data, as well as traffic volumes and vehicle classifications. A picture of one of the speed sensors is shown in Figure 2.6.

Three RWIS stations on this corridor measure and store weather information such as air and surface temperatures, humidity, dew point, and wind speed and direction, including gust speed. The speed sensors use side-fired radar beams and collect speed data across all four lanes of the

interstate. These three stations are located on mile posts 325.9, 329 and 339.2. The station shown in Figure 2.7 is located at milepost 329 near the Vedauwoo turn off.

Figure 2.6 Speed Sensor at Milepost 330

Figure 2.7 RWIS Station at Milepost 329.4

Fifteen flashing caution signs are located on the corridor. These are static signs with flashing beacons that are activated by the TMC at the advice of the plow drivers. Five of the signs are located on entrance ramps adjacent to the mainline roadway to relay one of the following messages to travelers: I-80 EB CLOSED WHEN FLASHING or I-80 WB CLOSED WHEN FLASHING. At these locations, no gates prevent vehicles from entering the mainline; there is only a flashing caution sign. Five of the flashing signs located on the mainline inform travelers to tune to the local Highway Advisory Radio station with one of the following messages: TUNE TO 1610 AM WHEN FLASHING or TUNE TO 530 AM WHEN FLASHING. An example of one of these signs is shown in Figure 2.8. The remaining signs are also located on the mainline of I-80. They inform travelers of hazardous conditions ahead or of upcoming road closures with one of the following messages: HAZARDOUS CONDITIONS AHEAD WHEN FLASHING, I-80 WB CLOSED WHEN FLASHING USE NEXT 4 EXITS or I-25 SOUTH CLOSED 4 MILES AHEAD WHEN FLASHING.

Figure 2.8 Flashing Caution Sign at Milepost 338.11, westbound

Five road closure gates are installed along this corridor. Two are located on the mainline roadway to stop traffic at each end of the corridor, either in Laramie or Cheyenne. The three other gates are positioned on various entrance ramps, preventing vehicles from entering the interstate when conditions warrant a road closure.

Along this corridor, six locations with cameras provide travelers with twenty different images of the road and weather conditions. There are four cameras on I-80 between Cheyenne and Harriman Exit 342, three on I-80 between Laramie and the Carbon/Albany County line, one on I-80 between Laramie and Happy Jack Summit Interchange and four on I-80 between Happy Jack Summit Interchange and the Albany/Laramie County Line. These camera images are posted on the WYDOT website and are updated by the TMC. On the I-80 corridor between Cheyenne and Laramie, an updated photo is posted whenever a dispatch driver calls in a change in conditions during the winter and most of the spring and fall. During summer months the images are usually updated automatically four times every hour unless major storms are occurring.

Many of the cameras have pan, tilt and zoom (PTZ) functions that can be utilized by the operators in the TMC office to examine the full extent of road and weather conditions. Overhead lights have been installed along two short sections of the roadway, from milepost 326.7 to 327.2 and from milepost 330.4 to 330.8. These lights were installed to illuminate the section of roadway that is shown in the web camera image. This lighting allows two of the web cameras to be utilized at night, when the rest of them are unable to provide the traveler with useful information.
shows an image posted on the website from the camera at the Happy Jack Interchange.

Figure 2.9 Web Camera Image from Milepost 323.05

Three Highway Advisory Radio (HAR) stations located between Laramie and Cheyenne service the I-80 corridor. They are located at Laramie (milepost 317), Buford (milepost 335) and Cheyenne (milepost 357). The Laramie station covers the area from the city of Laramie to the Happy Jack Interchange at milepost 323, located at the top of the Summit canyon. The Buford station covers the section from milepost 326 (locally known as the Tavern) to the Harriman Interchange at milepost 343. The Cheyenne station covers the section from the Otto Road Interchange at milepost 348 to the city of Cheyenne.

During peak traffic times, the messages on these HAR stations are updated hourly. The common peak traffic times are Monday through Friday, 5 AM to 8 AM and 4 PM to 6 PM. At other times, the HAR stations are updated as necessary, often depending upon how busy the dispatch operator is. The messages broadcast over the HAR stations are also selected by the plow drivers with input from the dispatch operators. The messages on the HAR stations and the DMSs are intended to have the same message, even if the format is different. However, if the TMC office gets busy, updating the DMSs take higher priority over the HAR stations. As both types of surveys (Random and Frequent Travelers) taken will attest to in 0, many more people see the DMSs than listen to the HAR stations.

The local broadcast radio stations and television stations are contacted when one or more of the following three conditions occur: road closure, no unnecessary travel, and high wind warnings (gusts of 50 miles per hour or greater). When one of these conditions occurs, an email is sent out from the TMC office, informing the recipients of the current weather or road conditions. This email is sent to all the local radio and television stations, reaching as far west as Rawlins, WY, as far north as Casper, WY, and as far south as Denver, CO. It is then up to each individual station to disseminate the traveler and weather information as it sees fit.

The information on the WYDOT website (www.wyoroad.info) and the 511 telephone hotline (1-888-WYO-ROAD or 511) are directly correlated to one another. When the plow drivers report

the road and weather conditions, they use signal coding, which will be explained below. The TMC operator inputs this code into the website/511 software. This software then outputs the road conditions to the website and the 511 system. The plow drivers are still the main source for this information. However, other sources are also used including the RWIS data and the cameras located along the corridor.

Drivers who want to receive weather alert information at any point in their can utilize the 511 Notify system, where they can either receive text messages on their cell phone or emails from WYDOT's TMC. The 511 system has the same information as the Highway Advisory Radio, but the 511 Notify system information is designed to be more limited in order to minimize the frequency and the length of the messages that are sent. Messages are sent only when major road advisories are needed such as NO UNNECESSARY TRAVEL, ROAD CLOSURES or TURN OFF CRUISE CONTROL during severe weather events. Subscribers can select the road segment(s) and time(s) for which they are interested in receiving information. According to WYDOT's website, "Messages will be sent to the primary email address listed on a subscribers' account and may also be sent to a secondary email address or cell phone number as a text message." Although this system is intended as a pre-trip information system, users who take advantage of the text services can also use this service for during trip information.

The signal coding used by the plow drivers is accepted and utilized through all of WYDOT (highway patrol, etc.). The first code informs the receiver of the type of report to follow. For weather and road reporting, plow drivers report a "10-13" to the dispatcher and tell him or her which section of which road they are reporting on. The code that follows is a description code that gives more detail about the road and weather conditions. The first half of the description code will be either an 8 or a 9. An 8 describes the conditions on the road surface, while a 9 describes the surrounding weather conditions. The second half of the description code gives the exact condition and its severity. The road and weather codes and their meanings can be found in Table 2.1. An example of a code called in by a plow operator could be 8-3, 9-7. This would mean that the corridor the operator is traveling on is slippery and there is poor visibility.

Table 2.1 Road and Weather Codes

Code	**Meaning**	**Code**	**Meaning**
8-1	Dry	9-1	Favorable
8-2	Wet	9-2	Snowing
8-3	Slippery	9-3	Rain
8-4	Slippery in Spots	9-4	Strong Winds
8-5	Drifted Snow	9-5	Fog
8-6	Closed	9-6	Blowing Snow
		9-7	Visibility Poor
		9-8	No Report

DMS messages are prioritized based on of a list provided by WYDOT. This list is used whenever multiple conditions exist and cannot all fit on the sign, starting with number 1 and working down to level 19. The items on the list that pertain to the road conditions are used until there is no more room left on the sign. See Table 2.2.

Table 2.2 WYDOT Conditions List

1. Amber Alerts	8. Slick Road	15. Fog
2. Closures	9. Black Ice Advisory	16. Snow
3. Advise No Light Trailors	10. Blowing Snow	17. Wet Road
4. Chain Law	11. Drifted Snow	18. Rain
5. Crashes/ Lane Closures	12. No Unnecessary Travel Advisory	19. Safety Messages
6. Falling Rock Advisory	13. Slick Spots	
7. Reduced Visibility	14. Strong Wind	

3. DMS DATA AND ANALYSIS

3.1 Data Collection

Several forms of data were collected to analyze the effectiveness of messages displayed on the DMSs. The extent of this data set is described in the following paragraphs. The data for this project were collected from October of 2009 through April 2010. The DMS effectiveness models were based off weather, speed sensor and DMS data from October through December of 2009, which encompassed many different types and severity levels of winter storm events.

Data were obtained for the time period from October through December 2009, and were initially broken down into four periods per month to maintain reasonable file sizes to work with. Many times, the data that was downloaded from the WYDOT server did not have a message, either because of a sign malfunction or, as was most often the case, because conditions did not warrant a message to be posted.

The speed sensor data initially had eleven categories, including date and time of day, detector identification number, lane number, travel direction, vehicle number count and average speed. These pieces of data were aggregated for each lane every fifteen minutes. Only two categories were kept from this for actual analysis ─ travel direction and average vehicle speed for the 15 minute period ─ but the date and time of day column was used to match up the other data types before it was removed.

The DMS message event log is an electronic database maintained by WYDOT that stores the message sets for each of the 12 DMSs along the project corridor (together with the rest of the signs around the state). The database includes the messages along with the time and date each message was placed on the sign. The DMS data are collected as a combination of a message and a corresponding rating from 0 to 3 (where 0 equates to no weather events, and 3 means severe weather). Ratings of 0 are considered the base condition, where levels 1, 2 and 3 correspond to weather events. Before being processed however, the data are converted into three columns (named Cat1, Cat2 and Cat3) where each is given a 1 if the corresponding level exists at that time and a 0 for every other time.

The categories for weather information from the Vedauwoo RWIS are air temperature, relative humidity, dew point, average wind speed, gust wind speed, wind direction, surface temperature, surface status (a rating of road conditions based on moisture and temperature conditions) and sub-surface temperature.

Two additional categories were manually created: distance and day/night. The distance category was taken simply as the distance between the speed sensor data and its corresponding DMS station. The day/night category was set up according to the average nautical sunrise and sunset times for October, November and December, where daylight rows were given a value of 0 and night times were given a value of 1.

DMS stations were merged with speed sensors based on their location on I-80. Mile posting on this section of I-80 goes from west to east, with milepost 317 occurring in Laramie all the way to milepost 359 located in Cheyenne. The DMS stations were linked up to speed sensors that came

later down the road if it was within five miles. This means that in the eastbound direction, the DMS comes in at a milepost before the speed sensor, and vice versa in the westbound direction. This can be seen in visual form in Figure 2.1 and in numerical mileposts in Table 5.8.

3.2 Data Analysis

Once all the necessary data were collected and merged according to the time, stamps on the data record could be "cleaned" by removing all rows that were missing data, as there were many times that at least one type of data was missing, whether it was from the weather, speed sensor or DMS database. Columns that were not pertinent to the analysis based on Phase I results, such as precipitation intensity, precipitation rate and chemical percentage, were removed. For the categories that were initially given in text form, a method was used to equate the text into a binary number system, where that category could be analyzed as either an "event" or "non-event." The columns that were initially text and subsequently changed into binary numbers were surface status and message severity (labeled SfStatus and Severity in the SAS results located in 0).

Because of the large amount of data that needed to be processed, data was downloaded from WYDOT's server in increments of six to eight days at a time, so Excel could handle the number of records. Once the data were merged, cleaned and sorted, each time segment was then merged. This was done so each DMS with its matching speed sensor could be ready to be put into the statistical software program SAS. The work of this project for Phase I was conducted during the winter season beginning in 2007 and ending in 2008. Phase I of this project worked in a similar fashion with the exception that data were also split into categories of good vs. bad weather days. Many of the findings showed similar results. However, there were also a few differences, as shown in sections 6 and 7.

Many messages have multiple variations. For example, strong winds are portrayed in various ways on the signs. Some of the descriptions are STRONG WIND, STRONG WINDS, and STRONG WIND GUSTS "XX" + MPH. Wind gusts are also often described simply as GUSTS "XX" + MPH. The TMC dispatchers know how fast the wind is blowing from the RWIS reading. The TMC operator may then formulate the message based on his or her knowledge of the order of intensity that wind should take in the message. All winds gusts of 40 mph or greater observed while dispatchers are out are reported to the WYDOT TMC. In addition to this, a warning system goes off at the TMC operator's computer station when RWIS stations record wind gusts of 40 mph or more. Only when gusts at or above a speed of 40 mph are in conjunction with other weather conditions is a possible closing of the roadway considered. WYDOT has never closed I-80 due only to high winds, although individual lanes have been blocked off due to trailers that have been tipped over by the wind. High winds may be dangerous to trailers but not to small vehicles that are low to the ground, so WYDOT does not close the road but instead uses the warning of ADVISE NO LIGHT OR EMPTY TRAILERS included with the wind information. At this time, it is felt that what a "dangerous" wind speed truly is relies too much on subjectivity, although WYDOT is conducting research that may change this.

Messages were broken down for further analysis. The common messages dealing with ice, wind, and reduced visibility, along with their frequencies and durations for the study period, are in Table 3.1. The messages are broken down according to the beginning of the message. For

example, if the message is SLICK ROAD STRONG WIND, then the message I in the category of SLICK ROAD/SNOW/ICY. A full viewing of all DMS messages may be viewed in Appendix A.

Table 3.1 Common Messages with Frequency and Duration

Main Message Portion	Month/Yr	Freq	Avg Duration (hrs: mins)	Total Duration (Decimal hrs)	Standard Deviation (hrs: mins)
SLICK ROAD/ SNOW/ ICY	Oct. 2009	428	7:17	1655.2	12:45
	Nov. 2009	278	19:25	1946.1	22:05
	Dec. 2009	519	5:11	1925.6	6:07
WET ROAD	Oct. 2009	77	3:54	296.9	2:19
	Nov. 2009	1	11:26	11.4	
	Dec. 2009	0	0	0	
ROAD CLOSED/ CONSTRUCTION	Oct. 2009	87	6:15	376.2	5:14
	Nov. 2009	20	7:09	69.3	11:03
	Dec. 2009	49	2:55	123.2	3:09
STRONG WIND	Oct. 2009	64	4:55	311.3	2:35
	Nov. 2009	42	10:31	243.5	11:46
	Dec. 2009	76	8:18	381.0	13:35
DENSE FOG/ REDUCED VISIBILITY	Oct. 2009	126	8:19	1073.1	5:59
	Nov. 2009	22	6:22	145.8	3:04
	Dec. 2009	63	3:23	150.8	3:18
Other Messages	Oct. 2009	3	4:06	12.3	3:18
	Nov. 2009	20	4:07	89.6	3:45
	Dec. 2009	2	0:05	0.2	0:01

The analysis indicates that messages are often left on the signs for extended periods of time. There were occasions when the message was not changed for over 24 hours. DMS's are not changed until a change in weather conditions is noticed by dispatchers (including plow drivers, road-kill removers and construction vehicles) or by the TMC operators from their webcams or RWIS stations. A possibly dangerous situation could occur from not changing a message for an extended period of time for drivers who take the road more than once during this period, as it could lead drivers to believe that the signs are not functioning or that they are not being updated, lessening their credibility.

In this study, each message is split into categories, where the beginning of the message determines the category it falls under. Tables of these sections of messages show each specific message and group them according to type. This method is used to investigate the variation in message selection for specific conditions.

Categories rank the message sets according to severity. Each message is given a ranking from 0 to 3, with 0 referring to a non-weather event, then climbing from 1 to 3 for weather events, with 3

being the most severe. Messages are categorized as 0 if there is no message present or if the message is simply a test or public service announcement. If at least one message is categorized as a level 1, the message is categorized as a 1. If a message set contains at least one level 2 severity condition, the whole message is categorized as a 2, even if there are also any category 1 conditions present. Similarly, if a message set contains at least one level 3 extremely severe condition, the whole message is categorized as a 3, even if there are also category 1 and/or 2 conditions present. Table 3.2 shows the messages in each severity category.

Table 3.2 Message Category Breakdown

Category	Examples
0 – No message; public service announcements	Amber Alert system test Test
1 – Condition/s present	Blowing snow Fog Icy Lane closures Limited/poor visibility Max/advisory speed > 55 mph Road work Snowfall Slow down/reduce speed Turn off cruise control Wet Wildlife/livestock on road Wind with gusts < 50 mph
2 – Severe condition/s present	Black ice Drifted snow Heavy snow Max/advisory speed ≤ 55 mph No passing Road closed (other than I-80 project corridor) Rough ice Wind with gusts ≥ 50 mph Wreck ahead
3 – Extremely severe condition/s present	Road closed (I-80 project corridor) No unnecessary travel

It is not a recommended practice to select messages that contain public service announcements (PSAs) such as DON'T DRINK AND DRIVE with a weather announcement. If there is a weather condition that needs to be reported to the travelers, it should take first priority, and the public service announcement should be removed. Otherwise, drivers may see the public service announcement and stop reading, thereby missing the weather and road condition information that may affect the safety of their trip.

Oftentimes, messages containing two different types of information, i.e. SLICK SPOTS and WET ROADS are ordered with one or the other in front. Messages containing information on slick conditions most often put this on the front of the message.

Within the wording of a DMS message, filler words such as IN, AND or WITH are not recommended by WYDOT unless there is no way to fit all necessary conditions into the message. For example, if high winds and snow are causing the roads to be slippery, then the sign should read SLICK SPOTS STRONG WIND BLOWING SNOW with a possible recommendation REDUCE SPEED on the end instead of SLICK SPOTS WITH STRONG WIND AND BLOWING SNOW, SO REDUCE SPEED. WYDOT has adopted policies such as this for uniformity with all TMC's.

Table 3.3 shows that messages contain numerous variations. This list is just a sampling of the variations found on the speed-related messages. A full list of DMS messages from milepost 317 is in Appendix A. The enforceability of these messages is debated. The public's greatest concern is whether the speeds listed on the message signs are going to be enforced strictly, although WYDOT's greatest concern is simply to get drivers to slow down during unfavorable conditions. The differences between these two stakeholders create a problem when the dispatcher is selecting a message set for the sign. Until there is agreement with the highway patrol, these speed advisories or speed limits posted on the DMSs are currently not enforceable.

Table 3.3 Example of Message Variation

SLICK SPOTS REDUCE SPEED
SLICK ROAD SNOW REDUCE SPEED
SLICK SPOTS SNOW REDUCE SPEED
SLICK SPOTS TURN OFF CRUISE CONTROL
SNOW AHEAD SLICK SPOTS REDUCE SPEED
SLICK SPOTS BLOWING SNOW REDUCE SPEED
SLICK SPOTS SNOW TURN OFF CRUISE CONTROL
SLICK ROAD SNOW REDUCED VISIBILITY REDUCE SPEED
SLICK ROAD SNOW REDUCE SPEED REDUCED VISIBILITY
SLICK SPOTS BLOWING SNOW TURN OFF CRUISE CONTROL
SLICK SPOTS SNOW BLOWING SNOW TURN OFF CRUISE CONTROL
SLICK SPOTS TURN OFF CRUISE CONTROL FOG REDUCED VISIBILITY
SLICK SPOTS TURN OFF CRUISE CONTROL REDUCED VISIBILITY 13 MILES AHEAD
DRIFTED/BLOWING SNOW SLICK ROAD REDUCE SPEED

Another advisory message section that has common discrepancies pertains to light and empty trailers. When high winds occur, the message sign includes messages such as ADVISE NO LIGHT TRAILERS, ADVISE NO LIGHT TRAILERS STRONG WIND and many other variations. With this advisory, a gust wind speed is sometimes included. In most cases of high winds, only the message STRONG WINDS, or some form thereof, is used.

3.3 DMS Analysis Summary

The inconsistencies listed in this section may not have an extreme effect on the behaviors of the drivers because the messages are likely to convey the same basic message. However, the messaging will be the most effective when the messages are delivered with consistency in wording. An important aspect of DMS practice is the consideration of whether drivers have seen a message previously, and how it will affect how they process the message and react to it. It is WYDOT policy to keep the message sets consistent, and recommendations to increase the effectiveness of the DMSs through message set selection are as follows:

- Remove messages from the signs after extended periods, especially if conditions have changed. Software could be developed to track message duration, and if any message has been left on for a long period of time, it could be switched out.
- Refrain from placing weather warnings and public service announcements in the same message set. Weather warnings should take precedence.
- Continue to keep consistent messaging procedures when providing weather and road closure information. An advanced word recognition feature could be added to the DMS software that would allow operators to type in keywords to find a predetermined message set. This would reduce the amount of time needed to look up predetermined messages and would improve the consistency of messages.
- Include a recommended driving speed if a change in driving speed is advisable.

4. SURVEY DATA AND ANALYSIS

4.1 Data Collection

As mentioned previously, several forms of data were collected to fully analyze the consistency and effectiveness of the DMSs. This section will focus on the public completed and analyzed surveys. The makeup and extent of this data set is described in the following paragraphs. The time period covered by this data set is the winter season of 2009-2010, from October 2009 through April 2010. All types of winter weather events from this time period are incorporated into the analysis, including spring storms, which are often severe in the project area. Data collected for Phase I of this project is compiled from November 2007 through April 2008.The differences and similarities of the results found in Phase I and the results from this report will be discussed in the following sections.

Two types of travelers are surveyed in this project: frequent travelers and random travelers. Information from both types of travelers is important because some people are familiar with the road and usual conditions, while others are not. As a public agency, WYDOT must meet the informational needs of both traveler types.

4.1.1 Frequent Traveler Surveys

A frequent traveler panel of local drivers is surveyed in this project. The panel is made up of members from the communities of Laramie and Cheyenne who travel the corridor on a regular basis. The majority of the panel members are commuters who live in one city and work in the other. The members joined the panel voluntarily and were recruited through several forms of media, such as local newspaper ads, employer email lists and word of mouth.

Frequent traveler panel members registered through a web-based background survey, provided their weekly travel schedule and were sent a survey link via email each time an incident occurred that may have affected their travel. An example of this survey and the questions contained within is in Appendix B. An incident was defined as at least one inclement weather condition. Some of these incidents resulted in a road closure. The frequent traveler survey consists of two sections to analyze the information that travelers received before beginning their trip and the information received during their trip. For the purpose of this report, only the during trip information concerning DMSs is analyzed. There are only minor wording changes in the survey from Phase I.

There were two periods in which surveys were sent out at high frequency, one in the fall of 2009 and one in the spring of 2010. For the fall period, 37 people were on the frequent traveler panel. For the spring period, 34 of the 37 fall panel members elected to continue participating in the research effort.

For the fall survey period, a total of 127 surveys were completed and returned. The full data set for these 127 surveys along with a sample survey is in Appendix C. Five of these incidents occurred from November 13 through December 8, 2009. For each incident, only panel members who were likely to be traveling at the time of the incident were sent surveys. The incidents happened as follows with corresponding dates:

1. A 25-person panel was surveyed for an incident on Friday, November 13:
   - Weather conditions along the entire corridor for the whole day and a road closure in the eastbound direction from 3:00 PM to 4:00 PM.

2. A 21 person panel was surveyed for incidents occurring on Monday, November 23, and continuing through the morning of Tuesday, November 24 including:
   - Road closure in the eastbound direction due to a wreck from 8:00 PM and 10:30 PM on Monday evening.
   - Reduced visibility between Happy Jack/Summit and Buford on Monday night/Tuesday early morning.
   - High winds beginning on Tuesday around 5:00 AM and continuing throughout the morning.

3. A 21 person panel was surveyed for incidents on December 1:
   - I-80 reduced visibility between the Albany/Laramie County Line and Harriman between 9:00 PM and 11:00 PM.
   - I-80 reduced visibility between Laramie and the Happy Jack Summit Interchange between 6:40 PM and midnight.
   - High winds beginning on Tuesday around 6:00 PM and continuing throughout the night.

4. A 13-person panel was surveyed for incidents that may have impacted drivers on the evening of Saturday, December 5, and the morning of Sunday, December 6:
   - I-80 reduced visibility between Laramie and Cheyenne from 9:00 PM to 1:00 AM.

5. Two panels made of 23 and 24 people were surveyed on incidents that may have impacted drivers on the evening of Monday, December 7 and the morning of Tuesday, December 8:
   - I-80 reduced visibility between Laramie and Cheyenne from 10:30 PM to 11:30 AM.

The spring survey period took place over five weeks from March 23, 2010, through April 23, 2010. Of the 80 surveys sent, 52 were completed and returned. The full data set for these 52 surveys is in Appendix C. The five incidents that occurred during the spring period were as follows:

1. A 14-person panel was surveyed for an incident on Tuesday, March 23, including the following conditions:
   - Reduced visibility between Laramie and Buford starting around 2:00 PM.
   - No unnecessary travel between Buford and Cheyenne starting around 3:00 PM.
   - I-80 closed westbound between Laramie and Cheyenne at 3:00 PM.
   - The roadway opened and conditions improved around 10:00 AM on Wednesday, March 24.

2. A 20-person panel was surveyed for an incident on Thursday and Friday, April 1 and 2, including the following conditions:
    - Road closure in both directions beginning April 1, at 11:50 AM to 8:20 PM.
    - Reduced visibility and black ice warnings beginning April 1, at 8:20 PM.
    - No light trailers alert beginning April 2, at 12:04 AM.
    - No unnecessary travel, no light trailers, and black ice warnings beginning April 2, at 9:45 AM.
    - No unnecessary travel alert beginning April 2, at 11:17 AM.
    - All alerts lifted on Friday, April 2, at 12:45 PM.

3. A 14-person panel was surveyed for an incident on Wednesday, April 7, including the following conditions:
    - Westbound closure from Laramie to Buford from 10:30 AM to 12:30 PM.
    - Reduced visibility between Happy Jack and Buford beginning around 8:00 PM.
    - Eastbound closure between Laramie and Buford and reduced visibility in the westbound direction beginning at 9:30 PM until 12:30 AM on April 8.

4. A 16-person panel was surveyed for an incident on Saturday, April 17, including the following conditions:
    - Reduced visibility between Laramie and Buford beginning at 2:30 AM.
    - Reduced visibility between Laramie and Harriman beginning at 5:00 AM.
    - Reduced visibility between Laramie and Cheyenne beginning at 8:00 AM.
    - Reduced visibility between Buford and Cheyenne beginning at 10:00 AM.
    - All alerts lifted at 12:40 PM on Saturday, April 17.

5. A 16-person panel was surveyed for an incident occurring on Friday, April 23, and Saturday, April 24, including the following conditions:
    - Reduced visibility due to a snow storm beginning Friday afternoon.
    - Road Closure both directions beginning Friday evening at 10:30 PM and continuing through noon on Saturday. Portions of eastbound I-80 began opening at noon and the road opened in both directions around 2:30 Saturday afternoon.

Phase I of this project finds DMS use to be very common, with more than 60% of people using them and indicating their approval in all eight categories they were asked to rate. There were only minor changes in the trends of which information sources were most widely accepted and used.

4.1.2 Random Traveler Surveys

To obtain the opinions of drivers who may not travel this section of roadway very often, random traveler surveys were completed. Two types of random traveler surveys were completed: travel plaza surveys and rest area surveys.

For the travel plaza surveys, a survey team made up of University of Wyoming students was put on-call for severe weather events. When an incident occurred, two or more members of the survey team were contacted and sent out to the Petro Truck Stop, located on the northwest corner of the I-80 and Curtis Street Interchange in Laramie. An incident was defined as a road advisory, as determined by the TMC if a 511 Notify message alert had been sent by them.

Traveler Plaza surveys were completed during the time period from the beginning of November 2009 to the end of April 2010. During this period, a total of 59 surveys were completed, 13 of which were from the Travel Plaza. When members of the survey team were sent to the travel plaza, they were located near one of two entrances. One entrance to the travel plaza was located near the commercial truck parking, and the other entrance was located near the parking for cars and RVs. Therefore, responses were obtained from both commercial truck drivers and non-truck drivers. Of the 13 travel plaza survey respondents, 11 (85%) were truck drivers and two (15%) were non-commercial vehicle drivers. In total, 46 of the 59 surveys (78%) were completed by drivers of commercial vehicles, while 13 were non-truck drivers. The full results for these 59 surveys are in Appendix D.

For the rest area surveys, an envelope of blank surveys was placed at the Summit Rest Area from November 2009 through April 2010. The Summit Rest Area is located approximately six miles east of Laramie and is a common stopping place due to the presence of the Abraham Lincoln Memorial Monument at this location. These surveys include the same questions as the travel plaza surveys, with the addition of three questions concerning road closures. However, in this case, participants completed the surveys on their own, without the assistance or supervision of a survey team member. Because of this, there are a number of surveys that are not complete in their entirety. During the study period, 46 surveys were filled out at the rest area. The analysis results are summarized in the next section. Of the 46 participants, 38 (83%) are truck drivers and 12 (17%) are non-truck drivers.

The question formats are nearly identical to those from Phase I of this project, except for minor formatting and text changes to clarify some questions. In Phase I of this project, there are 189 completed surveys; 42 come from the travel plaza and the other 147 come from the rest area.

4.2 Data Analysis

Analyses are tabulated for both the frequent traveler surveys and the random traveler surveys.

4.2.1 Frequent Traveler Surveys

The frequent traveler surveys are analyzed for each separate survey period (fall 2009 and spring 2010) to see if the travelers' views change from one period to the next. As mentioned previously, only the survey questions relating to the DMSs are analyzed in this study. For the period of the fall of 2009, 127 surveys are completed, while only 52 surveys are completed for the spring of 2010 time period.

The surveys ask, "How did you learn about the incident during your scheduled trip?" Participants mark all options that apply to them:

- 511 telephone service
- Broadcast radio
- 511 Notify
- Encountered while driving
- Flashing caution signs
- Highway advisory radio (1610 AM)
- Roadside dynamic message sign

- Other

For the 'other' category, respondents list sources they used. The breakdown of results for both periods is shown in Figure 4.1. The figure shows that DMSs are the most common method for drivers to learn about the roadway conditions, surpassing even drivers encountering the conditions on their trip. Spring 2010 survey respondents show a higher use of the DMS messages than the fall 2009 respondents.

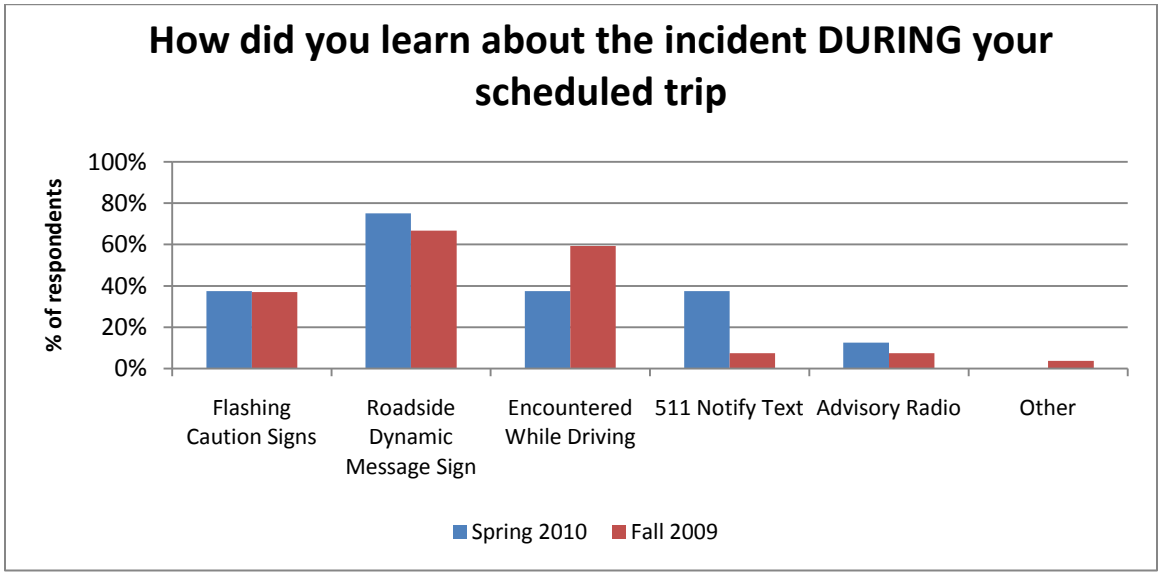

Figure 4.1 Sources of Information During the Trip

With all of the aforementioned sources of information, participants rank from 1 to 5 what sources are the most important to them during their trip. The results for the responses ranking are shown in Figure 4.2. The number of times each source is ranked at number 1 through 5 is shown to illustrate not only how highly each source is ranked, but also how many times people rank it. Many participants did not rank any sources except for their #1 source. As can be seen from the results, roadside dynamic messages receive the most #1 rankings and is used by the largest number of people, as well as the second most #2 rankings behind flashing caution signs.

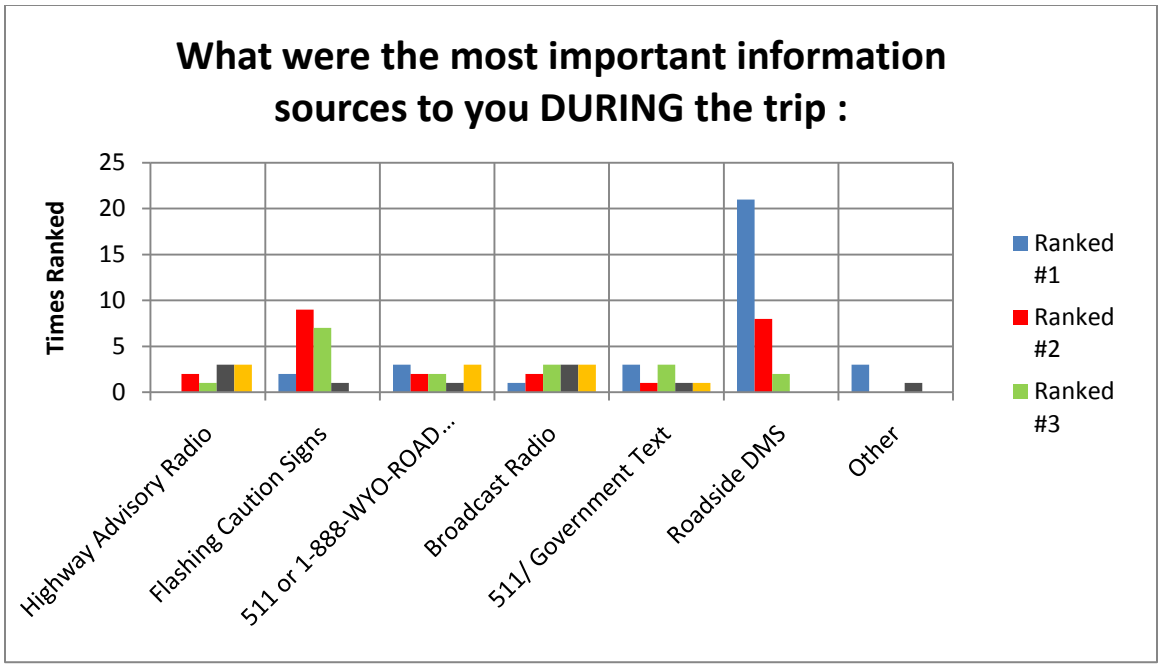

Figure 4.2 Most Important Sources During the Trip (Fall 2009/Spring 2010 Compiled)

The next question asks participants to give reasons for the ranking they gave in the previous question. Respondents who rank the roadside dynamic message signs as their first choice give the following reasons for this ranking:

- Easy to use and trustworthy.
- It let you know in advance.
- It is right there on the side of the road.
- It was available while I was driving down the treacherous highway.
- The dynamic message signs assist in letting me know just how icy the road surface is, which is my biggest concern on this highway.
- Reminder of adverse conditions; confirmation of ice on the road.
- Was not aware of conditions before setting out.
- Told me road conditions.
- Let me know to stay slow due to continued icy roads.
- I left Wal-Mart and it was snowing and the sign told me it was heavy fog & snow. I encountered the snow, but not the fog. My daughter told me that she & my wife had heavy fog when they went home about 1/2 hour before I did.
- Easy to read and understand and timely (during the trip).
- I was on the road early and I don't check travel information, I rely on the sign across the highway as I leave Laramie. Before the sign I just relied on the conditions that I could see.
- Convenience.
- Informs me of any changes that may have happened since I checked before my trip.
- It is impossible to miss these signs.

The respondents that rank DMSs as their first choice during the spring period give the following reasons for this ranking:

- Current, credible, and easily accessible.
- IT LET YOU KNOW WHAT WAS NEXT.
- Due to changing conditions the signs prepare the driver for upcoming situations.
- The speed and accuracy of the information.
- I've driven the road enough that I am pretty sure of what the conditions are going to be like but the Message signs really help to give more information.

These comments make it clear that a majority of people rely on and have at least a moderate sense of trust in dynamic message signs.

Surveys indicate how the information participants receive affects their trips. Participants indicate all that apply:

- I took the action advised by the travel information (e.g., slow down, watch for ice, etc.).
- Felt less stress because better informed of situation.
- Helped decide what actions to take.
- I postponed my trip until later.
- I cancelled my trip.
- The information did not affect me.
- Other.

The results from this question are in Figure 4.3. It can be seen that participants were more likely to take the action advised by the information they gathered in the fall than the spring.

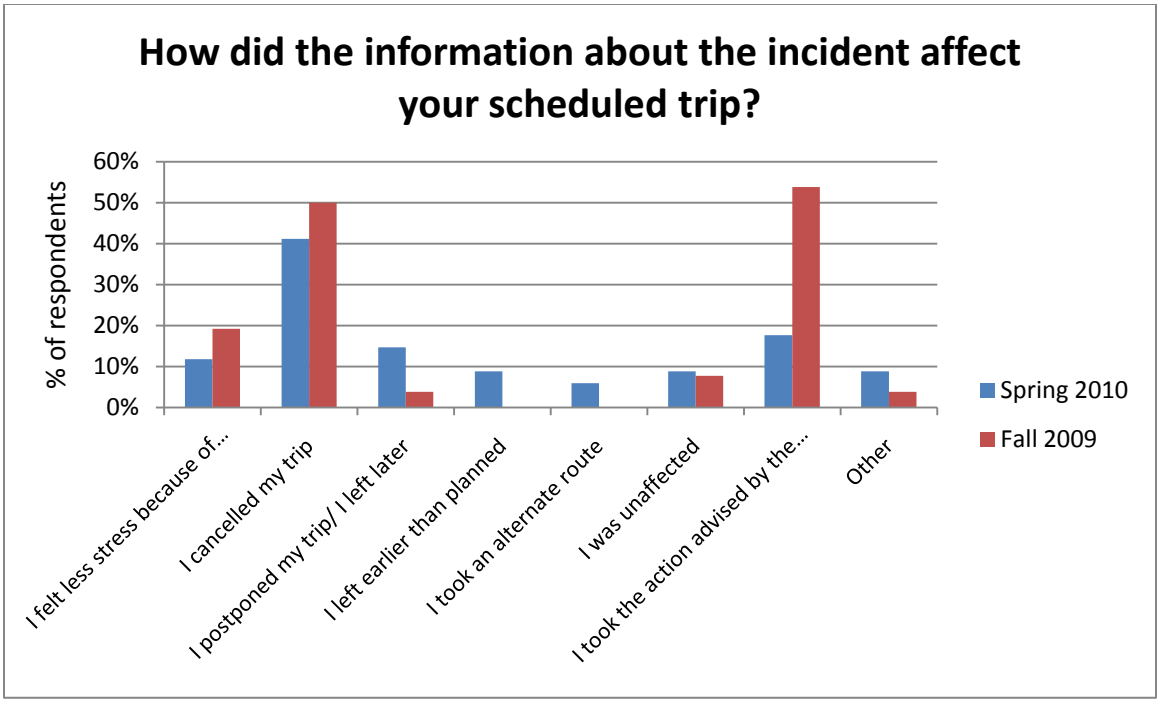

Figure 4.3 Effects of During Trip Information

Participants rate their agreement or disagreement with each of the following statements:

- The information was USEFUL for making travel decisions (e.g., go, no-go, delay trip).
- The information was EASY to understand.
- The information was ACCURATE.
- You were BETTER PREPARED to react to changing weather, road and traffic conditions because of the information.
- The information was TIMELY and gave you enough time to decide what action to take (e.g. turn back, slow down, etc.).
- You took the action advised by the travel information (e.g., slow down, watch for ice, etc.).
- You used the information to help have a safer trip.
- The roadside dynamic message signs were effective for communicating with you.
- The information was CREDIBLE.

The results from these statements are in Figure 4.4 through Figure 4.7. Figure 4.4 and Figure 4.5 give the fall 2009 results, and Figure 4.6 and Figure 4.y give the spring 2010 results. It can be seen that the each category always has a majority of responses in the “completely agree” category. This category rises slightly from the fall 2009 survey to the spring 2010 survey, and the number of people marking “Somewhat Disagree” or “Completely Disagree” diminishes to almost zero in every category except for Credibility.

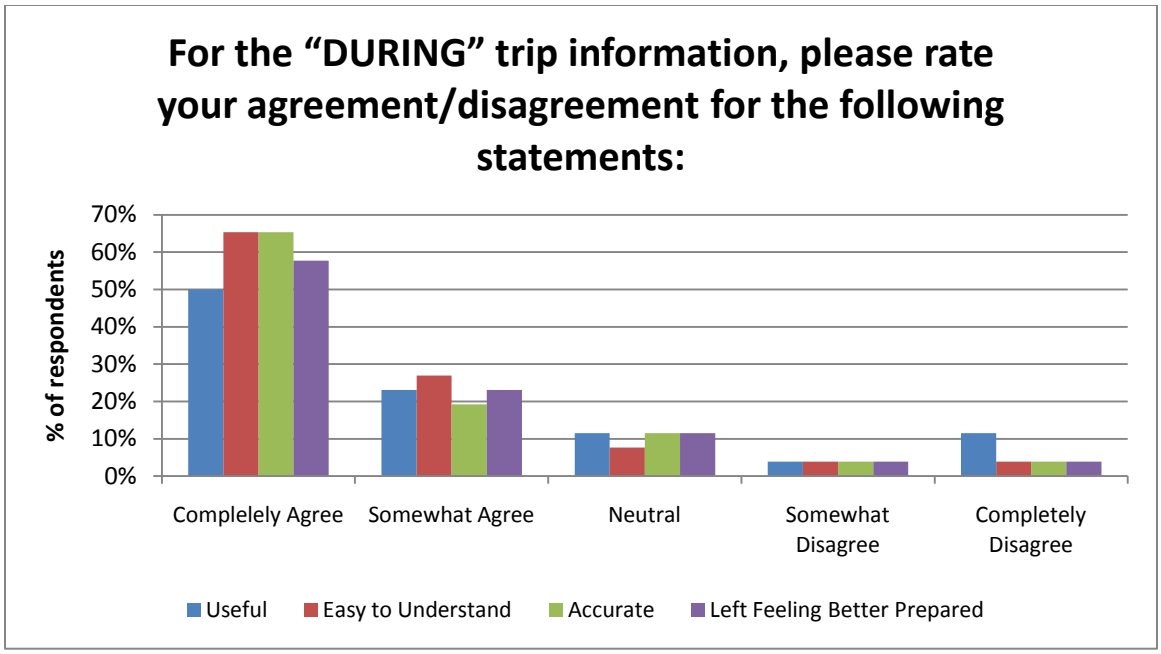

Figure 4.4 During Trip Information Agreement/Disagreement, Fall 2009

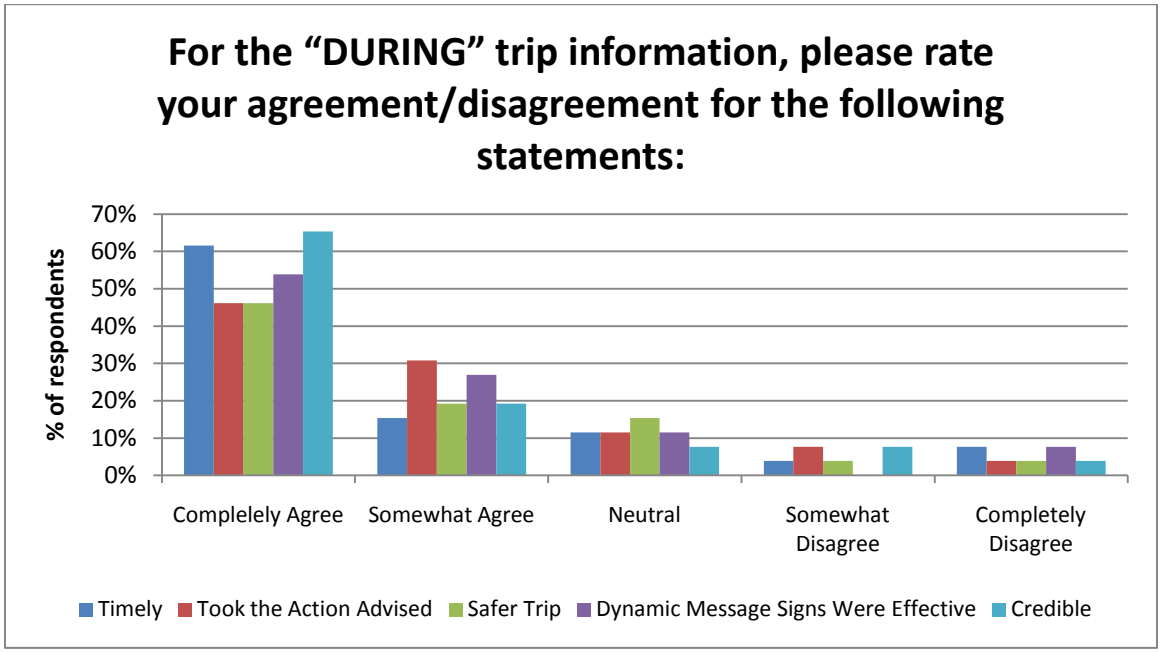

Figure 4.5 During Trip Information Agreement/Disagreement, Fall 2009

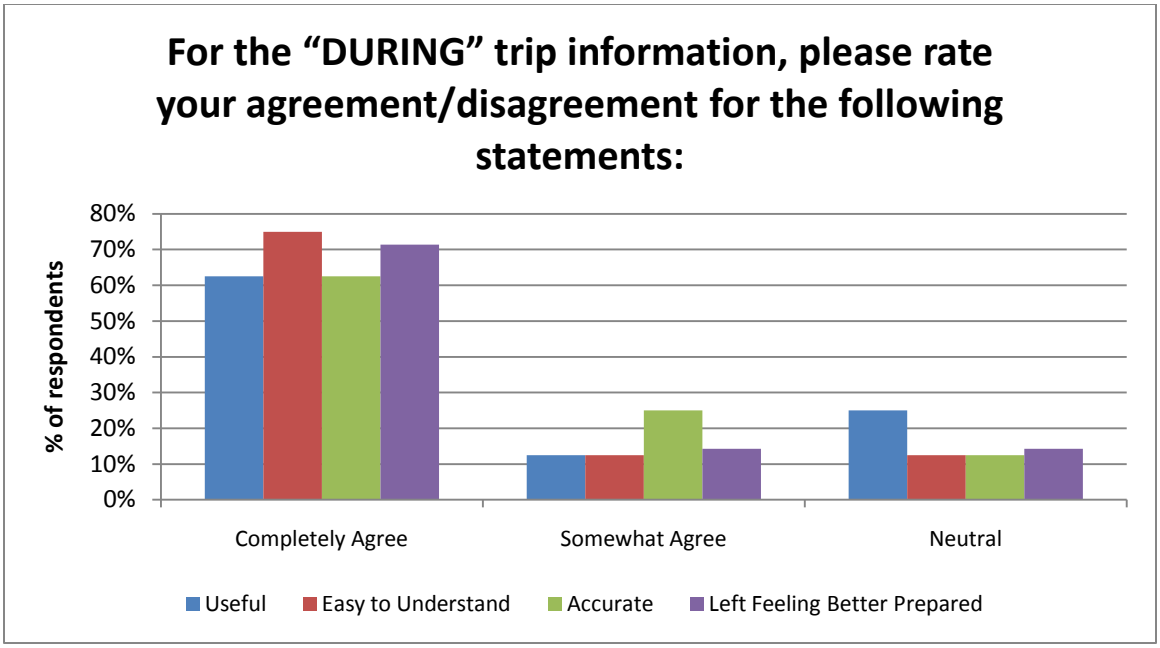

Figure 4.6 During Trip Information Agreement/Disagreement, Spring 2010

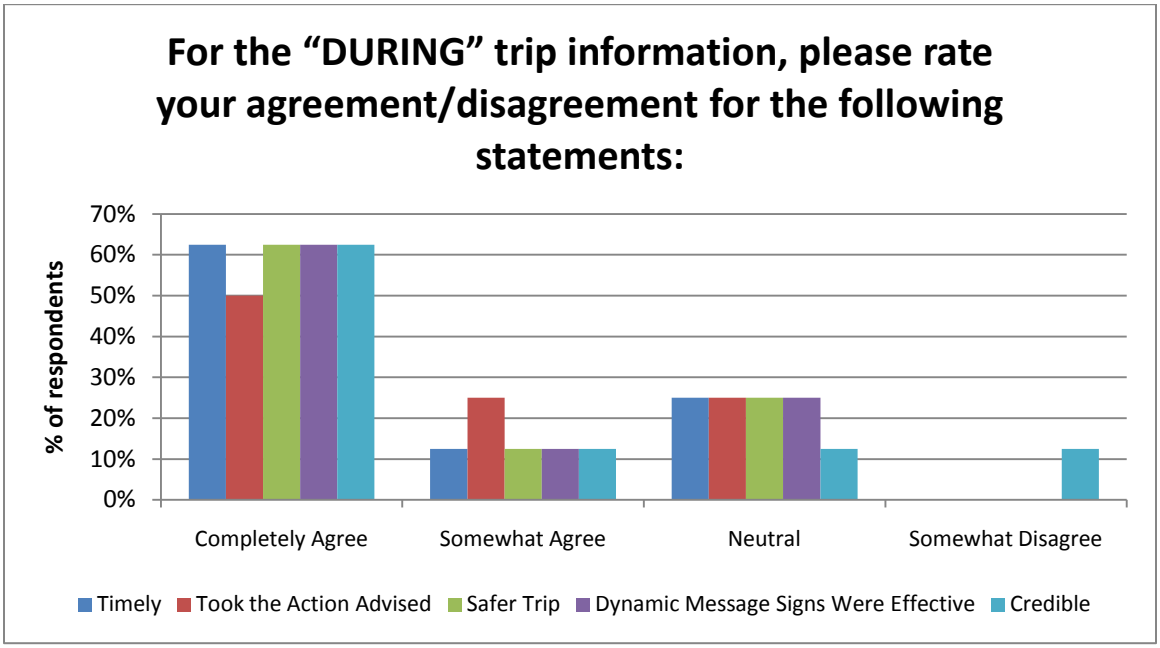

Figure 4.7 During Trip Information Agreement/Disagreement, Spring 2010

The next question simply gives participants a blank box in which to share what information was most useful for them. The comments concerning DMSs extracted from the complete set of responses are listed below. Duplicate responses are indicated by a number in a parenthesis as to how many times it is given.

Fall 2009 Responses

- Drive slow reminder; icy conditions reminder.
- Advise 45 mph on Tuesday AM; helps to have clearer ideas of safer speeds as opposed to reduce speed.
- When trucks and cars are driving slowly with flashing lights it always means the road conditions are BAD. Second, the message signs and flashing lights are the second clue that it's going to be a BAD drive.
- Slick roads slow down From Vedawoo to Buford they were black ice and people were flying over that section.
- Condition of road surface (icy).
- That I should slow down and expect slower traffic on the road.
- None of it was useful. That was the worst planning I have ever seen.
- Flashing caution signs. (2)
- Cautionary information.
- Road side dynamic sign. (3)
- The current road and weather conditions. (4)
- The wyo road service was helpful.

Spring 2010 responses

- Message signs are really useful, better than driving blind.
- Due to changing conditions the signs prepare the driver for upcoming situations.
- Decreased visibility information.

These comments show a need for maintaining all existing sources of information that WYDOT uses, as no one source is used. Comments also seem to show a clear need for clear, concise messages that come with a recommended driving speed and/or road surface condition.

Another question asks drivers how they think the traveler information can be improved. Again, the comments concerning DMSs extracted from the answers given in a blank box are listed below. Duplicate responses are indicated by a number in a parenthesis as to how many times it is given.

Fall 2009 responses

- The road side dynamic signs could display information about other routes.
- This time, it was accurate. However, in the past, I have encountered very inaccurate messages. Both cautions about hazards that were no longer there, or no cautions about hazards I came upon.

- I would have liked to know before I left that it was going to snow 5+ inches that day, and that the entire Cheyenne to Laramie corridor was a mess (before I left I thought it would be bad past Buford).
- Timeliness of warning when cars/trucks off the road. Recommend mph on icy roads. I think words like 10 vehicles off the road since 4 p.m. might make people slow down. I notice that when vehicles slide off the road people slow down. Relay that level of warning before it occurs.
- More highway patrol presence during adverse conditions to encourage travelers to slow down--high speeds in bad conditions seem to be a bigger danger than the lack of visibility, slick roads, etc. on their own. If there were visible patrol cars at various points on the road the message that the conditions require slowing down would seem more credible/serious, especially to those out-of-state drivers who do not understand how bad things can get up there.
- Something like slow down and live - 45 mph speed limit.
- Snow plow on the road sooner in the storm
- Smarter Drivers. I really like the signs. If they could give just a bit more information they would be great. As it is they are a great improvement over what I experience when I began commuting 20 years ago.
- Those roads should have been closed. Whatever the process is for determining whether those roads should be closed needs to be fixed. I don't know if they are out there or if they do it by picture, but try driving in a normal car, not a big truck or a snowplow. Drive in what the people will be driving. Those roads were some of the worst I have driven on.
- Most accidents are caused by truckers driving too fast for the prevailing weather conditions. Weather conditions do not bother me having lived in Northern Alberta for many years - the driving habits of the truckers do bother me as they create unnecessary danger. The Highway Patrol should be watching the truckers carefully.
- It was good, no changes needed.
- Getting the truckers to reduce speed on the highway. They always exceed safe speeds for the prevailing weather conditions.
- At the end of the information on the sign it could say last updated 0615. That way a driver would know that he wasn't driving in conditions that occurred at 0100.
- The Information on the dynamics boards.
- Get the truckers to suffer higher penalties for speeding under any conditions
- Get the truckers to slow down and drive at the maximum allowable speeds in perfect weather and at slower speeds according to the weather conditions. In my experience, most (but not all) of the incidents are caused by truckers either (1) exceeding the official speed limit or driving at speeds that are dangerous under prevailing weather conditions.
- Some of the terms used on Wyo Road are a little off. The term favorable to means that roads are clear of ice, snow, wind, everything. I still don't know exactly what favorable means because every time I have heard it, the roads weren't exactly favorable to me.

Spring 2010 responses

- WYDOT in Laramie County could plow the roads a little more often.
- When visibility is poor it is helpful to have a sign that tells where vehicles are off the road and accidents are located ahead.
- When I-80 closed at 10:30 PM all of the dynamic signs between Laramie and Cheyenne posted that it was closed and you must exit. All the exits were drifted in and people were getting stuck on the off ramps. So the dynamic signs were more of a problem than a help.
- I think that the sign should say No unnecessary travel for those people that have never driven in blizzard conditions. I know you probably can't say that, but it is people, in cars, that cause problems for the truckers and some of them are not the brightest in the world either. I would say that the truckers in this last storm were very careful but some cars should not have been out there.

The comments are primarily focused on the need for speed recommendations from DMS messages. A few comments are clearly against the use of vague terms such as "favorable," which could leave a driver feeling their discretion is needed.

In the survey, participants rate the importance of eight different factors when they choose a traveler information source by picking a level of importance. The eight factors are accuracy, easy access, convenience, availability, usefulness, accessibility, timeliness, and credibility. The results from this question for both time periods is in Figure 4.8 through Figure 4.11. Figure 4.8 and Figure 4.9 give the fall 2009 results, and Figure 4.10 and Figure 4.11 give the spring 2010 results. Each of the eight factors is important to the drivers, especially accuracy and usefulness. The responses are similar for the fall and spring survey periods.

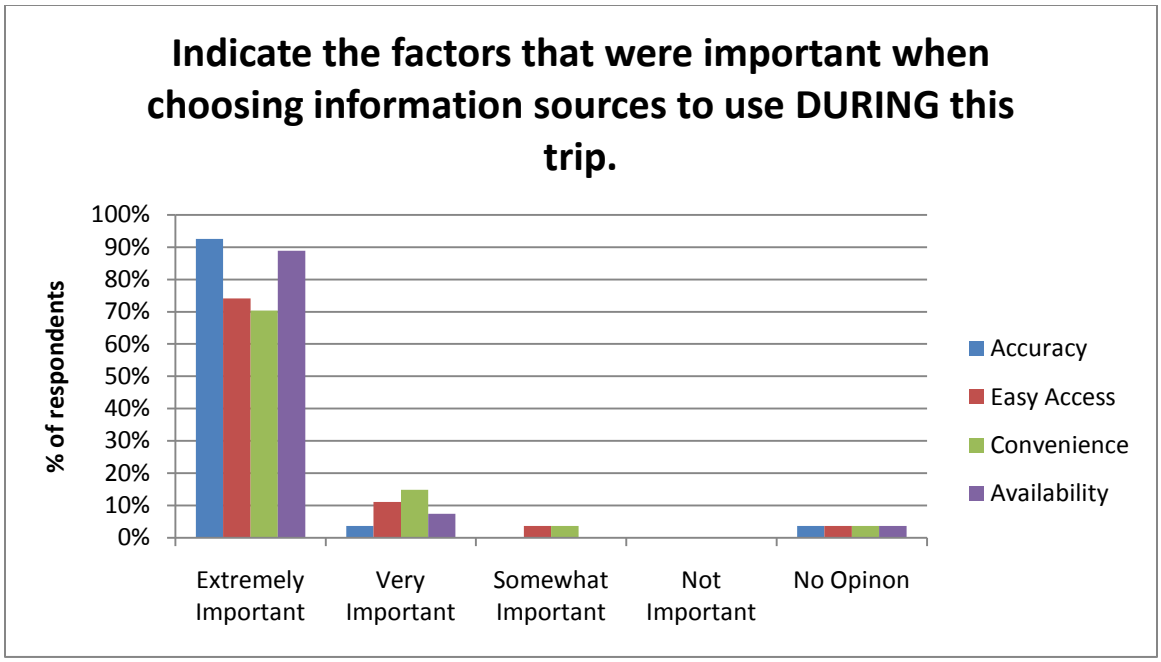

Figure 4.8 Importance of Factors for During Trip Information, Fall 2009

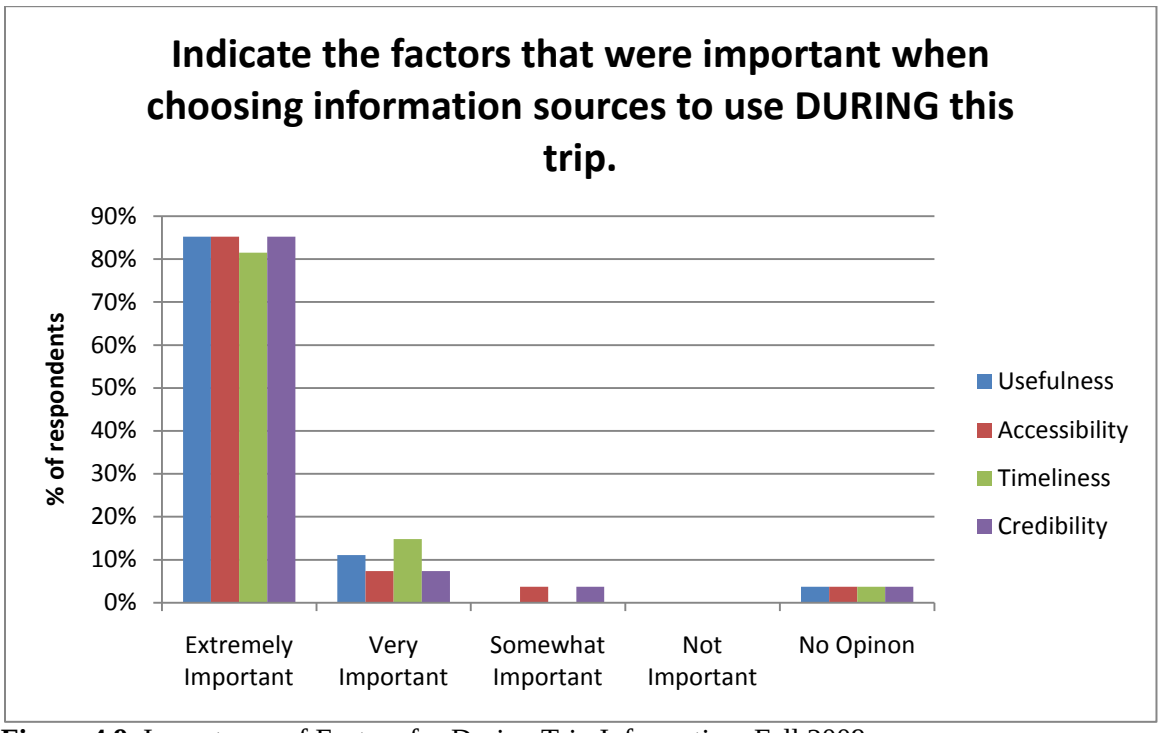

Figure 4.9 Importance of Factors for During Trip Information, Fall 2009

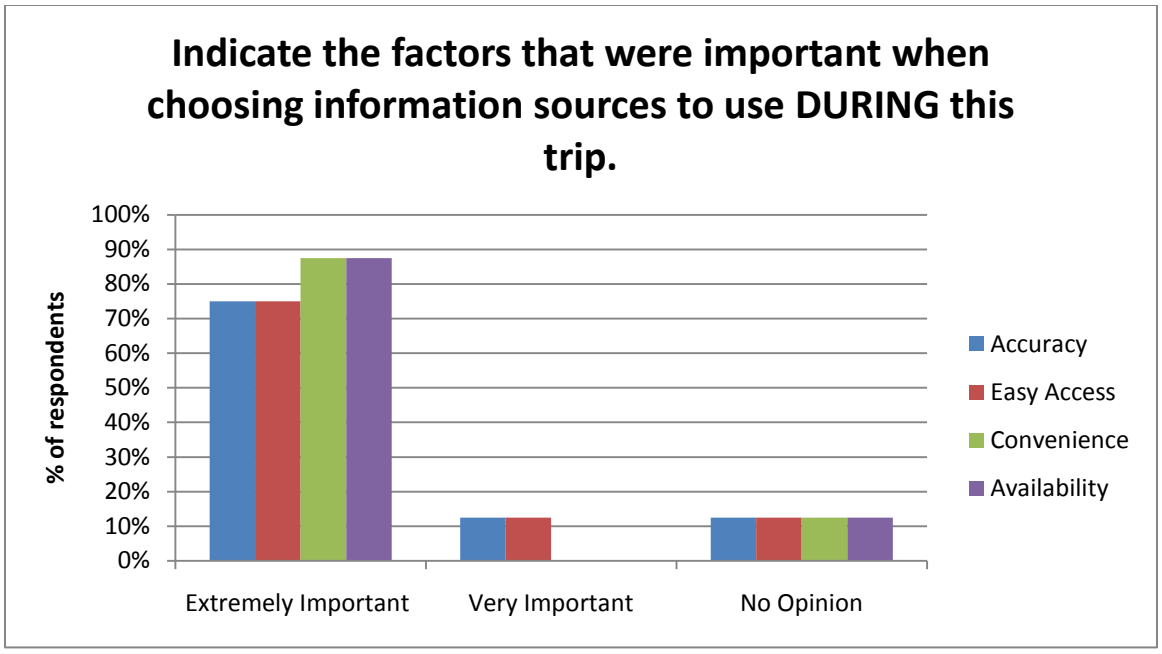

Figure 4.10 Importance of Factors for During Trip Information, Spring 2010

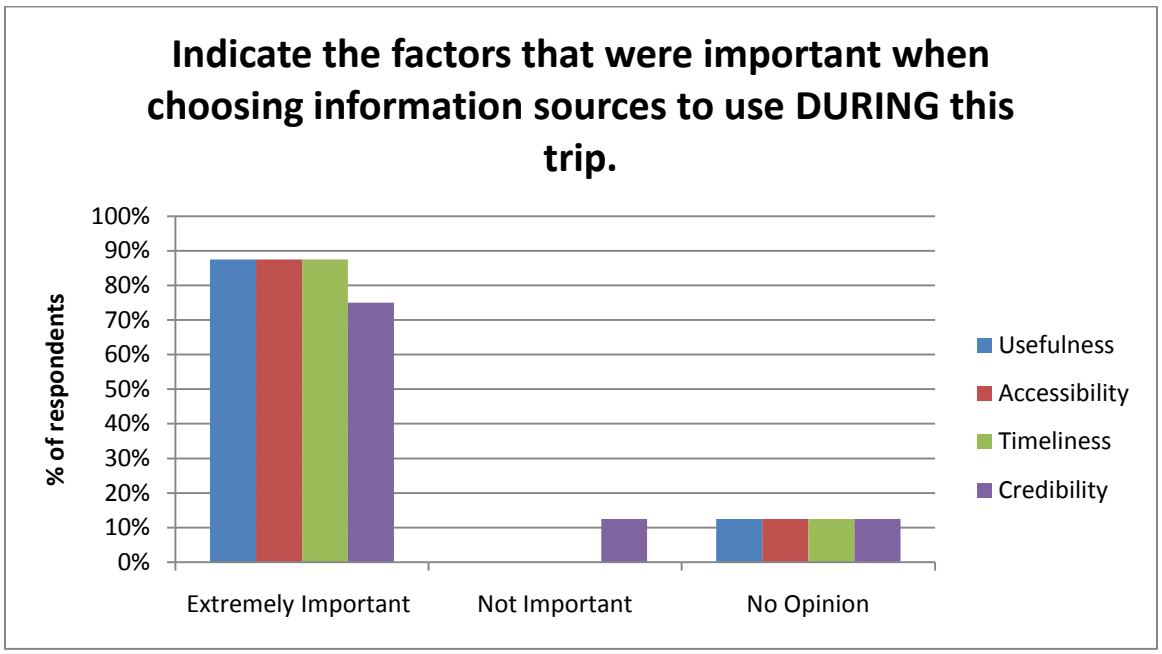

Figure 4.11 Importance of Factors for During Trip Information, Spring 2010

Although these questions are subjective and qualitative, and can be interpreted differently by numerous individuals, some conclusions can be drawn from this survey data. This survey data indicates that the DMSs may have had a higher utilization and effectiveness rates during the fall of 2009 than during the spring of 2010, as the percentage of people marking “no opinion” went up in each category. However, the overall results are very close from fall 2009 to spring 2010. The utilization rates of DMS messages can be seen going up (from Figure 4.1). Results for

agreement and importance of the usefulness, timeliness, and effectiveness of the DMSs have similar overall results from fall 2009 to spring 2010. The biggest differences between the results of Phase I and the new results are a rise of people who cancelled their trip due to the information they received from DMSs from about 5% to about 50% of respondents. A majority of people surveyed from both periods support how DMSs are being coordinated across all eight categories of questions asked to them.

4.2.3 Random Traveler Surveys

The random traveler surveys are analyzed for the time period that included the months of November 2009 through April 2010. As mentioned before, the random traveler surveys are made up of surveys collected at the travel plaza and at the rest area. When a sufficient amount of data is available, truck driver surveys are separated from small vehicle driver surveys to find a difference in opinion between the two types of drivers. Only the survey questions relating to the DMSs are included in the following pages. Forty-six participants took the survey at the Travel Plaza and thirteen took the Rest Stop Area survey.

Participants were asked how they received their travel information for their trip and were told to mark all options that applied. The results for the travel plaza and rest area surveys are in Figure 4.12 and Figure 4.13. It can be seen that a large percentage of drivers utilize the DMSs, especially the travelers surveyed at the travel plaza. The participants at the rest area may have not clearly understood the differences between sign names, such as dynamic message signs and flashing caution signs, since there were no survey members present to assist them and clarify the meanings. Throughout the random traveler survey results, the rest area responses have a fewer percentage of complete responses than those from the travel plaza. It is also possible that without survey members present, the rest area participants may have answered the questions more honestly.

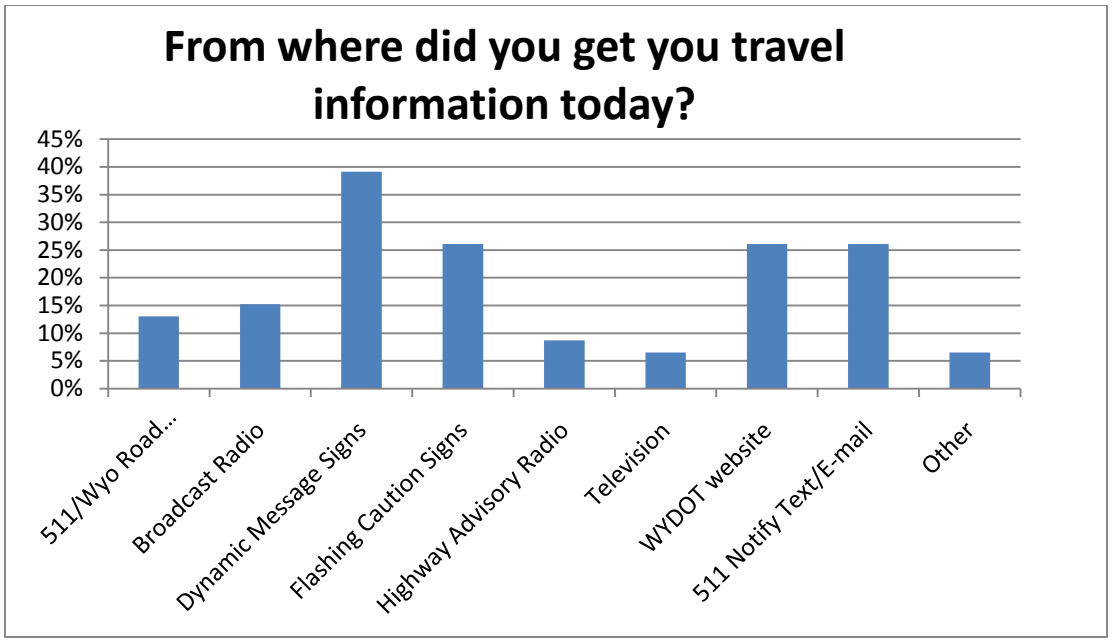

Figure 4.12 Sources of Information, Travel Plaza Responses

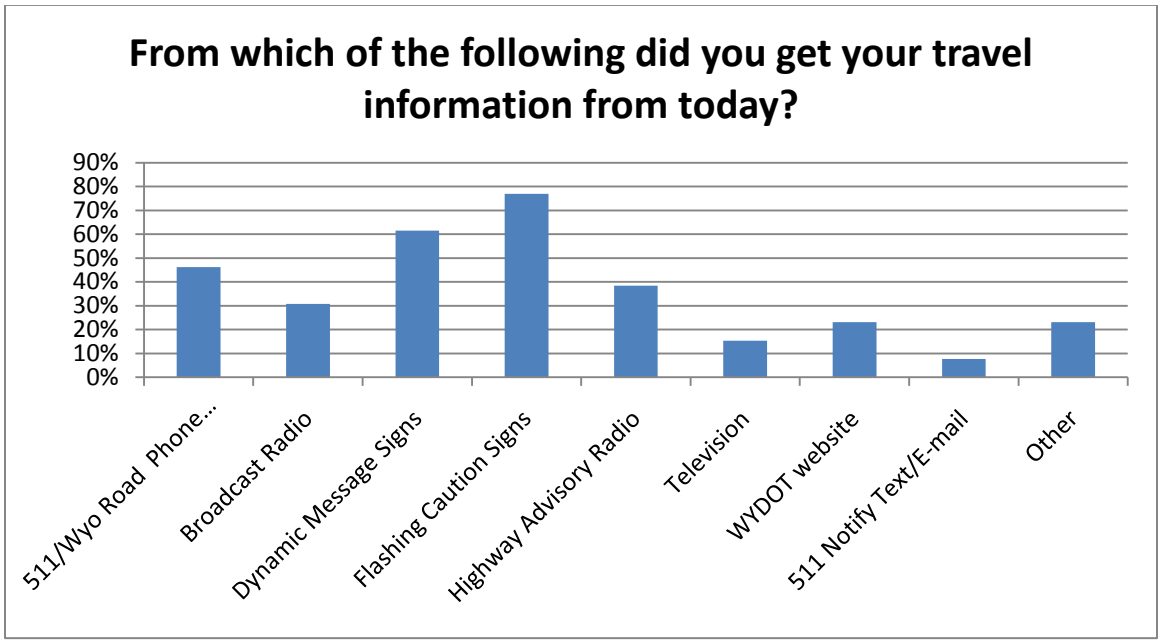

Figure 4.13 Sources of Information, Rest Area Responses

Participants rank each source of information that they utilized, according to accuracy, timeliness, and credibility. For reference, Figure 4.14 shows how the question is asked on the survey. Most of the people who filled out the beginning of the survey did not go on to fill out this question.

9. For each source of information you used, please rank the top 3 according to:
Accuracy, Timeliness, and *Credibility* (Place a "1" for the most, a "2" for the next most, and so on.)

	Accurate	Timely	Credible
511 Phone Service			
Broadcast Radio			
Dynamic Message Signs			
Flashing Caution Signs			
Highway Advisory Radio (530 or 1610 AM Radio)			
Television			
WYDOT website			
Other: _____			

Figure 4.14 Survey Question

In the survey, participants are asked if they read the advisory messages on the DMSs along the corridor, and if they had, they rank their agreement or disagreement with the following statements:

- The DMS signs were clearly VISIBLE.
- The DMS messages were EASY to understand.
- The DMS messages were USEFUL.
- The DMS messages were ACCURATE.
- The DMS messages were SPECIFIC/DETAILED enough to help make decisions about your trip.
- The DMS messages BETTER PREPARED you for changing travel conditions.
- The DMS signs were appropriately spaced to keep you informed about travel conditions.
- Because of the DMS messages, you took the action advised by slowing down, watching for ice, etc.

Of the 13 drivers responding to this question, nine (69%) answer yes to reading the DMS messages. The remaining four surveys, with an answer of no, are not considered in the following analysis. The results from these questions are in Figure 4.15 and Figure 4.16. It can be seen that the participants have a high agreement rate when it comes to the visibility, understandability, and usefulness of the DMSs. However, the agreement of the participants about the accuracy and how prepared the information made them drop in the “completely agree” category and rose in the “completely disagree” and “somewhat disagree” categories. Also, participants’ agreement level drops considerably when asked about the spacing of the signs and the specificity of the information.

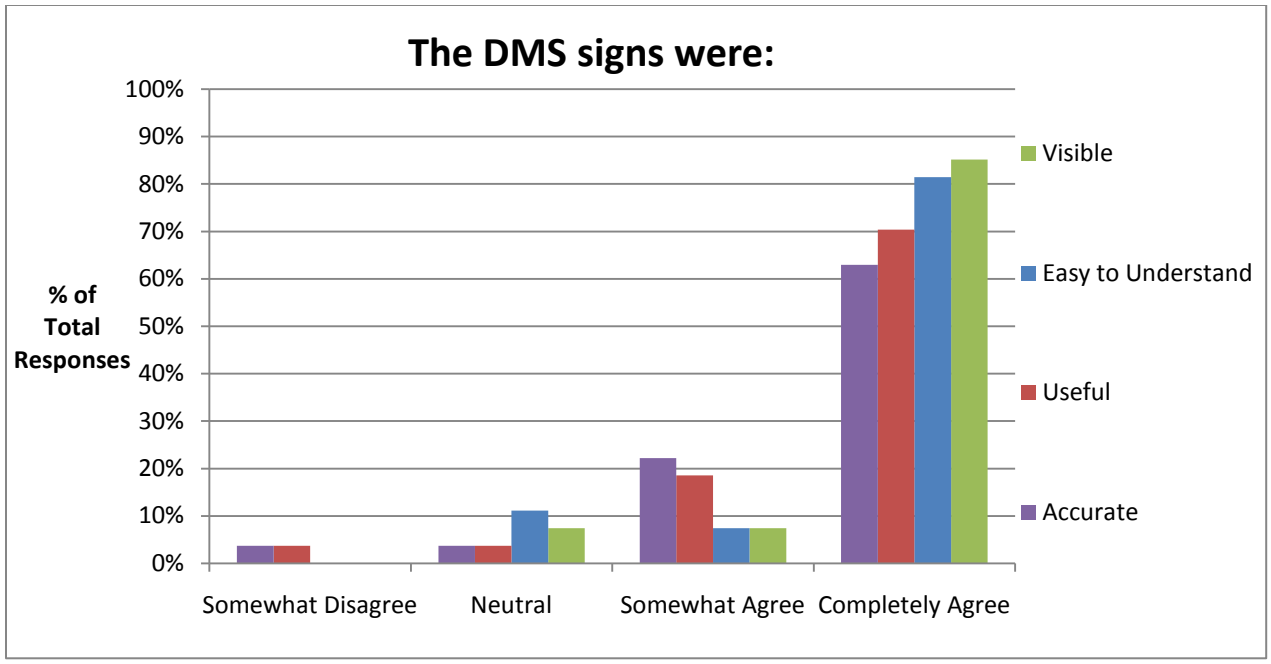

Figure 4.15 DMS Travel Plaza Responses

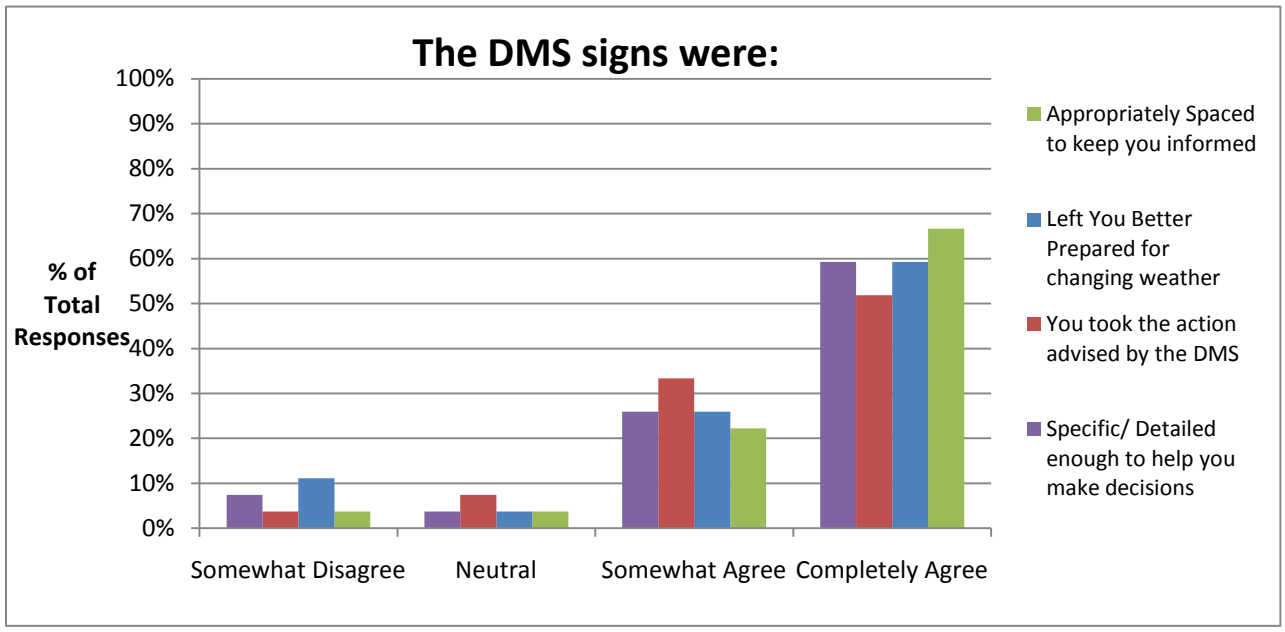

Figure 4.16 DMS Rest Area Responses

Of the rest area responses, 36 (78%) of the participating truck drivers answer yes to reading the DMS message. Of these 36 participants, 13 (36%) are truck drivers and 23 (64%) are non-truck drivers. The remaining surveys, with an answer of no, are not considered in the following analysis. The results from this question are found in Figure 4.17 and Figure 4.18. These participants are not guided in their response to these questions, so their answers may be more honest than the responses from the travel plaza participants.

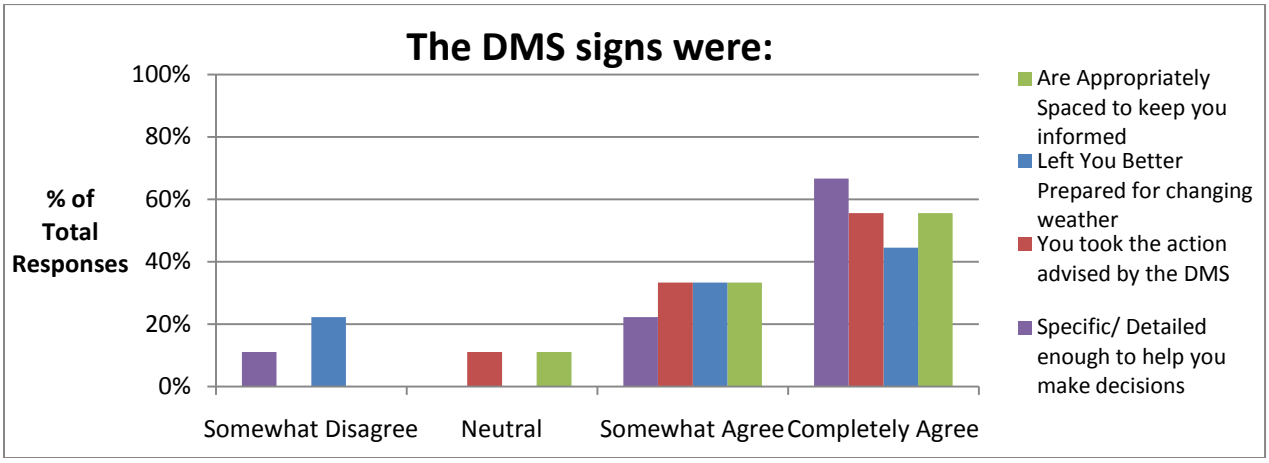

Figure 4.17 DMS Travel Plaza Responses

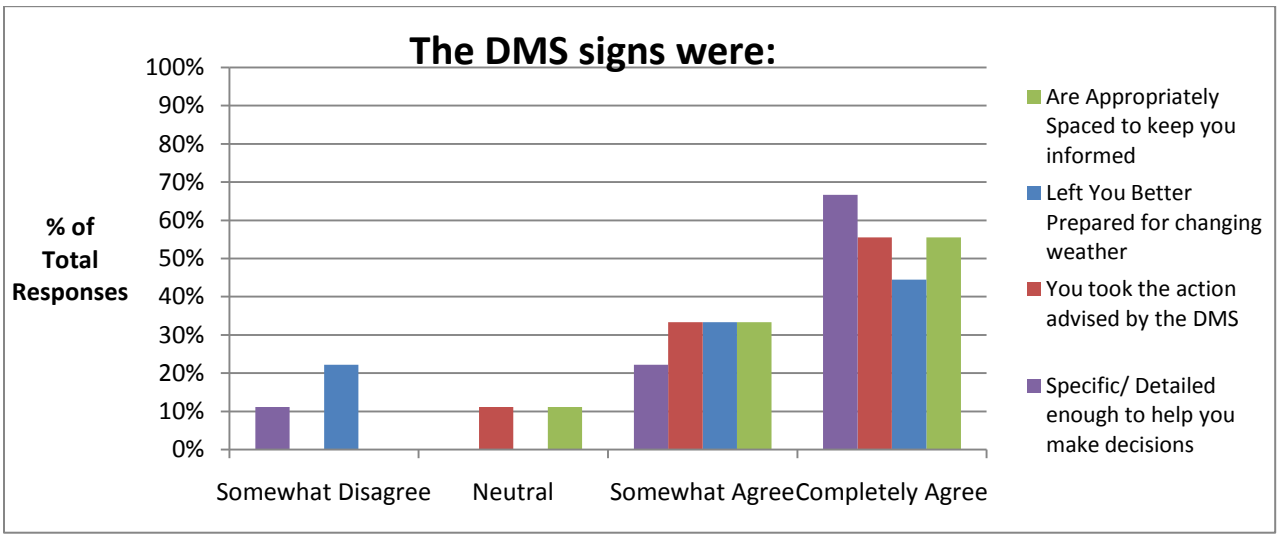

Figure 4.18 DMS Survey Rest Area Responses

The survey asks about the actions the participants have taken in response to the DMS messages. Participants select each of the following statements if it applies to them.

- Cancel or not take the trip.
- Turn back and wait until conditions change.
- Drive more carefully.
- Drive slower.
- None of the above, you ignore dynamic message signs.
- Other.

The results of this question are found in Figure 4.19 and Figure 4.20. It can be seen that the majority of drivers drive more slowly and carefully after reading the information on the DMSs. The rest area responses show more drivers ignoring the DMS signs than the travel plaza surveys.

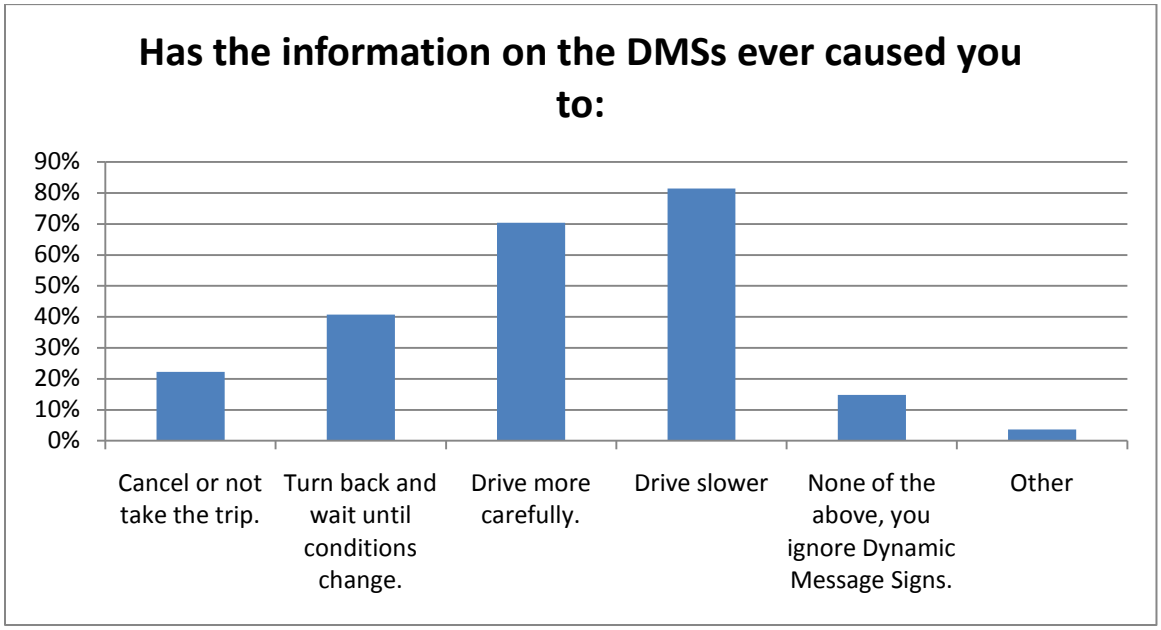

Figure 4.19 Action Taken, Travel Plaza Responses

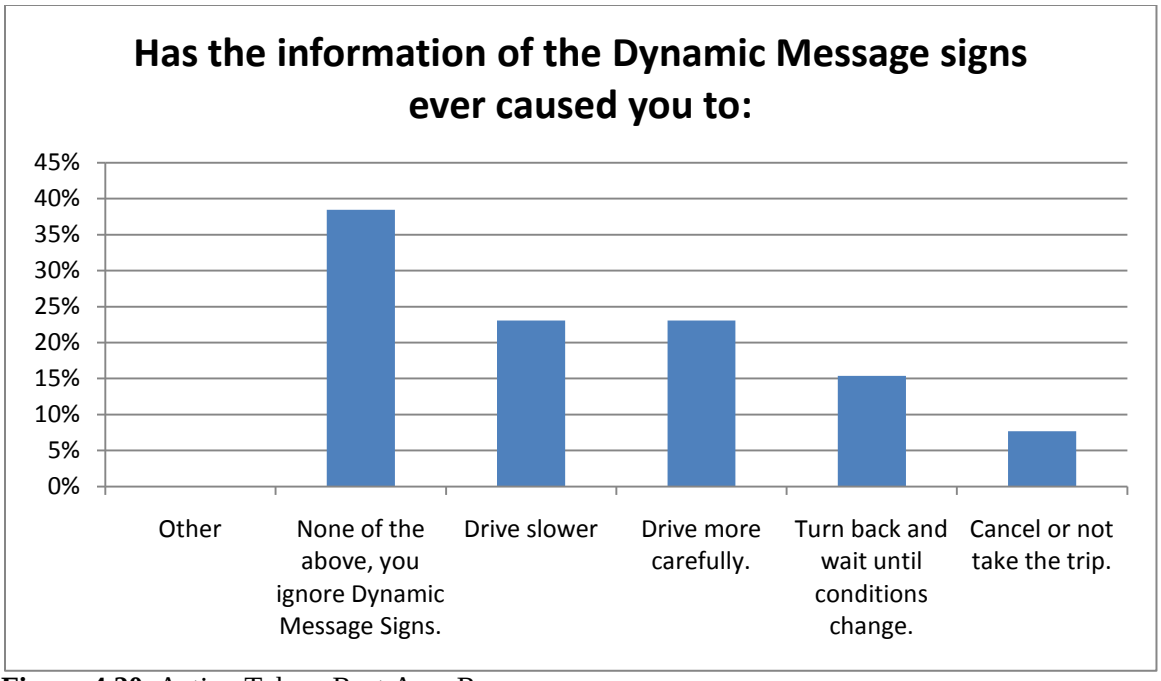

Figure 4.20 Action Taken, Rest Area Responses

The respondents that choose 'other' on this question list the other actions that they took. There is only one response from both travel plaza and rest area surveys:

- Drive more informed.

Participants answer about how they feel other drivers respond to the travel information and advisories. Although this is a "yes" or "no" question, there are a few respondents that answer with both "yes" and "no." The results are in Figure 4.21 and Figure 4.22. These results are mixed, but show many drivers believe that other drivers do not respond to the information appropriately. Respondents who mark both "yes" and "no" are put under a category of "sometimes."

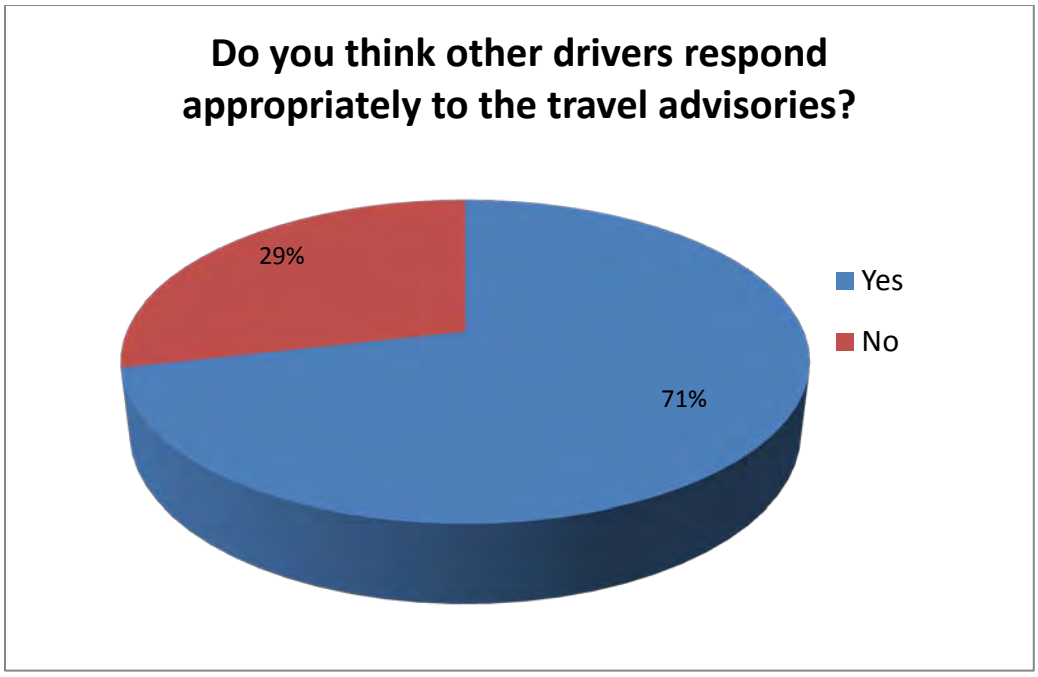

Figure 4.21 Other Drivers, Travel Plaza Responses

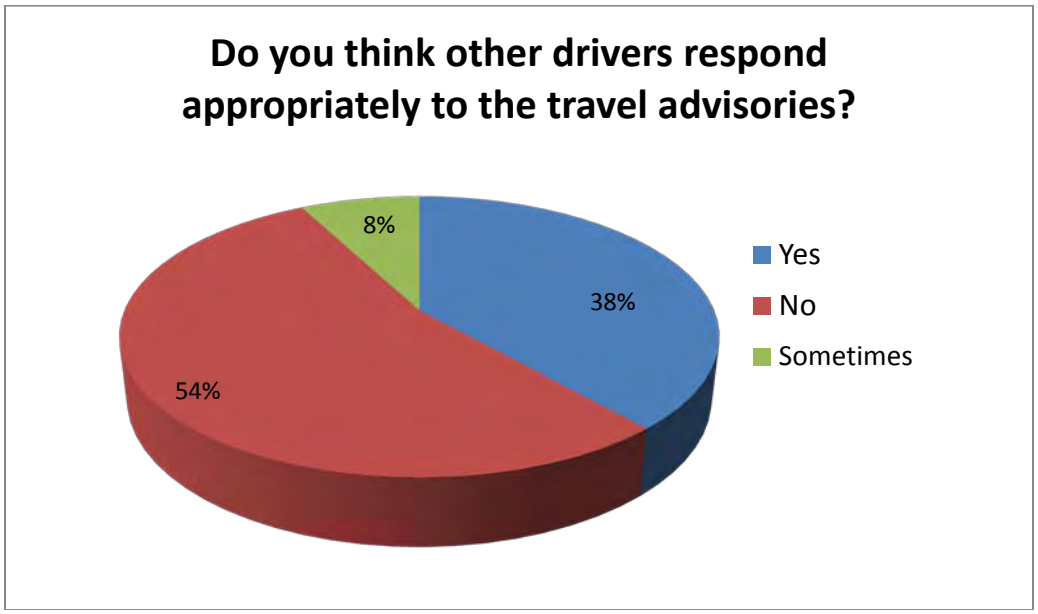

Figure 4.22 Other Drivers, Rest Area Responses

Finally, respondents have an opportunity to express their opinions about any additional information they feel should be placed on DMS signs. Duplicate responses are indicated with a number in parenthesis as to how many times it is given as a response.

Travel Plaza responses:

- If road is closed West of Laramie.
- Wind speeds help.
- where roads are blocked, 1610 radio sign.
- Light trucks may have trouble climbing.
- Speed limit sign visibility.
- MP for road closure.
- ETA on opening.
- Keep I-80 open and don't make as a toll way.
- Have traffic turn around at an exit and not on the interstate.
- Somewhat Hard to trust signs; do they open and close high for 15 minutes?

Rest Area responses:

- Signs West of Laramie & East of Cheyenne need to be updated frequently to warn approaching motorists about conditions and closures. The signs west of Laramie had no useful info.
- Current temp and wind velocity.
- Outside temp, wind chill, and time.
- Somewhat hard to trust signs, do they open and close highway for 15 minutes?
- Light Trucks may also have trouble climbing.
- Is there an accident ahead? If known.
- Take better care of I-80 it sucks.
- Drivers all drive too fast they need to use caution, we need better service.
- I've traveled all over the U.S.- drove in winter in N.Y. and Michigan and CANADA & northern AZ and NM- but the worst I've ever encountered was the I-80 in WYOMING. The weather wasn't even that bad, but the crap they put on the road, thrown up by trucks is like driving blind. NEVER AGAIN! I'd rather drive in a snowstorm- and I have. This is terrible!
- Divers sometimes respond well usually not truckers.
- Cars respond appropriately, Trucks don't.
- When the Road is closed, please give some indication when it will open.
- Roads are clear. (2)
- Now that there are variable signs in the Elk Mountain area I don't understand why speed is limited to 65 mph. All winter, many times I cross this highway when it is completely dry all the way across. WyDot should consider leaving the max speed alone in winter months& use the variable signs when necessary. This will increase respect for the variable sign. Thank You.

Many of the participants feel they would like to know when roads are expected to open up again if they are closed. As usual, there are also several comments on the importance of conveying road conditions and recommended speeds. The majority of drivers state they drive more slowly or carefully due to the information provided on the DMS. Similar to frequent travelers, DMSs are a common source of information for random travelers, especially for truck drivers. There is agreement that the signs are visible, understandable, and useful. However, the accuracy and detail of the messages is not acceptable to many drivers.

This is the case in Phase I of this project, when many of the comments regard placing more information and more detail on the message signs. There are also numerous requests for more frequent updates in Phase I's comments. The surveys have an emphasis on message relevance, recommendations for travel speed and upcoming weather predictions.

Phase I of this project has more participants, with 147 completed surveys from the rest area and 42 completed surveys from the travel plaza, but the results are very similar. The most significant difference is a rise in the percentage of people who completely ignore DMS's from the travel plaza from about 5% of respondents to about 35%. However, all of the other responses from the travel plaza and all of the responses on DMS use from the Rest Area follow the same trend from Phase I.

4.3 Survey Analysis Summary

There are many specific points which can be concluded from the surveys. The following points summarize the results of both the random and frequent traveler survey respondents:

- For during trip information, dynamic message signs are both used by over 60% of random and frequent travelers. Flashing caution signs are used by over 70% of random travelers.
- A majority of both frequent and random travelers believe that DMS signs are visible, easy to understand, useful, accurate, adequately specific, left them better prepared and are appropriately spaced. Each of these categories is considered extremely important to travelers.
- Message accuracy is the most important aspect for all forms of communication. Although the majority of those surveyed are satisfied with their preferred method of obtaining road information, several travelers express concern that DMS's can sometimes be inaccurate.
- When advised, drivers usually take the action suggested by the DMSs (e.g., driving more carefully).
- Many drivers feel that other drivers do not respond appropriately to the DMSs.

The results in Phase II are very similar to those in Phase I of this project. A few of the minor changes include the following:

- The percentage of survey participants who rate DMS signs as their number 1 source of information increases with frequent travelers, but decreases slightly with random travelers.
- An increase in the percentage of people who agree that information from DMS is useful, easy, accurate, credible, etc.
- An increase in the percentage of people who use the WYDOT website and webcams as their source of pre-trip information.

As a comparison, the major conclusions from Phase I are the following:

- Almost half of surveyed drivers rank DMSs as the most important source of information during their trip.
- When action is advised on the DMSs, the majority of surveyed drivers obey the travel information.
- Messages should be more specific, detailed, and accurate on the DMSs.
- Messages should include speed limit advisories.
- Travelers agree that accuracy, timeliness and credibility are very important when it comes to the information being presented.

5. STATISTICAL MODELING OF SPEED, WEATHER, AND DMS DATA: ANALYSIS AND RESULTS

To fulfill the intended goals of this project, correlations between driving speed and weather and DMS data need to be determined. In this study, statistical modeling on speed sensor, weather and DMS message data will show how weather and DMS messages are affecting the public's driving speeds, along with the magnitude of the effect.

5.1 Data Collection

As was mention previously in 0, each DMS event is broken down into a category of 0 to 3, where 0 is the base condition of no adverse weather conditions. It is assumed that speeds are at a normal level when the DMS severity rating is 0. Speed sensors may be located where there is a steep upgrade or a sharp curve. At these locations, geometric features may cause significantly slower speeds, but the data from different weather events are compared against the same station, so the trend of speed reduction can be attributed to weather and DMS data and not geometric variables. To get a sense of the range of values present in the data set the average, standard deviation, median, minimum and maximum of each variable used in the models are calculated and summarized in Table 5.1.

Table 5.1 Descriptive Statistics for October−December, 2009

Category	Avg	Std Dev	Median	Minimum	Maximum
Avg Spd	65.45	12.73	68.7	0.11	117.45
AirTemp	24.77	14.69	29	-11	63
RH	58.43	22.22	61	13	92
Dewpoint	10.27	11.73	11	-16	38
AvgWindSpeed	15.82	6.74	15	0	43
GustWindSpeed	20.89	8.81	21	0	58
SfTemp	25.13	14.42	25.3	-8.1	80.4
SubTemp	35.88	8.90	35	15	57
Distance	1.76	1.72	1.1	0	5.4

There are 12 speed sensors installed along this project corridor. The location of each speed sensor can be seen on the project corridor map in **Error! Reference source not found.** in section 2. The data were collected by the speed sensors every 15 minutes for each lane of traffic. In this study, the weather data is merged with the speed sensors by finding the closest weather record to each speed record.

An example of speed sensor output is in Table 5.2. The Sample Time column simply gives the date and time at which the speed was recorded. The lane Det ID column identifies the lane, with 1 being the lane closest to the speed sensor and 4 being the lane farthest away. The Lane # column identifies which lane is on the inside and which lane is on the outside, with 1 signifying an inside lane. The Speed column is the average speed in miles per hour recorded over the 15-minute period for that individual lane. The Count column gives the total number of vehicles that passed the speed sensor in the 15-minute period, which in turn is used in the calculation of the

average speed. Avg Occ represents the occupancy, which is the percentage of time in the 15 minutes during which a vehicle occupied the space detected. The speed sensors can determine an approximate length of each vehicle by measuring not only how fast each vehicle is going, but also how long that vehicle registers on the speed sensor. Once a length is estimated, each vehicle can be classified into one of four predetermined vehicle classifications.

Table 5.2 Sample Speed Sensor Output

SampleTime	Int Id	Det Id	Lane #	Dir	Count	Avg Occ	Avg Spd
10/1/2009 0:00	13	1	2	w	27	2.23	66.95
10/1/2009 0:00	14	2	1	w	5	0.12	70.33
10/1/2009 0:00	15	3	1	e	6	0.34	69.27
10/1/2009 0:00	16	4	2	e	35	3.07	55.92
10/1/2009 0:15	13	1	2	w	25	1.74	68.63
10/1/2009 0:15	14	2	1	w	6	0.29	75.2
10/1/2009 0:15	15	3	1	e	8	0.55	64.76
10/1/2009 0:15	16	4	2	e	32	2.59	55.07
10/1/2009 0:30	13	1	2	w	20	1.36	66.77
10/1/2009 0:30	14	2	1	w	2	0.04	74.95
10/1/2009 0:30	15	3	1	e	12	0.48	63
10/1/2009 0:30	16	4	2	e	32	2.63	56.14
10/1/2009 0:45	13	1	2	w	21	1.47	70.06
10/1/2009 0:45	14	2	1	w	2	0.12	74
10/1/2009 0:45	15	3	1	e	5	0.29	72.37
10/1/2009 0:45	16	4	2	e	28	2.72	56.35
10/1/2009 1:00	13	1	2	w	22	1.73	70.28
10/1/2009 1:00	14	2	1	w	3	0.17	69.06
10/1/2009 1:00	15	3	1	e	2	0.12	63.63
10/1/2009 1:00	16	4	2	e	23	2.11	54
10/1/2009 1:15	13	1	2	w	22	1.59	69.45
10/1/2009 1:15	14	2	1	w	4	0.27	58.65
10/1/2009 1:15	15	3	1	e	4	0.24	68.54
10/1/2009 1:15	16	4	2	e	21	2	54.75
10/1/2009 1:30	13	1	2	w	13	1.01	65.94
10/1/2009 1:30	14	2	1	w	4	0.06	73.71

All data is aggregated to get eastbound values and westbound values for each sensor. Data iss analyzed by direction (either eastbound or westbound), rather than by lane.

Although there are 12 total speed sensors on this corridor, not all of these sensors were working properly during the entire study period. There were numerous reasons for the sporadic collection of speed sensor data, with the major problem being loss of communication. Table 5.3 shows the total number of rows records that are included in the modeling for each sensor. This does not show how many individual vehicles were recorded, but it does show how consistently each speed sensor was working relative to the others.

Table 5.3 Number of Speed Sensor Records by Milepost

MP 317	10758
MP 321.5	28902
MP 324.9	12282
MP 325.9	12280
MP 326.9	23364
MP 330	20313
MP 334.5	11597
MP 335.5	8035
MP 336.1	12369
MP 340.5	12275
MP 343.8	23869

The location of the RWIS station at milepost 330 is on the project corridor map in Figure 2.1 in section 3.It should be noted that this single source of weather information reports only the conditions at milepost 330, and conditions throughout the corridor may be widely varied. An example of the RWIS outputs can be found in Table 5.4. Unlike the speed sensors that collected observations every 15 minutes, the RWIS station collected data every 5 minutes. The column labeled AirTemp gives the current air temperature in degrees fahrenheit. RH is the relative humidity, or the percent of moisture in the air. Dew Point is the temperature at which the air becomes saturated. AvgWindSpeed is the average velocity measured in miles per hour of the wind over the previous five minutes. The GustWindSpeed column is a measurement of the maximum wind speed in miles per hour during the five minute period. Wind Direction indicates the average wind direction during the five minute period in eight cardinal directions: N, NE, E, SE, S, SW, W and NW, although in the SAS code only seven of these directions were accounted for. For the statistical model, the wind direction is concentrated into seven binary variables with the NW direction not included, so it became the base direction in the model. SfStatus represents the surface status of the pavement, which can fall into three categories: Dry, Trace Moisture, and Ice Watch. Similarly, SfTemp represents the pavement surface temperature, measured in degrees fahrenheit.

Table 5.4 Sample RWIS Output

Date	Sf Temp	Sf Status	Air Temp	RH	Dew point	Avg Wind Speed	Gust Wind Speed	Wind Dir	Precip Type
Date/Time (MDT)	61	Dry	46	39	23	27	37	SW	None
10/15/09 12:02	61.3	Dry	47	38	23	27	35	SW	None
10/15/09 12:07	61.9	Dry	47	38	23	24	34	SW	None
10/15/09 12:12	62.4	Dry	47	38	23	24	32	W	None
10/15/09 12:17	62.6	Dry	47	38	23	27	34	SW	None
10/15/09 12:22	63	Dry	48	37	23	22	34	SW	None
10/15/09 12:27	63.9	Dry	48	36	23	22	31	SW	None
10/15/09 12:32	64.9	Dry	48	35	22	24	31	W	None
10/15/09 12:37	66.9	Dry	49	33	22	27	35	W	None
10/15/09 12:42	63.7	Dry	48	34	22	22	35	W	None

RWIS data were collected in intervals of six to eight day periods, where October and November data were split up into four sections and December data were split into two sections. As mentioned previously, the RWIS data were collected every five minutes, while the speed sensor data was aggregate at 15-minute intervals. There were very few exact time match ups between RWIS and speed sensor, so RWIS data with the closest time were associated with the respective speed sensor observation using a TRUE command at the end of the matching code statement VLOOKUP in Microsoft Excel.

Data from the DMSs were also associated with the observations containing speed sensor and RWIS data. It was determined which DMS had the closest location prior to each speed sensor. Along with the message, the message category was also included.

5.2 Methodology and Analysis

Linear regression analysis investigates the potential relationship between the response variable (y) and each of the predictor variables (x_1, x_2, …, x_i). Linear regression estimates the predictor variable coefficients (β_1, β_2, …, β_i) for the linear equation, shown in the equation below, which can be used to predict values of the response variable. For this analysis, the response variable was the average speed of the vehicles.

$$y = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \ldots + \beta_i x_i$$

As previously mentioned, the speed sensor data were aggregated on a 15-minute basis, where speed sensors took the average speed over a 15-minute period in each direction for each lane. We were not able to compute the 85th percentile speed during this process, since individual vehicle observations were not available and the speed sensor software currently doesn't collect this information. Therefore, average speed is used as the response variable. Even though the use of the 85th percentile speed used to model the response would be desired, the use of average speed will still show speed differences due to DMS messages.

Similar to Phase I, the predictor variables that were set against the variable of average driving speed include the following variables: driving direction, air temperature, relative humidity, dew-point, average wind speed, gust wind speed, wind direction, surface status, surface temperature,

sub-surface temperature, a severity rating of the DMS, distance between DMS and speed sensor and whether it was night or day. The second through ninth variables are RWIS measurements described in the last section. The severity rating category is rated on a system explained in the previous section. The day/night category is divided into a binary variable to account for nighttime and daytime observations, with 0 signifying a daytime observation and 1 signifying a nighttime observation. The day/night category is set up according to the average nautical sunrise and sunset times for October, November and December, where daylight rows were given a value of 0 and night times were given a value of 1 (United States Naval Observatory 2007).

To accurately match up the correct DMS messages with speed observations from drivers who had previously read those messages, eastbound and westbound directions distinctions are necessary. Speed sensors are matched up only with DMS sign locations which are within five miles of their location. In east-bound lanes, the DMS location came at an earlier mile posting (as mile posts are done from west to east), conversely DMS locations came at a later mile posting than their corresponding speed sensors in the west-bound lanes.

The SAS general linear model procedure, known as PROC REG, is utilized to analyze the data set as whole (all days and all sensors). The p-values for initial and final models are shown in Table 5.5 and Table 5.6. The p-value is often called the observed level of significance and ideally should be less than 0.05 (meaning that the predictor fits the model at a statistically significant level of 95%).

The R^2 value is the coefficient of determination and estimates the degree of linear association between the response and predictor variables. Higher R^2 values mean the given regression equation fits the given data well. For the initial model, all available predictor variables are included (see results in Table 5.5). Starting with the predictor variable with the highest P-value over 0.05 (i.e., least significant variable) the variables are removed one at a time until all remaining variables have a p-value less than 0.05 (see the results in Table 5.6).

The compiled data are put together first by each speed sensor spreadsheet, which is matched up with RWIS and DMS data. Once each of these stations' data are cleaned up, data are sent into the statistical software program SAS. Once each station is done, all the data from each station are put together into one spreadsheet, which has over 170,000 rows. Once the data are formed into one spreadsheet, the data are re-sorted according to speed, and it is seen that approximately 250 of the rows contain speeds which are less than 10 mph, and about 500 rows contain speeds of less than 15 mph. These speeds are probably inaccurate measurements since vehicles cannot travel this slowly under normally flowing traffic conditions. After removing every row containing a speed of less than 15 mph, the results from SAS change significantly. For example, the categories of severity category 3 and severity category 2 decrease in magnitude from -37 to -21 and from -27 to -14.

Table 5.5 Initial Model Results for All Data

Parameter Estimates						
Variable	**DF**	**Parameter Estimate**	**Standard Error**	**t Value**	**Pr > |t|**	**Variance Inflation**
Intercept	B	69.506	0.601	115.62	<.0001	0
d1	B	-0.231	0.047	-4.94	<.0001	1.008
AirTemp	1	0.068	0.013	5.20	<.0001	68.557
RH	1	-0.008	0.006	-1.19	0.2360	37.272
Dewpoint	1	0.036	0.013	2.79	0.0053	44.389
AvgWindSpeed	1	0.020	0.015	1.31	0.1904	19.079
GustWindSpeed	1	-0.060	0.011	-5.28	<.0001	18.712
wd1	1	4.010	0.159	25.82	<.0001	2.634
wd2	1	0.851	0.226	3.76	0.0002	1.477
wd3	1	7.286	0.187	38.96	<.0001	2.037
wd4	1	4.781	0.162	29.59	<.0001	3.000
wd5	1	5.970	0.175	34.09	<.0001	2.612
wd6	1	6.725	0.142	47.31	<.0001	9.455
wd7	1	7.202	0.142	50.62	<.0001	6.248
SfStatus	1	-1.259	0.061	-20.72	<.0001	1.730
SfTemp	1	-0.026	0.003	-7.52	<.0001	4.694
SubTemp	1	-0.080	0.006	-14.47	<.0001	4.620
Distance	1	-0.601	0.013	-44.74	<.0001	1.006
Day_Night	1	-3.148	0.048	-65.31	<.0001	1.081
Cat1	1	-8.616	0.058	-147.9	<.0001	1.207
Cat2	1	-14.574	0.145	-100.3	<.0001	1.099
Cat3	1	-27.679	0.137	-201.7	<.0001	1.256

Table 5.6 Final Model Results for All Data

Parameter Estimates						
Variable	**DF**	**Parameter Estimate**	**Standard Error**	**t Value**	**Pr > |t|**	**Variance Inflation**
Intercept	B	68.810	0.223	308.33	<.0001	0
d1	B	-0.231	0.047	-4.94	<.0001	1.008
AirTemp	1	0.084	0.003	24.48	<.0001	4.757
Dewpoint	1	0.021	0.004	5.10	<.0001	4.298
GustWindSpeed	1	-0.045	0.003	-14.40	<.0001	1.405
wd1	1	4.080	0.158	25.76	<.0001	2.621
wd2	1	0.851	0.226	3.76	0.0002	1.477
wd3	1	7.313	0.185	39.48	<.0001	1.999
wd4	1	4.796	0.161	29.82	<.0001	2.973
wd5	1	5.974	0.173	34.44	<.0001	2.562
wd6	1	6.745	0.141	47.83	<.0001	9.304
wd7	1	7.202	0.142	50.65	<.0001	6.240
SfStatus	1	-1.266	0.058	-21.84	<.0001	1.573
SfTemp	1	-0.028	0.003	-8.94	<.0001	3.964
SubTemp	1	-0.078	0.005	-14.48	<.0001	4.399
Distance	1	-0.601	0.013	-44.73	<.0001	1.006
Day_Night	1	-3.145	0.048	-65.44	<.0001	1.074
Cat1	1	-8.630	0.058	-149.69	<.0001	1.183
Cat2	1	-14.593	0.145	-100.71	<.0001	1.092
Cat3	1	-27.687	0.136	-203.62	<.0001	1.232

All MsgCategory variables are important when determining the effects of the DMSs on vehicle speeds. As would be expected, as the severity category increases, the average driving speed decreases. A severity of 3 has an average decrease of 27.7 mph. Relative Humidity and Average Wind Speed variables are insignificant in the final model. Relative Humidity was taken out first to see if SAS would result in different parameter variables, but Average Wind Speed is still the only variable with a Pr value of more than .05. The results of message severity categories have a pattern which would be logically expected. Message category 1 has a wide array of messages, with anything from "Wet" to "Fog" to "Slick" (see Section 3). The effects resulting from a simple message stating the road is wet are likely to be different than the effects resulting from a message regarding that the road is "slick," but the results from the individual MP was similar, meaning that the message severity categories are set up in a fashion that correlates well with speed, starting out with a coefficient of -8.6 in category 1 all the way down to -27.7 in category 3.

Only one category shows unexpected results. The distance variable is a function of how far apart the speed sensor is from the last DMS the people read before driving past that sensor. It was expected that as this variable became larger (and people got farther away from the DMS they had

just passed) drivers would once again increase their speeds. Instead, the SAS results find that this has a negative coefficient, meaning that as people drive farther away from the DMS, their speed decreases.

The results of the other categories are mainly in agreement with what would logically be expected. For example, it would be expected that as the wind gust speed increases, the average driving speed would decrease, and its coefficient is negative. The surface categories of surface temperature and status category (SfTemp and SfStatus) are rated 0 if there are no transverse conditions and 1 if there are any weather conditions. They both have a negative coefficient. Air temperature correlates with bad weather as it dips, so it would be expected to correlate directly with driving speed, and although the coefficient that results in this category is very small (.08), it is positive. The Day/Night category uses 0 for daytime hours and 1 for night-time hours (using nautical times for sunset and sunrise), and result in a coefficient of -3.2. This data shows that nighttime driving is slower that daytime driving, as would be expected.

The wind direction results are difficult to understand unless one knows which variable correlates with which direction. Table 5.7 shows the matched up directions with the code which is used in SAS to analyze the data.

Table 5.7 Wind Direction Variables for SAS Analysis

wd1	N
wd2	NE
wd3	E
wd4	SE
wd5	S
wd6	SW
wd7	W

All the resulting coefficients are found to be positive. After matching the previous section of code with the results from SAS, one can see that the sections with the highest coefficient are the east and west wind directions, followed by southwest, south, southeast and north. The only wind direction with a coefficient less than 4 is north. The wind direction variable used NW as the comparative variable, so it is likely that the more severe storms are occurring when the wind is coming from the northwest.

By analyzing the coefficients, many important features of the behavior of the variables can be determined. For predictors that are continuous (not classification variables), the coefficient indicates the slope of the regression line. The magnitude of the coefficient denotes the change in response variable if the predictor variable is increased by one unit, and all other predictor variables are held constant. The sign of each coefficient was examined using intuition and common sense. For example, the air temperature coefficient is positive. Therefore, if the air temperature decreases, one would expect that the average speeds should also decrease and vice versa.

The official limit that is assumed to be necessary for proving statistical significance correlates with an alpha value of .05 or 5%. This in turn means that the p-value must be less than .05, or the variable is not statistically pertinent. As stated above, only two variables are found to be

insignificant: average wind speed and relative humidity. The fact that wind gust speed remains in the model, while average wind speed does not, indicates that drivers are reacting more to gusty conditions than the steady wind. People do not drive faster as the wind speed increases. The surface as sub-surface temperatures are found to have a negative coefficient, meaning that as their temperature drops, the average speed rises. This again should not occur. This could be due to collinearity, or the correlation of predictor variables with each other.

From the example used in the previous paragraph, one can see that the AirTemp coefficient of 0.118 makes sense because it is positive. The small magnitude indicates that a one degree increase in temperature results in a very small increase in speed. Dew point is related to air temperature and moisture content of the air, and therefore should have had a similar effect as air temperature. The GustWindSpeed coefficient of -0.04 denotes that as the gust wind speeds increase, the average speed of the vehicles decreases only slightly.

Reductions in subsurface temperatures occur later in the weather event and could indicate that drivers have become more conditioned to the weather event. For the MsgCategory coefficients, MsgCategory 0 was designated to be the reference variable. Therefore, each of the MsgCategory variables is calculated in reference to no message or a simple public service announcement message. The MsgCategory 2 coefficient of -21.4 indicates that vehicles are traveling approximately 21.4 miles per hour slower when there is a message of category 2 on the DMS than when there is a message category of 0 (no message or a public service announcement). Similarly, the MsgCategory 3 coefficient of -27.1 indicates that vehicles are traveling approximately 27 miles per hour slower when there is a message of category 3 on the DMS than when there is no a message category of 0. The Day/Night coefficient of -1.78 indicates that during the day, average vehicle speeds are approximately two miles per hour faster than those at night.

Another approach to modeling this data did not include combining all data together. As was previously mentioned, the geometrics of the roadway can affect the average speeds at any location. By analyzing the data from a single speed sensor, the location and geometric factors are held constant, meaning that these variables are isolated, and we can determine how the weather and DMS signs affect speed. There were fourteen locations at which speed sensors could possibly be matched up with a DMS sign that was five miles or less from the speed sensor. The sensors and their matching DMS locations are indicated in shaded rows in Table 5.8, where those shown in non-shaded are not analyzed because a distance of more than five miles was assumed to be too great for a significant correlation between speed sensor and DMS.

Table 5.8 DMS and Speed Sensor Matching

Sensor MP	Approach	DMS MP**	Distance past Sign to Sensor*
317.2	WB	323	5.8
321.5	WB	323	1.5
324	WB	331.3	7.3
324.8	WB	331.3	6.5
325.8	WB	331.3	5.5
326.9	WB	331.3	4.4
330	WB	331.3	1.3
334.5	WB	334.5	0
335.5	WB	336.1	0.6
336.1	WB	336.1	0
336.5	WB	343.7	7.2
338.11	WB	343.7	5.59
340.5	WB	343.7	3.2
343.8	WB	343.7	0
317.2	EB	317.2	0
321.5	EB	317.2	4.3
324	EB	317.2	6.8
324.8	EB	324.9	0
325.8	EB	324.9	0.9
326.9	EB	326.2	0.7
330	EB	328.8	1.2
334.5	EB	328.8	5.7
335.5	EB	328.8	6.7
336.1	EB	328.8	7.3
336.5	EB	328.8	7.7
338.11	EB	328.8	9.31
340.5	EB	328.8	11.7
343.8	EB	341.6	2.2

Initial findings from Phase I of this project suggest that the distance past the DMS does affect speeds. There is a negative correlation with a coefficient of -0.6 between distance and speed. This is determined by looking at the coefficient estimates which estimate the effects of a certain predictor on speed, holding all other predictors constant. It can be seen that in both cases, the

distance variable (labeled d1) is positive when measured against d2 as the base condition. The numerical value given to the variable does not have much meaning, as the relationship between distance and speed is not truly linear, but the positive correlation shows that the farther away from a sign someone drives, the less influence it has on him/her. The full results from the models of each of these speed sensors are in Table 5.9 where parameter results are listed by section.

Table 5.9 Final SAS Model Results by Milepost

	MP 317	MP 321.5	MP 324.9	MP 325.9	MP 326.9	MP 330	MP 334.5	MP 335.5	MP 336.1	MP 340.5	MP 343.8
Intercept	64.23	67.42	88.63	92.13	87.70	91.08	84.37	106.31	85.05	83.39	75.80
d1	0	3.98	0	0	4.35	4.22	0	0	0	0	-7.29
d2	0	0	0	0	0	0	0	0	0	0	0
AirTemp	-0.10	-0.09	-0.62	-0.60	-0.54	0.17	-0.58	-0.87	-0.56	-0.62	-0.22
RH	-0.11	-0.05	-0.35	-0.34	-0.32	0.02	-0.33	-0.47	-0.33	-0.35	-0.23
Dewpoint	0.56	0.10	0.67	0.66	0.61	-0.02	0.73	0.66	0.70	0.75	0.82
AvgWindSpeed	-0.32	0.08	0.23	0.42	0.27	0.91	-0.52	-0.67	-0.30	-0.51	-0.73
GustWindSpeed	0.05	-0.13	-0.48	-0.63	-0.48	-0.82	0.02	0.39	-0.11	0.04	0.48
wd1	10.13	2.93	6.91	5.39	5.73	4.24	6.92	0.59	6.71	6.97	11.67
wd2	3.78	-0.51	3.36	4.08	1.33	7.25	-3.97	-10.85	3.07	3.20	11.99
wd3	19.57	6.07	14.60	13.20	11.49	1.14	15.31	7.07	13.38	14.37	19.18
wd4	17.48	2.98	13.23	10.81	10.93	3.05	11.07	3.08	9.95	11.12	17.14
wd5	14.09	4.74	12.53	10.06	9.94	8.68	9.09	0.69	9.07	8.99	14.23
wd6	20.04	5.67	17.82	14.25	13.76	6.50	17.75	5.11	16.45	17.53	22.11
wd7	17.47	4.21	17.42	13.77	13.48	4.91	16.57	5.54	15.67	16.41	19.37
SfStatus	-3.04	-0.31	-1.57	-1.62	-0.57	-5.11	-0.74	-1.82	-1.47	-1.46	-4.79
SfTemp	0.11	0.00	0.26	0.25	0.23	-0.01	0.32	0.58	0.26	0.27	-0.01
SubTemp	-0.29	-0.06	-0.17	-0.18	-0.27	-0.35	-0.20	-0.35	-0.15	-0.09	-0.20
Distance	0.00	0.00	0.00	0.00	0.00	-15.15	0.00	0.00	1.58	0.00	0.00
Day_Night	-3.64	-3.95	-1.94	-1.77	-3.01	-0.68	-3.00	-1.68	-2.32	-2.82	-2.57
Severity Cat 1	-9.25	-9.71	-10.00	-8.98	-8.29	-9.95	-7.36	-7.53	-7.56	-8.28	-8.67
Severity Cat 2	N/A	-13.60	-11.92	-12.57	-20.43	-20.29	-9.43	-23.18	-17.39	-17.90	-19.88
Severity Cat 3	N/A	-19.59	-36.41	-31.44	-24.48	-24.55	-29.50	-36.25	-34.90	-33.99	-33.66

5.4 Statistical Modeling Summary

The modeling efforts completed here suggest that the average speeds of the vehicles are affected by numerous factors including surface status, night versus day driving and weather severity ratings. The specific determination of message effectiveness by way of statistical means was not completed with this statistical modeling. The modeling suggests that the DMSs are very effective, if all other variables are held constant. Specific message analysis may be required in the future in order to determine specifically which message sets and wording are the most effective.

The Summary and Conclusions section will summarize and highlight the important aspects of each completed research task. The future research tasks for this project are discussed and recommendations are given for implementation by WYDOT in the short term. The final SAS analysis of all variables, where each variable is ranked by the magnitude of its effect on speed, can be found in Appendix E.

6. SUMMARY AND CONCLUSIONS

This section summarizes and highlights the important aspects of each completed research task. Possible future research tasks on this topic are discussed and recommendations are given for implementation by WYDOT in the short term.

6.1 DMS Analysis Summary

The inconsistencies found in the messages displayed on DMSs may not have an extreme effect on the behaviors of the drivers because the messages are still likely to be effective. However, if the messages are held as consistent as possible, they will likely be more effective. If drivers have seen a message previously, it will not take them as long to process the message and react to it. Therefore, keeping the message sets consistent is an important aspect of DMS practice. Recommendations to increase the effectiveness of the DMSs through message set selection are as follows:

- Remove messages from the signs if they are displayed for an extended period, especially if conditions have changed. TMC operators should be aware of the durations of each message. Implementing software modifications to track message durations would be beneficial.
- Refrain from placing weather warnings and public service announcements in the same message set. Weather warnings should be separate and clearly labeled as to pertaining to a need for a change in driving behavior.
- Follow consistent messaging procedures when providing weather and road closure information. The development of written guidelines for message procedures for common conditions is recommended. This has been started with the TMC and should be continued.
- Do not post non-weather related messages for extended periods of time, as they often lead people into thinking that messages may not be significant.

6.2 Survey Analysis Summary

The frequent traveler surveys demonstrate that DMSs are highly visible and are commonly read by drivers. Frequent travelers are experienced drivers who encounter severe conditions on a regular basis, yet DMSs remain the primary source of information for travelers while they are driving, whereas WYDOT's website remains their primary source before they leave. The following points summarize the results of the frequent traveler surveys:

- All the surveys indicate that DMS's are used by a majority of frequent travelers.
- When action is advised on the DMSs, the vast majority of surveyed drivers either took the advice or used it to make an alternate decision.
- DMS messages should be specific, detailed and accurate.
- Messages should include speed limit advisories.
- Travelers agree that the accuracy, timeliness and credibility of the presented information are very important.

The random traveler surveys show results similar to the frequent traveler surveys. A large percentage of these drivers utilize the DMSs. Drivers strongly feel that DMSs are visible, easy to understand and useful. However, the accuracy of the messages is not acceptable to many drivers. The following points summarize the results of the random traveler surveys:

- Drivers take the action suggested by the DMSs (e.g., driving more carefully)
- Many drivers feel that other drivers do not respond appropriately to the DMSs.
- Drivers feel messages should be updated more frequently.

6.3 Statistical Modeling Summary

The modeling efforts in this study suggest that the average speeds of the vehicles are affected by numerous factors, including weather conditions, messages on the DMSs, and location of the speed sensors. This modeling effort indicates that different messages sets on the DMSs are an important part of the model.

6.4 Recommendations

Recommended practices can be implemented by WYDOT to improve the effectiveness of the DMSs. Because the majority drivers see and read the DMSs, it is important that the information on the signs be accurate, credible, timely and consistent. Recommendations listed below are based on the results of the research tasks in sections 4 and 5.

- Utilize predetermined message sets as much as possible to improve consistency. The addition of word search features in the DMS software would allow the TMC operators to put in a few key words to quickly find the appropriate predetermined messages, which could be beneficial in getting the operators to use these message sets.
- Update the information more frequently, in accordance with the changing roadway and weather conditions, to improve its accuracy.
- Provide more detailed information when applicable (e.g., wind gusts, accident locations, lane closures).

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APPENDIX A: DMS MESSAGES

MP 317

Date	Message	Duration
	Total Times Occurring 13	**Ave. 4:41**
10/1/09 1:12	STRONG WIND GUSTS 40+ MPH	3:28
10/1/09 6:17	STRONG WIND SNOW BLOWING SNOW	0:41
10/1/09 7:35	STRONG WIND	1:18
10/1/09 9:50	STRONG WIND GUSTS 55+ MPH	2:14
10/1/09 10:10	STRONG WIND GUSTS 50+ MPH	0:20
10/1/09 13:56	STRONG WIND GUSTS 45+ MPH	3:45
10/1/09 15:21	STRONG WIND GUSTS 50+ MPH	1:24
10/1/09 17:35	STRONG WIND	2:14
10/6/09 3:44	STRONG WIND	18:29
10/6/09 5:59	STRONG WIND	1:16
10/26/09 17:15	STRONG WIND	5:46
10/26/09 20:37	STRONG WIND	2:22
10/24/09 4:44	NO LIGHT TRAILER ADVISORY GUSTS 55+ MPH	17:38
	Total Times Occurring 46	**Ave. 3:04**
10/8/09 3:15	SNOW SLICK SPOTS REDUCE SPEED	2:46
10/8/09 3:52	SNOW SLICK SPOTS REDUCE SPEED	0:37
10/8/09 4:35	SNOW SLICK ROAD REDUCE SPEED	0:42
10/8/09 5:03	SNOW WET ROAD SLICK SPOTS REDUCE SPEED	0:28
10/8/09 8:44	SLICK ROAD SNOW REDUCE SPEED WRECK AHEAD REDUCE SPEED	3:40
10/8/09 10:58	SLICK SPOTS SNOWFALL REDUCE SPEED	2:13
10/8/09 11:13	SLICK SPOTS SNOW REDUCE SPEED	0:15
10/8/09 11:42	SLICK SPOTS	0:01
10/9/09 18:22	SLICK ROAD SNOW REDUCE SPEED	1:23
10/9/09 18:38	I-25S CLOSED MULTIPLE CRASHES SLICK ROAD REDUCE SPEED	0:15
10/9/09 18:55	SLICK ROAD REDUCE SPEED	0:17
10/10/09 11:19	SLICK ROAD SNOW REDUCE SPEED	4:21
10/11/09 0:45	SLICK ROAD SNOW REDUCE SPEED	6:40
10/11/09 2:16	SLICK SPOTS REDUCE SPEED	1:31
10/11/09 4:08	SLICK SPOTS REDUCE SPEED DENSE FOG REDUCED VISIBILITY	1:51
10/11/09 10:06	SLICK SPOTS BLOWING SNOW TURN OFF CRUISE CONTROL	5:57
10/11/09 13:50	SLICK SPOTS FOG AHEAD TURN OFF CRUISE CONTROL	3:43
10/11/09 21:58	SLICK SPOTS REDUCE SPEED	7:48
10/12/09 0:53	SLICK ROAD SNOW REDUCE SPEED	2:54
10/12/09 6:25	SLICK ROAD REDUCE SPEED	5:31
10/12/09 10:19	SLICK SPOTS STRONG WIND	1:04
10/20/09 19:36	SLICK SPOTS SNOW	1:53
10/20/09 19:38	SLICK SPOTS REDUCE SPEED	0:02
10/20/09 23:43	SLICK SPOTS TURN OFF CRUISE CONTROL	2:54
10/23/09 3:34	SLICK SPOTS SNOW FOG REDUCE SPEED	18:05
10/23/09 4:09	SLICK ROAD SNOW REDUCED VISIBILITY FOG REDUCE SPEED	0:34
10/23/09 5:18	SLICK ROAD SNOW	1:09
10/23/09 6:25	SLICK ROAD SNOW FOG REDUCE SPEED	1:07
10/23/09 8:37	SLICK SPOTS	2:11
10/25/09 3:51	SLICK ROAD SNOW REDUCE SPEED	1:51
10/25/09 15:33	SLICK SPOTS SNOW REDUCE SPEED	0:11
10/25/09 15:49	SLICK SPOTS REDUCE SPEED	0:15
10/25/09 18:37	SLICK SPOTS REDUCE SPEED	0:06
10/25/09 22:10	SLICK SPOTS FOG REDUCE SPEED	3:33
10/25/09 23:03	SLICK SPOTS REDUCE SPEED	0:52
10/26/09 1:59	SLICK ROAD REDUCE SPEED	2:56
10/26/09 2:19	SLICK SPOTS REDUCE SPEED	0:20
10/26/09 9:07	SLICK SPOTS BLOWING SNOW	6:47
10/26/09 9:59	SLICK SPOTS	0:52
10/1/09 5:35	SLICK SPOTS STRONG WIND SNOW	3:55
10/27/09 17:01	SLICK ROAD SNOW REDUCE SPEED	0:46
10/27/09 17:36	SLICK ROAD BLOWING SNOW REDUCE SPEED	0:34
10/27/09 20:30	SLICK ROAD BLOWING SNOW REDUCED VISIBILITY REDUCE SPEED	2:54
10/27/09 20:33	SLICK ROAD BLOWING SNOW REDUCED VISIBILITY REDUCE SPEED	0:02
10/28/09 2:00	SLICK ROAD BLOWING SNOW REDUCED VISIBILITY DRIFTED SNOW REDUCE SPEED	5:26

10/28/09 10:29	SLICK ROAD SNOW BLOWING SNOW REDUCED VISIBILITY	3:53
	Total Times Occurring 7	**Ave. 20:56**
10/28/09 11:48	WRECK 15 MILES AHEAD REDUCE SPEED	1:19
10/28/09 20:29	I-80 CLOSED NO PARKING ON SHOULDER	8:40
10/31/09 9:11	I-80 EB CLOSED NO PARKING ON SHOULDER	12:42
10/28/09 6:35	I-80 CLOSED ALL TRAFFIC MUST EXIT	4:35
10/14/09 10:24	DETOUR 15 MILES AHEAD	2:45
10/16/09 7:38	ROAD CONSTRUCTION DETOUR 15 MILES AHEAD	20:32
10/16/09 7:38	ROAD CONSTRUCTION DETOUR 15 MILES AHEAD	0:00
	Total Times Occurring 16	**Ave. 17:10**
10/20/09 13:45	REDUCED VISIBILITY	23:33
10/10/09 16:13	DENSE FOG REDUCE SPEED	4:53
10/10/09 17:07	REDUCED VISIBILITY DENSE FOG REDUCE SPEED	0:54
10/10/09 18:05	REDUCED VISIBILITY DENSE FOG SLICK SPOTS REDUCE SPEED	0:57
10/4/09 8:28	FOG REDUCED VISIBILITY TURN OFF CRUISE CONTROL	14:21
10/4/09 10:58	DENSE FOG REDUCED VISIBILITY TURN OFF CRUISE CONTROL	2:29
10/4/09 11:10	DENSE FOG REDUCED VISIBILITY REDUCE SPEED	0:11
10/4/09 14:26	DENSE FOG REDUCED VISIBILITY WET ROAD REDUCE SPEED	3:16
10/5/09 0:57	DENSE FOG REDUCED VISIBILITY WET ROAD REDUCE SPEED	10:31
10/8/09 0:17	FOG AHEAD	17:09
10/8/09 0:29	FOG REDUCED VISIBILITY REDUCE SPEED	0:12
10/8/09 18:34	DENSE FOG REDUCE FOG	5:45
10/8/09 18:47	DENSE FOG REDUCE SPEED	0:13
10/9/09 16:58	DENSE FOG REDUCED VISIBILITY	18:16
10/25/09 0:55	FOG REDUCE SPEED	16:25
10/12/09 21:53	FOG AHEAD REDUCE SPEED	11:29
	Total Times Occurring 14	**Ave. 2:53**
10/5/09 4:40	WET ROAD REDUCE SPEED	3:42
10/5/09 5:21	WET ROAD SLICK SPOTS REDUCE SPEED	0:41
10/5/09 8:23	WET ROAD	3:02
10/27/09 15:53	WET ROAD SNOW	18:40
10/27/09 16:14	WET ROAD SLICK SPOTS SNOW TURN OFF CRUISE CONTROL	0:21
10/25/09 14:55	WET ROAD SNOW	3:06
10/25/09 15:20	WET ROAD SNOWFALL REDUCE SPEED	0:09
10/25/09 15:22	WET ROAD SNOW REDUCE SPEED	0:02
10/25/09 16:33	WET ROAD SNOW REDUCE SPEED	0:44
10/25/09 16:55	WET ROAD SLICK SPOTS SNOW REDUCE SPEED	0:21
10/25/09 18:31	WET ROAD SLICK SPOTS REDUCE SPEED	1:36
10/20/09 17:43	WET ROAD SNOW	3:58
10/12/09 9:14	WET ROAD SLICK SPOTS STRONG WIND	2:49
10/20/09 20:49	WET ROAD SLICK SPOTS TURN OFF CRUISE CONTROL	1:10
Date	Message	Duration
	Total Times Occurring 39	**Ave.11:52**
11/2/09 18:53	SLICK SPOTS REDUCE SPEED	7:09
11/12/09 23:53	SLICK SPOTS SNOW REDUCE SPEED	8:38
11/13/09 1:42	SLICK SPOTS SNOW REDUCE SPEED	1:49
11/13/09 3:26	SLICK SPOTS SNOW REDUCE SPEED REDUCED VISIBILITY	1:44
11/13/09 5:38	SLICK SNOW REDUCE SPEED REDUCED VISIBILITY	2:11
11/13/09 7:47	SLICK SNOW REDUCE SPEED	2:09
11/13/09 16:07	SLICK ROADS REDUCE SPEED	8:19
11/13/09 16:07	SLICK ROAD REDUCE SPEED	0:00
11/13/09 20:07	SLICK ROAD STRONG WIND REDUCE SPEED	4:59
11/14/09 1:57	SLICK ROAD REDUCE SPEED	4:49
11/14/09 15:02	SLICK SPOTS TURN OFF CRUISE CONTROL	13:05
11/14/09 17:22	SLICK ROAD SNOW REDUCE SPEED	2:19
11/15/09 7:47	SLICK ROAD REDUCE SPEED	14:24
11/15/09 11:17	SLICK SPOTS REDUCE SPEED	3:30
11/15/09 12:42	ICY SPOTS TURN OFF CRUISE CONTROL	1:24
11/15/09 15:20	SLICK SPOTS TURN OFF CRUISE CONTROL	2:37
11/16/09 7:06	SLICK SPOTS TURN OFF CRUISE CONTROL BLOWING SNOW	15:46
11/16/09 21:51	SLICK SPOTS BLOWING SNOW REDUCE SPEED	14:45
11/17/09 0:14	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED	2:23
11/17/09 5:40	SLICK SPOTS REDUCE SPEED	5:25
11/17/09 5:41	SLICK SPOTS TURN OFF CRUISE CONTROL	0:01
11/21/09 13:03	SLICK SPOTS STRONG WIND BLOWING SNOW	0:55
11/21/09 16:38	SLICK SPOTS AHEAD TURN OFF CRUISE CONTROL	0:23

11/23/09 4:06	SLICK SPOTS BLOWING SNOW STRONG WIND	22:55
11/23/09 4:28	SLICK SPOTS BLOWING SNOW STRONG WIND REDUCED VISIBILITY	0:22
11/23/09 5:00	SLICK ROAD BLOWING SNOW STRONG WIND	0:15
11/23/09 5:08	SLICK SPOTS BLOWING SNOW	0:08
11/23/09 10:46	SLICK ROAD BLOWING SNOW SNOW	5:37
11/23/09 15:27	SLICK ROAD BLOWING SNOW	4:40
11/23/09 22:27	SLICK ROAD BLOWING SNOW ADVISE 45 MPH	2:12
11/23/09 22:31	SLICK ROAD BLOWING SNOW ADVISE 45 MPH	0:04
11/23/09 23:52	SLICK ROAD BLOWING SNOW REDUCED VISIBILITY ADVISE 45 MPH	1:20
11/24/09 4:36	SLICK ROAD BLOWING SNOW REDUCED VISIBILITY ADVISE NO LIGHT TRAILERS ADVISE 45 MPH	4:43
11/24/09 5:28	SLICK ROAD BLOWING SNOW ADVISE NO LIGHT TRAILERS ADVISE 45 MPH	0:51
11/24/09 6:09	SLICK ROAD BLOWING SNOW ADVISE 45 MPH	0:40
11/24/09 8:12	SLICK ROAD BLOWING SNOW	2:03
12/9/09 2:49	SLICK SPOTS BLOWING SNOW REDUCE SPEED DRIFTED SNOW REDUCED VISIBILITY STRONG WIND	1:25
11/24/09 12:46	SLICK ROAD STRONG WIND	0:29
11/24/09 23:08	SLICK SPOTS STRONG WIND	8:21
	Total Times Occurring 5	**Ave.**18:37
11/25/09 1:25	STRONG WIND AHEAD GUSTS 40+ MPH	2:16
11/25/09 3:08	STRONG WIND AHEAD	1:43
12/9/09 5:14	SPOTS BLOWING SNOW REDUCED VISIBILITY ADVISE NO LIGHT TRAILERS GUSTS 50+ MPH	0:49
11/6/09 10:21	STRONG WIND GUSTS 45+ MPH	13:13
11/6/09 13:25	STRONG WIND GUSTS 40+ MPH	3:03
	Total Times Occurring 4	**Ave.** 2:22
12/9/09 10:25	I-80 CLOSED ALL TRAFFIC MUST EXIT	4:59
11/23/09 20:09	I-80 CLOSED DUE TO WRECK EXPECT DELAYS	2:35
11/23/09 20:15	WRECK AHEAD REDUCE SPEED EXPECT DELAYS	0:05
12/9/09 12:19	I-80 CLOSED	1:49
	Total Times Occurring 4	**Ave.** 1:19
11/25/09 3:25	DON'T DRINK & DRIVE PLEASE BUCKLE UP	0:08
11/25/09 8:17	DON'T DRINK & DRIVE PLEASE BUCKLE UP	0:02
11/25/09 8:14	DON'T DRINK & DRIVE PLEASE BUCKLE UP	4:49
11/25/09 3:25	DON'T DRINK & DRIVE PLEASE BUCKLE UP	0:16
Date	Message	Duration
	Total Times Occurring 63	**Ave. 2:51**
12/1/09 19:36	SLICK ROAD SNOW BLOWING SNOW REDUCE SPEED	0:34
12/2/09 2:23	SLICK SPOTS TURN OFF CRUISE CONTROL	6:47
12/2/09 15:06	SLICK SPOTS BLOWING SNOW TURN OFF CRUISE CONTROL	4:57
12/2/09 17:20	SLICK SPOTS TURN OFF CRUISE CONTROL	2:14
12/3/09 19:18	SLICK SPOTS BLOWING SNOW TURN OFF CRUISE CONTROL	1:57
12/4/09 3:37	SLICK SPOTS BLOWING SNOW STRONG WIND TURN OFF CRUISE CONTROL	8:19
12/5/09 6:03	SLICK SPOTS TURN OFF CRUISE CONTROL	2:26
12/5/09 19:39	SLICK SPOTS SNOW	3:53
12/5/09 19:46	SLICK SPOTS SNOW REDUCE SPEED	0:07
12/5/09 20:00	SLICK SPOTS BLOWING SNOW REDUCE SPEED	0:13
12/6/09 8:27	SLICK SPOTS BLOWING SNOW STRONG WIND REDUCE SPEED	12:26
12/6/09 13:16	SLICK SPOTS BLOWING SNOW REDUCE SPEED	0:01
12/6/09 21:16	SLICK SPOTS REDUCE SPEED	8:00
12/7/09 2:00	SLICK SPOTS TURN OFF CRUISE CONTROL	4:43
12/7/09 4:19	SLICK SPOTS SNOW BLOWING SNOW TURN OFF CRUISE CONTROL	2:18
12/7/09 14:44	SLICK SPOTS TURN OFF CRUISE CONTROL	10:25
12/7/09 19:18	SLICK SPOTS TURN OFF CRUISE CONTROL	1:10
12/7/09 20:09	SLICK SPOTS TURN OFF CRUISE CONTROL	0:50
12/7/09 17:37	TURN OFF CRUISE CONTROL SLICK SPOTS SNOW BLOWING SNOW	2:52
12/7/09 18:07	TURN OFF CRUISE CONTROL SLICK SPOTS SNOW BLOWING SNOW	0:30
12/8/09 0:02	SLICK SPOTS FOG REDUCE SPEED	3:52
12/8/09 0:10	SLICK SPOTS FOG REDUCE SPEED	0:08
12/8/09 2:31	SLICK SPOTS FOG REDUCED VISIBILITY TURN OFF CRUISE CONTROL	2:21
12/8/09 2:31	SLICK SPOTS FOG REDUCED VISIBILITY TURN OFF CRUISE CONTROL	0:00
12/8/09 3:11	SLICK SPOTS FOG REDUCED VISIBILITY TURN OFF CRUISE CONTROL	0:39
12/8/09 4:56	SLICK SPOTS FOG BLOWING SNOW TURN OFF CRUISE CONTROL	1:45
12/8/09 5:12	SLICK SPOTS FOG BLOWING SNOW TURN OFF CRUISE CONTROL	0:16
12/8/09 6:00	SLICK SPOTS REDUCE SPEED	0:47
12/8/09 6:13	SLICK SPOTS REDUCE SPEED	0:13

12/8/09 7:20	SLICK SPOTS DRIFTED BLOWING SNOW TURN OFF CRUISE CONTROL	1:07
12/8/09 8:15	SLICK SPOTS DRIFTED BLOWING SNOW TURN OFF CRUISE CONTROL	0:54
12/8/09 15:21	SLICK SPOTS DRIFTED/ BLOWING SNOW TURN OFF CRUISE CONTROL	7:06
12/8/09 16:19	SLICK SPOTS DRIFTED BLOWING SNOW TURN OFF CRUISE CONTROL	0:58
12/8/09 19:59	SLICK SPOTS DRIFTED/BLOWING SNOW REDUCED VISIBILITY AHEAD	3:39
12/8/09 19:59	SLICK SPOTS DRIFTED/BLOWING SNOW REDUCED VISIBILITY AHEAD	0:00
12/8/09 20:21	SLICK SPOTS DRIFTED BLOWING SNOW REDUCED VISIBILITY AHEAD	0:21
12/8/09 21:07	SLICK SPOTS DRIFTED/BLOWING SNOW	0:45
12/8/09 21:21	SLICK SPOTS DRIFTED BLOWING SNOW	0:14
12/8/09 23:35	SLICK SPOTS BLOWING SNOW REDUCE SPEED	2:13
12/9/09 0:22	SLICK SPOTS BLOWING SNOW REDUCE SPEED	0:47
12/9/09 1:07	SLICK SPOTS BLOWING SNOW REDUCE SPEED DRIFTED SNOW LIMITED VISIBILITY	0:45
12/9/09 1:09	SLICK SPOTS BLOWING SNOW REDUCE SPEED DRIFTED SNOW REDUCED VISIBILITY	0:01
12/9/09 1:23	SLICK SPOTS BLOWING SNOW REDUCE SPEED DRIFTED SNOW REDUCED VISIBILITY	0:13
12/9/09 3:24	SLICK SPOTS BLOWING SNOW REDUCE SPEED DRIFTED SNOW REDUCED VISIBILITY STRONG WIND	0:35
12/9/09 3:43	SLICK SPOTS BLOWING/DRIFTED SNOW REDUCED VISIBILITY STRONG WIND GUSTS 45+ MPH	0:18
12/9/09 4:18	SLICK SPOTS BLOWING/DRIFTED SNOW REDUCED VISIBILITY STRONG WIND GUSTS 50+ MPH	0:34
12/9/09 4:23	SLICK SPOTS BLOWING SNOW REDUCED VISIBILITY ADVISE NO LIGHT TRAILERS GUSTS 50+ MPH	0:05
12/9/09 4:25	SLICK SPOTS BLOWING SNOW REDUCED VISIBILITY ADVISE NO LIGHT TRAILERS GUSTS 55+ MPH	0:02
12/9/09 5:26	SLICK SPOTS BLOWING SNOW REDUCED VISIBILITY ADVISE NO LIGHT TRAILERS GUSTS 50+ MPH	0:11
12/9/09 14:07	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED	0:03
12/9/09 14:31	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED	0:24
12/9/09 15:18	SLICK SPOTS STRONG WIND BLOWING SNOW	0:46
12/9/09 15:28	SLICK SPOTS STRONG WIND BLOWING SNOW TURN OFF CRUISE CONTROL	0:10
12/9/09 15:31	SLICK SPOTS STRONG WIND BLOWING SNOW TURN OFF CRUISE CONTROL	0:03
12/9/09 17:48	SLICK SPOTS STRONG WIND BLOWING SNOW ADVISE NO LIGHT TRAILERS	2:16
12/9/09 18:33	SLICK SPOTS STRONG WIND BLOWING SNOW ADVISE NO LIGHT TRAILERS	0:45
12/9/09 19:43	SLICK SPOTS STRONG WIND BLOWING SNOW	0:04
12/9/09 20:33	SLICK SPOTS STRONG WIND BLOWING SNOW	0:50
12/9/09 22:17	SLICK SPOTS STRONG WIND BLOWING SNOW ADVISE NO LIGHT TRAILERS	1:44
12/9/09 22:34	SLICK SPOTS STRONG WIND BLOWING SNOW ADVISE NO LIGHT TRAILERS	0:16
12/10/09 16:30	SLICK SPOTS STRONG WIND BLOWING SNOW	17:56
12/10/09 16:43	SLICK SPOTS STRONG WIND BLOWING SNOW	0:13
12/14/09 16:37	SLICK SPOTS BLOWING SNOW ADVISE NO LIGHT TRAILERS GUSTS 50+ MPH	0:13
	Total Times Occurring 13	**Ave.** 10:27
12/11/09 11:33	STRONG WIND	17:49
12/11/09 11:51	STRONG WIND	0:17
12/14/09 12:48	STRONG WIND GUST 40+ MPH	22:57
12/14/09 13:22	STRONG WIND GUST 40+ MPH	0:33
12/14/09 16:06	STRONG WIND GUSTS 45+ MPH	2:44
12/14/09 16:23	STRONG WIND GUSTS 45+ MPH	0:17
12/14/09 16:41	STRONG WIND	0:00
12/16/09 5:48	STRONG WIND	12:24
12/16/09 6:40	STRONG WIND	0:51
12/16/09 11:57	STRONG WIND	5:17
12/16/09 12:13	STRONG WIND	0:15
12/16/09 12:23	STRONG WIND	0:09
12/16/09 12:42	STRONG WIND	0:18
	Total Times Occurring 2	**Ave.** 9:34
12/1/09 18:30	DENSE FOG REDUCED VISIBILITY REDUCE SPEED	18:37
12/1/09 19:02	DENSE FOG REDUCED VISIBILITY SNOW REDUCE SPEED	0:31
	Total Times Occurring 3	**Ave.** 0:05
12/9/09 10:29	I-80 CLOSED ALL TRAFFIC MUST EXIT	0:03
12/9/09 12:30	I-80 CLOSED	0:11
12/9/09 12:31	I-80 CLOSED NO PARKING ON SHOULDER	0:01

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Date	Message	Duration
	Total Times Occurring 13	**Ave. 4:41**
10/1/09 1:12	STRONG WIND GUSTS 40+ MPH	3:28
10/1/09 6:17	STRONG WIND SNOW BLOWING SNOW	0:41
10/1/09 7:35	STRONG WIND	1:18
10/1/09 9:50	STRONG WIND GUSTS 55+ MPH	2:14
10/1/09 10:10	STRONG WIND GUSTS 50+ MPH	0:20
10/1/09 13:56	STRONG WIND GUSTS 45+ MPH	3:45
10/1/09 15:21	STRONG WIND GUSTS 50+ MPH	1:24
10/1/09 17:35	STRONG WIND	2:14
10/6/09 3:44	STRONG WIND	18:29
10/6/09 5:59	STRONG WIND	1:16
10/26/09 17:15	STRONG WIND	5:46
10/26/09 20:37	STRONG WIND	2:22
10/24/09 4:44	NO LIGHT TRAILER ADVISORY GUSTS 55+ MPH	17:38
	Total Times Occurring 46	**Ave. 3:04**
10/8/09 3:15	SNOW SLICK SPOTS REDUCE SPEED	2:46
10/8/09 3:52	SNOW SLICK SPOTS REDUCE SPEED	0:37
10/8/09 4:35	SNOW SLICK ROAD REDUCE SPEED	0:42
10/8/09 5:03	SNOW WET ROAD SLICK SPOTS REDUCE SPEED	0:28
10/8/09 8:44	SLICK ROAD SNOW REDUCE SPEED WRECK AHEAD REDUCE SPEED	3:40
10/8/09 10:58	SLICK SPOTS SNOWFALL REDUCE SPEED	2:13
10/8/09 11:13	SLICK SPOTS SNOW REDUCE SPEED	0:15
10/8/09 11:42	SLICK SPOTS	0:01
10/9/09 18:22	SLICK ROAD SNOW REDUCE SPEED	1:23
10/9/09 18:38	I-25S CLOSED MULTIPLE CRASHES SLICK ROAD REDUCE SPEED	0:15
10/9/09 18:55	SLICK ROAD REDUCE SPEED	0:17
10/10/09 11:19	SLICK ROAD SNOW REDUCE SPEED	4:21
10/11/09 0:45	SLICK ROAD SNOW REDUCE SPEED	6:40
10/11/09 2:16	SLICK SPOTS REDUCE SPEED	1:31
10/11/09 4:08	SLICK SPOTS REDUCE SPEED DENSE FOG REDUCED VISIBILITY	1:51
10/11/09 10:06	SLICK SPOTS BLOWING SNOW TURN OFF CRUISE CONTROL	5:57
10/11/09 13:50	SLICK SPOTS FOG AHEAD TURN OFF CRUISE CONTROL	3:43
10/11/09 21:58	SLICK SPOTS REDUCE SPEED	7:48
10/12/09 0:53	SLICK ROAD SNOW REDUCE SPEED	2:54
10/12/09 6:25	SLICK ROAD REDUCE SPEED	5:31
10/12/09 10:19	SLICK SPOTS STRONG WIND	1:04
10/20/09 19:36	SLICK SPOTS SNOW	1:53
10/20/09 19:38	SLICK SPOTS REDUCE SPEED	0:02
10/20/09 23:43	SLICK SPOTS TURN OFF CRUISE CONTROL	2:54
10/23/09 3:34	SLICK SPOTS SNOW FOG REDUCE SPEED	18:05
10/23/09 4:09	SLICK ROAD SNOW REDUCED VISIBILITY FOG REDUCE SPEED	0:34
10/23/09 5:18	SLICK ROAD SNOW	1:09
10/23/09 6:25	SLICK ROAD SNOW FOG REDUCE SPEED	1:07
10/23/09 8:37	SLICK SPOTS	2:11
10/25/09 3:51	SLICK ROAD SNOW REDUCE SPEED	1:51
10/25/09 15:33	SLICK SPOTS SNOW REDUCE SPEED	0:11
10/25/09 15:49	SLICK SPOTS REDUCE SPEED	0:15
10/25/09 18:37	SLICK SPOTS REDUCE SPEED	0:06
10/25/09 22:10	SLICK SPOTS FOG REDUCE SPEED	3:33
10/25/09 23:03	SLICK SPOTS REDUCE SPEED	0:52
10/26/09 1:59	SLICK ROAD REDUCE SPEED	2:56
10/26/09 2:19	SLICK SPOTS REDUCE SPEED	0:20
10/26/09 9:07	SLICK SPOTS BLOWING SNOW	6:47
10/26/09 9:59	SLICK SPOTS	0:52
10/1/09 5:35	SLICK SPOTS STRONG WIND SNOW	3:55
10/27/09 17:01	SLICK ROAD SNOW REDUCE SPEED	0:46
10/27/09 17:36	SLICK ROAD BLOWING SNOW REDUCE SPEED	0:34
10/27/09 20:30	SLICK ROAD BLOWING SNOW REDUCED VISIBILITY REDUCE SPEED	2:54
10/27/09 20:33	SLICK ROAD BLOWING SNOW REDUCED VISIBILITY REDUCE SPEED	0:02
10/28/09 2:00	SLICK ROAD BLOWING SNOW REDUCED VISIBILITY DRIFTED SNOW REDUCE SPEED	5:26
10/28/09 10:29	SLICK ROAD SNOW BLOWING SNOW REDUCED VISIBILITY	3:53

	Total Times Occurring 7	**Ave. 20:56**
10/28/09 11:48	WRECK 15 MILES AHEAD REDUCE SPEED	1:19
10/28/09 20:29	I-80 CLOSED NO PARKING ON SHOULDER	8:40
10/31/09 9:11	I-80 EB CLOSED NO PARKING ON SHOULDER	12:42
10/28/09 6:35	I-80 CLOSED ALL TRAFFIC MUST EXIT	4:35
10/14/09 10:24	DETOUR 15 MILES AHEAD	2:45
10/16/09 7:38	ROAD CONSTRUCTION DETOUR 15 MILES AHEAD	20:32
10/16/09 7:38	ROAD CONSTRUCTION DETOUR 15 MILES AHEAD	0:00
	Total Times Occurring 16	**Ave. 17:10**
10/20/09 13:45	REDUCED VISIBILITY	23:33
10/10/09 16:13	DENSE FOG REDUCE SPEED	4:53
10/10/09 17:07	REDUCED VISIBILITY DENSE FOG REDUCE SPEED	0:54
10/10/09 18:05	REDUCED VISIBILITY DENSE FOG SLICK SPOTS REDUCE SPEED	0:57
10/4/09 8:28	FOG REDUCED VISIBILITY TURN OFF CRUISE CONTROL	14:21
10/4/09 10:58	DENSE FOG REDUCED VISIBILITY TURN OFF CRUISE CONTROL	2:29
10/4/09 11:10	DENSE FOG REDUCED VISIBILITY REDUCE SPEED	0:11
10/4/09 14:26	DENSE FOG REDUCED VISIBILITY WET ROAD REDUCE SPEED	3:16
10/5/09 0:57	DENSE FOG REDUCED VISIBILITY WET ROAD REDUCE SPEED	10:31
10/8/09 0:17	FOG AHEAD	17:09
10/8/09 0:29	FOG REDUCED VISIBILITY REDUCE SPEED	0:12
10/8/09 18:34	DENSE FOG REDUCE FOG	5:45
10/8/09 18:47	DENSE FOG REDUCE SPEED	0:13
10/9/09 16:58	DENSE FOG REDUCED VISIBILITY	18:16
10/25/09 0:55	FOG REDUCE SPEED	16:25
10/12/09 21:53	FOG AHEAD REDUCE SPEED	11:29
	Total Times Occurring 14	**Ave. 2:53**
10/5/09 4:40	WET ROAD REDUCE SPEED	3:42
10/5/09 5:21	WET ROAD SLICK SPOTS REDUCE SPEED	0:41
10/5/09 8:23	WET ROAD	3:02
10/27/09 15:53	WET ROAD SNOW	18:40
10/27/09 16:14	WET ROAD SLICK SPOTS SNOW TURN OFF CRUISE CONTROL	0:21
10/25/09 14:55	WET ROAD SNOW	3:06
10/25/09 15:20	WET ROAD SNOWFALL REDUCE SPEED	0:09
10/25/09 15:22	WET ROAD SNOW REDUCE SPEED	0:02
10/25/09 16:33	WET ROAD SNOW REDUCE SPEED	0:44
10/25/09 16:55	WET ROAD SLICK SPOTS SNOW REDUCE SPEED	0:21
10/25/09 18:31	WET ROAD SLICK SPOTS REDUCE SPEED	1:36
10/20/09 17:43	WET ROAD SNOW	3:58
10/12/09 9:14	WET ROAD SLICK SPOTS STRONG WIND	2:49
10/20/09 20:49	WET ROAD SLICK SPOTS TURN OFF CRUISE CONTROL	1:10
Date	Message	Duration
	Total Times Occurring 39	**Ave. 11:52**
11/2/09 18:53	SLICK SPOTS REDUCE SPEED	7:09
11/12/09 23:53	SLICK SPOTS SNOW REDUCE SPEED	8:38
11/13/09 1:42	SLICK SPOTS SNOW REDUCE SPEED	1:49
11/13/09 3:26	SLICK SPOTS SNOW REDUCE SPEED REDUCED VISIBILITY	1:44
11/13/09 5:38	SLICK SNOW REDUCE SPEED REDUCED VISIBILITY	2:11
11/13/09 7:47	SLICK SNOW REDUCE SPEED	2:09
11/13/09 16:07	SLICK ROADS REDUCE SPEED	8:19
11/13/09 16:07	SLICK ROAD REDUCE SPEED	0:00
11/13/09 20:07	SLICK ROAD STRONG WIND REDUCE SPEED	4:59
11/14/09 1:57	SLICK ROAD REDUCE SPEED	4:49
11/14/09 15:02	SLICK SPOTS TURN OFF CRUISE CONTROL	13:05
11/14/09 17:22	SLICK ROAD SNOW REDUCE SPEED	2:19
11/15/09 7:47	SLICK ROAD REDUCE SPEED	14:24
11/15/09 11:17	SLICK SPOTS REDUCE SPEED	3:30
11/15/09 12:42	ICY SPOTS TURN OFF CRUISE CONTROL	1:24
11/15/09 15:20	SLICK SPOTS TURN OFF CRUISE CONTROL	2:37
11/16/09 7:06	SLICK SPOTS TURN OFF CRUISE CONTROL BLOWING SNOW	15:46
11/16/09 21:51	SLICK SPOTS BLOWING SNOW REDUCE SPEED	14:45
11/17/09 0:14	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED	2:23
11/17/09 5:40	SLICK SPOTS REDUCE SPEED	5:25

11/17/09 5:41	SLICK SPOTS TURN OFF CRUISE CONTROL	0:01
11/21/09 13:03	SLICK SPOTS STRONG WIND BLOWING SNOW	0:55
11/21/09 16:38	SLICK SPOTS AHEAD TURN OFF CRUISE CONTROL	0:23
11/23/09 4:06	SLICK SPOTS BLOWING SNOW STRONG WIND	22:55
11/23/09 4:28	SLICK SPOTS BLOWING SNOW STRONG WIND REDUCED VISIBILITY	0:22
11/23/09 5:00	SLICK ROAD BLOWING SNOW STRONG WIND	0:15
11/23/09 5:08	SLICK SPOTS BLOWING SNOW	0:08
11/23/09 10:46	SLICK ROAD BLOWING SNOW SNOW	5:37
11/23/09 15:27	SLICK ROAD BLOWING SNOW	4:40
11/23/09 22:27	SLICK ROAD BLOWING SNOW ADVISE 45 MPH	2:12
11/23/09 22:31	SLICK ROAD BLOWING SNOW ADVISE 45 MPH	0:04
11/23/09 23:52	SLICK ROAD BLOWING SNOW REDUCED VISIBILITY ADVISE 45 MPH	1:20
11/24/09 4:36	SLICK ROAD BLOWING SNOW REDUCED VISIBILITY ADVISE NO LIGHT TRAILERS ADVISE 45 MPH	4:43
11/24/09 5:28	SLICK ROAD BLOWING SNOW ADVISE NO LIGHT TRAILERS ADVISE 45 MPH	0:51
11/24/09 6:09	SLICK ROAD BLOWING SNOW ADVISE 45 MPH	0:40
11/24/09 8:12	SLICK ROAD BLOWING SNOW	2:03
12/9/09 2:49	SLICK SPOTS BLOWING SNOW REDUCE SPEED DRIFTED SNOW REDUCED VISIBILITY STRONG WIND	1:25
11/24/09 12:46	SLICK ROAD STRONG WIND	0:29
11/24/09 23:08	SLICK SPOTS STRONG WIND	8:21
	Total Times Occurring 5	**Ave. 18:37**
11/25/09 1:25	STRONG WIND AHEAD GUSTS 40+ MPH	2:16
11/25/09 3:08	STRONG WIND AHEAD	1:43
12/9/09 5:14	SPOTS BLOWING SNOW REDUCED VISIBILITY ADVISE NO LIGHT TRAILERS GUSTS 50+ MPH	0:49
11/6/09 10:21	STRONG WIND GUSTS 45+ MPH	13:13
11/6/09 13:25	STRONG WIND GUSTS 40+ MPH	3:03
	Total Times Occurring 4	**Ave. 2:22**
12/9/09 10:25	I-80 CLOSED ALL TRAFFIC MUST EXIT	4:59
11/23/09 20:09	I-80 CLOSED DUE TO WRECK EXPECT DELAYS	2:35
11/23/09 20:15	WRECK AHEAD REDUCE SPEED EXPECT DELAYS	0:05
12/9/09 12:19	I-80 CLOSED	1:49
	Total Times Occurring 4	**Ave. 1:19**
11/25/09 3:25	DON'T DRINK & DRIVE PLEASE BUCKLE UP	0:08
11/25/09 8:17	DON'T DRINK & DRIVE PLEASE BUCKLE UP	0:02
11/25/09 8:14	DON'T DRINK & DRIVE PLEASE BUCKLE UP	4:49
11/25/09 3:25	DON'T DRINK & DRIVE PLEASE BUCKLE UP	0:16
Date	Message	Duration
	Total Times Occurring 63	**Ave. 2:51**
12/1/09 19:36	SLICK ROAD SNOW BLOWING SNOW REDUCE SPEED	0:34
12/2/09 2:23	SLICK SPOTS TURN OFF CRUISE CONTROL	6:47
12/2/09 15:06	SLICK SPOTS BLOWING SNOW TURN OFF CRUISE CONTROL	4:57
12/2/09 17:20	SLICK SPOTS TURN OFF CRUISE CONTROL	2:14
12/3/09 19:18	SLICK SPOTS BLOWING SNOW TURN OFF CRUISE CONTROL	1:57
12/4/09 3:37	SLICK SPOTS BLOWING SNOW STRONG WIND TURN OFF CRUISE CONTROL	8:19
12/5/09 6:03	SLICK SPOTS TURN OFF CRUISE CONTROL	2:26
12/5/09 19:39	SLICK SPOTS SNOW	3:53
12/5/09 19:46	SLICK SPOTS SNOW REDUCE SPEED	0:07
12/5/09 20:00	SLICK SPOTS BLOWING SNOW REDUCE SPEED	0:13
12/6/09 8:27	SLICK SPOTS BLOWING SNOW STRONG WIND REDUCE SPEED	12:26
12/6/09 13:16	SLICK SPOTS BLOWING SNOW REDUCE SPEED	0:01
12/6/09 21:16	SLICK SPOTS REDUCE SPEED	8:00
12/7/09 2:00	SLICK SPOTS TURN OFF CRUISE CONTROL	4:43
12/7/09 4:19	SLICK SPOTS SNOW BLOWING SNOW TURN OFF CRUISE CONTROL	2:18
12/7/09 14:44	SLICK SPOTS TURN OFF CRUISE CONTROL	10:25
12/7/09 19:18	SLICK SPOTS TURN OFF CRUISE CONTROL	1:10
12/7/09 20:09	SLICK SPOTS TURN OFF CRUISE CONTROL	0:50
12/7/09 17:37	TURN OFF CRUISE CONTROL SLICK SPOTS SNOW BLOWING SNOW	2:52
12/7/09 18:07	TURN OFF CRUISE CONTROL SLICK SPOTS SNOW BLOWING SNOW	0:30
12/8/09 0:02	SLICK SPOTS FOG REDUCE SPEED	3:52
12/8/09 0:10	SLICK SPOTS FOG REDUCE SPEED	0:08
12/8/09 2:31	SLICK SPOTS FOG REDUCED VISIBILITY TURN OFF CRUISE CONTROL	2:21

12/8/09 2:31	SLICK SPOTS FOG REDUCED VISIBILITY TURN OFF CRUISE CONTROL	0:00
12/8/09 3:11	SLICK SPOTS FOG REDUCED VISIBILITY TURN OFF CRUISE CONTROL	0:39
12/8/09 4:56	SLICK SPOTS FOG BLOWING SNOW TURN OFF CRUISE CONTROL	1:45
12/8/09 5:12	SLICK SPOTS FOG BLOWING SNOW TURN OFF CRUISE CONTROL	0:16
12/8/09 6:00	SLICK SPOTS REDUCE SPEED	0:47
12/8/09 6:13	SLICK SPOTS REDUCE SPEED	0:13
12/8/09 7:20	SLICK SPOTS DRIFTED BLOWING SNOW TURN OFF CRUISE CONTROL	1:07
12/8/09 8:15	SLICK SPOTS DRIFTED BLOWING SNOW TURN OFF CRUISE CONTROL	0:54
12/8/09 15:21	SLICK SPOTS DRIFTED/ BLOWING SNOW TURN OFF CRUISE CONTROL	7:06
12/8/09 16:19	SLICK SPOTS DRIFTED BLOWING SNOW TURN OFF CRUISE CONTROL	0:58
12/8/09 19:59	SLICK SPOTS DRIFTED/BLOWING SNOW REDUCED VISIBILITY AHEAD	3:39
12/8/09 19:59	SLICK SPOTS DRIFTED/BLOWING SNOW REDUCED VISIBILITY AHEAD	0:00
12/8/09 20:21	SLICK SPOTS DRIFTED BLOWING SNOW REDUCED VISIBILITY AHEAD	0:21
12/8/09 21:07	SLICK SPOTS DRIFTED/BLOWING SNOW	0:45
12/8/09 21:21	SLICK SPOTS DRIFTED BLOWING SNOW	0:14
12/8/09 23:35	SLICK SPOTS BLOWING SNOW REDUCE SPEED	2:13
12/9/09 0:22	SLICK SPOTS BLOWING SNOW REDUCE SPEED	0:47
12/9/09 1:07	SLICK SPOTS BLOWING SNOW REDUCE SPEED DRIFTED SNOW LIMITED VISIBILITY	0:45
12/9/09 1:09	SLICK SPOTS BLOWING SNOW REDUCE SPEED DRIFTED SNOW REDUCED VISIBILITY	0:01
12/9/09 1:23	SLICK SPOTS BLOWING SNOW REDUCE SPEED DRIFTED SNOW REDUCED VISIBILITY	0:13
12/9/09 3:24	SLICK SPOTS BLOWING SNOW REDUCE SPEED DRIFTED SNOW REDUCED VISIBILITY STRONG WIND	0:35
12/9/09 3:43	SLICK SPOTS BLOWING/DRIFTED SNOW REDUCED VISIBILITY STRONG WIND GUSTS 45+ MPH	0:18
12/9/09 4:18	SLICK SPOTS BLOWING/DRIFTED SNOW REDUCED VISIBILITY STRONG WIND GUSTS 50+ MPH	0:34
12/9/09 4:23	SLICK SPOTS BLOWING SNOW REDUCED VISIBILITY ADVISE NO LIGHT TRAILERS GUSTS 50+ MPH	0:05
12/9/09 4:25	SLICK SPOTS BLOWING SNOW REDUCED VISIBILITY ADVISE NO LIGHT TRAILERS GUSTS 55+ MPH	0:02
12/9/09 5:26	SLICK SPOTS BLOWING SNOW REDUCED VISIBILITY ADVISE NO LIGHT TRAILERS GUSTS 50+ MPH	0:11
12/9/09 14:07	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED	0:03
12/9/09 14:31	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED	0:24
12/9/09 15:18	SLICK SPOTS STRONG WIND BLOWING SNOW	0:46
12/9/09 15:28	SLICK SPOTS STRONG WIND BLOWING SNOW TURN OFF CRUISE CONTROL	0:10
12/9/09 15:31	SLICK SPOTS STRONG WIND BLOWING SNOW TURN OFF CRUISE CONTROL	0:03
12/9/09 17:48	SLICK SPOTS STRONG WIND BLOWING SNOW ADVISE NO LIGHT TRAILERS	2:16
12/9/09 18:33	SLICK SPOTS STRONG WIND BLOWING SNOW ADVISE NO LIGHT TRAILERS	0:45
12/9/09 19:43	SLICK SPOTS STRONG WIND BLOWING SNOW	0:04
12/9/09 20:33	SLICK SPOTS STRONG WIND BLOWING SNOW	0:50
12/9/09 22:17	SLICK SPOTS STRONG WIND BLOWING SNOW ADVISE NO LIGHT TRAILERS	1:44
12/9/09 22:34	SLICK SPOTS STRONG WIND BLOWING SNOW ADVISE NO LIGHT TRAILERS	0:16
12/10/09 16:30	SLICK SPOTS STRONG WIND BLOWING SNOW	17:56
12/10/09 16:43	SLICK SPOTS STRONG WIND BLOWING SNOW	0:13
12/14/09 16:37	SLICK SPOTS BLOWING SNOW ADVISE NO LIGHT TRAILERS GUSTS 50+ MPH	0:13
	Total Times Occurring 13	**Ave. 10:27**
12/11/09 11:33	STRONG WIND	17:49
12/11/09 11:51	STRONG WIND	0:17
12/14/09 12:48	STRONG WIND GUST 40+ MPH	22:57
12/14/09 13:22	STRONG WIND GUST 40+ MPH	0:33
12/14/09 16:06	STRONG WIND GUSTS 45+ MPH	2:44
12/14/09 16:23	STRONG WIND GUSTS 45+ MPH	0:17
12/14/09 16:41	STRONG WIND	0:00
12/16/09 5:48	STRONG WIND	12:24
12/16/09 6:40	STRONG WIND	0:51
12/16/09 11:57	STRONG WIND	5:17
12/16/09 12:13	STRONG WIND	0:15
12/16/09 12:23	STRONG WIND	0:09
12/16/09 12:42	STRONG WIND	0:18
	Total Times Occurring 2	**Ave. 9:34**
12/1/09 18:30	DENSE FOG REDUCED VISIBILITY REDUCE SPEED	18:37

12/1/09 19:02	DENSE FOG REDUCED VISIBILITY SNOW REDUCE SPEED	0:31
	Total Times Occurring 3	**Ave. 0:05**
12/9/09 10:29	I-80 CLOSED ALL TRAFFIC MUST EXIT	0:03
12/9/09 12:30	I-80 CLOSED	0:11
12/9/09 12:31	I-80 CLOSED NO PARKING ON SHOULDER	0:01

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Date	Message	Duration
	Total Times Occurring 14	**Ave. 3:59**
10/8/09 6:51	SLICK ROAD SNOWFALL REDUCE SPEED	11:18
10/8/09 7:09	SLICK ROAD SNOW REDUCE SPEED	0:17
10/8/09 8:46	SLICK ROAD SNOW WRECK AHEAD REDUCE SPEED	1:37
10/8/09 10:58	SLICK SPOTS SNOWFALL REDUCE SPEED	2:11
10/8/09 11:43	SLICK SPOTS	0:44
10/10/09 22:51	SLICK SPOTS DRIFTED SNOW BLOWING SNOW REDUCE SPEED	5:43
10/10/09 23:54	SLICK SPOTS DENSE FOG POOR VISIBILITY REDUCE SPEED	1:02
10/12/09 0:55	SLICK SPOTS SNOW REDUCE SPEED	1:01
10/12/09 4:05	SLICK ROAD SNOW REDUCE SPEED	3:10
10/25/09 3:56	SLICK ROAD SNOW REDUCE SPEED	11:50
10/25/09 14:55	WET ROAD SNOW	10:58
10/27/09 16:52	SLICK SPOTS REDUCE SPEED	1:57
10/27/09 17:02	SLICK ROAD SNOW REDUCE SPEED	0:09
10/28/09 10:28	SLICK ROAD SNOW REDUCED VISIBILITY	3:56
	Total Times Occurring 8	**Ave. 5:04**
10/9/09 23:09	I-80 CLOSED RETURN TO LARAMIE	4:35
10/28/09 6:32	I-80 CLOSED ALL TRAFFIC MUST EXIT	13:30
10/28/09 11:30	WRECK 5 MILES AHEAD REDUCE SPEED	1:02
10/28/09 20:26	I-80 CLOSED	8:55
10/28/09 20:28	I-80 ROAD CLOSED	0:01
10/29/09 1:23	I-80 CLOSED	4:55
10/5/09 7:26	WRECK AHEAD REDUCE SPEED	7:26
10/5/09 7:33	MULTIPLE WRECKS AHEAD REDUCE SPEED	0:07
	Total Times Occurring 3	**Ave. 8:16**
10/8/09 18:34	DENSE FOG REDUCE SPEED	6:51
10/10/09 16:13	DENSE FOG REDUCE SPEED	17:03
10/10/09 17:07	DENSE FOG POOR VISIBILITY REDUCE SPEED	0:54
Date	Message	Duration
	Total Times Occurring 3	**Ave. 4:00**
11/6/09 10:23	STRONG WIND GUSTS 45+MPH	8:59
11/6/09 12:12	STRONG WIND GUSTS 45+ MPH	1:49
11/6/09 13:25	STRONG WIND GUSTS 40+ MPH	1:13
	Total Times Occurring 10	**Ave. 2:20**
11/14/09 16:30	SLICK SPOTS REDUCE SPEED	3:04
11/14/09 17:25	SLICK ROAD REDUCE SPEED	0:55

11/21/09 13:05	SLICK SPOTS STRONG WIND BLOWING SNOW		7:40
11/23/09 22:27	SLICK ROAD BLOWING SNOW ADVISE 45 MPH		2:13
11/24/09 5:32	SLICK ROAD BLOWING SNOW		0:02
11/24/09 12:15	SLICK ROAD		6:43
11/24/09 12:46	SLICK ROAD STRONG WIND		0:30
11/24/09 14:47	SLICK SPOTS STRONG WIND BLOWING SNOW		2:01
11/24/09 15:00	SLICK SPOTS BLOWING SNOW		0:12
11/24/09 15:02	SLICK SPOTS BLOWING SNOW REDUCE SPEED		0:02
	Total Times Occurring 2	**Ave.**	**3:33**
11/23/09 20:10	I-80 CLOSED EXPECT DELAYS		7:05
11/23/09 20:13	WRECK AHEAD REDUCE SPEED EXPECT DELAYS		0:02
	Total Times Occurring 2	**Ave.**	**3:31**
11/23/09 23:54	REDUCED VISIBILITY ADVISE 45 MPH		1:27
11/24/09 5:29	ADVISE 45 MPH		5:34
Date	Message		Duration
	Total Times Occurring 15	**Ave.**	**3:15**
12/1/09 19:41	SLICK ROAD SNOW		1:05
12/2/09 9:49	SLICK SPOTS REDUCE SPEED		14:08
12/2/09 15:06	SLICK SPOTS BLOWING SNOW TURN OFF CRUISE CONTROL		5:16
12/4/09 3:37	SLICK SPOTS STRONG WIND REDUCE SPEED		12:31
12/8/09 17:28	SLICK SPOTS REDUCE SPEED		1:50
12/8/09 18:17	SLICK SPOTS REDUCE SPEED		0:49
12/8/09 20:04	SLICK SPOTS REDUCE SPEED REDUCED VISIBILITY		1:46
12/8/09 20:18	SLICK SPOTS REDUCE SPEED REDUCED VISIBILITY		0:13
12/8/09 20:52	SLICK SPOTS REDUCE SPEED DRIFTED SNOW BLOWING SNOW		0:34
12/8/09 21:18	SLICK SPOTS REDUCE SPEED DRIFTED SNOW BLOWING SNOW		0:25
12/9/09 14:06	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED		0:39
12/9/09 14:27	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED		0:21
12/9/09 15:17	SLICK SPOTS STRONG WIND BLOWING SNOW		0:49
12/13/09 19:23	SLICK SPOTS SNOW		7:31
12/13/09 20:16	SLICK SPOTS SNOW		0:53
	Total Times Occurring 1	**Ave.**	**0:04**
12/9/09 10:29	NO PARKING ON RAMPS		0:04
	Total Times Occurring 4	**Ave.**	**4:45**
12/11/09 11:33	STRONG WIND		8:16
12/11/09 11:51	STRONG WIND		0:17
12/16/09 5:48	STRONG WIND		9:32
12/16/09 6:45	STRONG WIND		0:56
	Total Times Occurring 3	**Ave.**	**3:32**
12/1/09 18:36	DENSE FOG REUCE SPEED REDUCED VISIBILITY		3:34
12/9/09 3:51	REDUCED VISIBILITY REDUCE SPEED		6:33
12/9/09 4:21	REDUCED VISIBILITY REDUCE SPEED		0:29
	Total Times Occurring 6	**Ave.**	**1:30**

12/9/09 10:21	I-80 CLOSED ALL TRAFFIC MUST EXIT	5:59
12/9/09 10:25	I-80 CLOSED ALL TRAFFIC MUST EXIT	0:04
12/9/09 11:25	I-80 CLOSED NO PARKING ON RAMPS	0:55
12/9/09 12:02	I-80 CLOSED NO PARKING ON RAMPS	0:37
12/9/09 12:28	I-80 CLOSED NO PARKING ON SHOULDER	0:25
12/9/09 13:26	I-80 CLOSED NO PARKING ON SHOULDER	0:58

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Date	Message	Duration
	Total Times Occurring 9	**Ave. 5:14**
10/10/09 15:15	ROAD WORK 10 MILES AHEAD PLEASE REDUCE SPEED	1:51
10/10/09 15:19	ROAD WORK 10 MILES AHEAD BE PREPARED TO STOP	0:03
10/10/09 17:10	ROAD WORK 10 MILES AHEAD REDUCE SPEED	1:51
10/12/09 21:53	ROAD WORK 10 MILES AHEAD REDUCE SPEED FOG	4:43
10/13/09 7:39	ROAD WORK 10 MILES AHEAD FOG AHEAD REDUCE SPEED	9:45
10/13/09 16:34	ROAD WORK 10 MILES AHEAD	8:55
10/28/09 20:31	ROAD CLOSED NO STOPPING ON ROADWAY	9:01
10/28/09 6:34	I-80 CLOSED ALL TRAFFIC MUST EXIT	10:00
10/28/09 11:29	WRECK AHEAD REDUCE SPEED REDUCED VISIBILITY	1:01
	Total Times Occurring 10	**Ave. 5:35**
10/28/09 10:27	SLICK ROAD SNOW REDUCED VISIBILITY	3:53
10/23/09 4:17	SLICK ROAD SNOW REDUCED VISIBILITY	11:42
10/23/09 5:19	SLICK ROAD SNOW	1:02
10/23/09 6:25	SLICK ROAD SNOW FOG REDUCE SPEED	1:05
10/24/09 9:52	STRONG WIND 10 MILES AHEAD GUSTS 45+ MPH	3:27
10/25/09 3:56	SLICK ROAD SNOW REDUCE SPEED	18:03
10/27/09 16:52	SLICK SPOTS SNOW TRUN OFF CRUISE CONTROL	12:56
10/27/09 17:01	SLICK ROAD SNOW REDUCE SPEED	0:09
10/27/09 17:37	SLICK ROAD BLOWING SNOW REDUCE SPEED	0:36
10/27/09 20:33	SLICK ROAD BLOWING SNOW POOR VISIBILITY REDUCE SPEED	2:55
Date	Message	Duration
	Total Times Occurring 3	**Ave. 3:21**
11/2/09 18:48	FOG 10 MILES AHEAD REDUCE SPEED	2:17
11/2/09 21:06	FOG 8 MILES AHEAD REDUCE SPEED	2:17
11/3/09 2:36	FOG AHEAD REDUCE SPEED	5:29
	Total Times Occurring 4	**Ave. 5:16**
11/24/09 23:03	STRONG WIND	10:17
11/6/09 10:22	STRONG WIND GUSTS 45+MPH	7:46
11/6/09 12:11	STRONG WIND GUSTS 45+ MPH	1:49
11/6/09 13:25	STRONG WIND GUSTS 40+ MPH	1:13
	Total Times Occurring 19	**Ave. 4:28**
11/13/09 19:35	SLICK ROAD REDUCE SPEED	6:09
11/13/09 19:59	SLICK ROAD REDUCE SPEED STRONG WIND	0:24

11/14/09 1:58	SLICK ROAD REDUCE SPEED	5:58
11/14/09 15:01	SLICK SPOTS	1:02
11/14/09 16:30	SLICK SPOTS REDUCE SPEED	1:28
11/14/09 17:25	SLICK ROAD REDUCE SPEED	0:55
11/16/09 21:48	SLICK SPOTS REDUCE SPEED	4:23
11/21/09 13:05	SLICK SPOTS STRONG WIND BLOWING SNOW	15:16
11/21/09 16:14	SLICK SPOTS BLOWING SNOW	3:09
11/23/09 10:45	SLICK ROAD SNOW BLOWING SNOW	18:31
11/23/09 12:09	SLICK SPOTS STRONG WIND BLOWING SNOW	1:23
11/23/09 17:33	SLICK SPOTS STRONG WIND BLOWING SNOW	5:24
11/23/09 22:26	SLICK ROAD BLOWING SNOW ADVISE 45 MPH	2:13
11/24/09 8:11	SLICK ROAD BLOWING SNOW	9:44
11/24/09 8:11	SLICK ROAD BLOWING SNOW	0:00
11/24/09 12:15	SLICK ROAD	4:03
11/24/09 12:45	SLICK ROAD STRONG WIND	0:30
11/24/09 23:06	SLICK SPOTS STRONG WIND	0:02
11/25/09 3:16	SLICK SPOTS	4:10
	Total Times Occurring 2	**Ave. 1:20**
11/23/09 20:13	WRECK AHEAD REDUCE SPEED EXPECT DELAYS	0:03
11/23/09 20:10	I-80 CLOSED EXPECT DELAYS	2:36
Date	Message	Duration
	Total Times Occurring 28	**Ave. 2:57**
12/1/09 19:40	SLICK ROAD SNOW	1:04
12/2/09 9:49	SLICK SPOTS REDUCE SPEED	14:09
12/2/09 15:05	SLICK SPOTS BLOWING SNOW TURN OFF CRUISE CONTROL	5:16
12/3/09 17:58	SLICK SPOTS BLOWING SNOW REDUCE SPEED	2:53
12/4/09 3:26	SLICK SPOTS BLOWING SNOW STRONG WIND REDUCE SPEED	9:28
12/4/09 3:27	SLICK SPOTS BLOWING SNOW STRONG WIND REDUCE SPEED	0:00
12/8/09 17:29	SLICK SPOTS REDUCE SPEED	15:20
12/8/09 18:11	SLICK SPOTS REDUCE SPEED	0:41
12/8/09 18:54	SLICK ROAD REDUCE SPEED	0:43
12/8/09 18:54	SLICK ROAD REDUCE SPEED	0:00
12/8/09 18:55	SLICK SPOTS REDUCE SPEED	0:00
12/8/09 20:51	SLICK SPOTS REDUCE SPEED DRIFTED SNOW BLOWING SNOW	0:40
12/8/09 21:11	SLICK SPOTS REDUCE SPEED DRIFTED SNOW BLOWING SNOW	0:19
12/8/09 22:29	SLICK SPOTS REDUCE SPEED STRONG WIND AHEAD	1:17
12/8/09 23:11	SLICK SPOTS REDUCE SPEED STRONG WIND AHEAD	0:42
12/9/09 14:05	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED	2:51
12/9/09 14:14	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED	0:09
12/9/09 15:17	SLICK SPOTS STRONG WIND BLOWING SNOW	1:03
12/9/09 17:16	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED	1:58
12/9/09 17:47	SLICK SPOTS STRONG WIND ADVISE NO LIGHT TRAILERS	0:31
12/9/09 18:15	SLICK SPOTS STRONG WIND ADVISE NO LIGHT TRAILERS	0:27

12/9/09 19:38	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED	1:22
12/9/09 20:15	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED	0:37
12/9/09 22:25	SLICK SPOTS STRONG WIND ADVISE NO LIGHT TRAILERS	2:09
12/9/09 23:16	SLICK SPOTS STRONG WIND ADVISE NO LIGHT TRAILERS	0:50
12/10/09 16:29	SLICK SPOTS STRONG WIND	17:13
12/10/09 16:43	SLICK SPOTS STRONG WIND BLOWING SNOW	0:13
12/10/09 17:19	SLICK SPOTS STRONG WIND BLOWING SNOW	0:35
	Total Times Occurring 15	**Ave. 3:05**
12/1/09 18:35	DENSE FOG REDUCE SPEED REDUCED VISIBILITY	15:18
12/7/09 22:44	REDUCED VISIBILITY 8 MILES AHEAD	19:17
12/7/09 23:08	REDUCED VISIBILITY 8 MILES AHEAD	0:23
12/8/09 2:04	REDUCED VISIBILITY FOG 8 MILES AHEAD	2:56
12/8/09 2:08	REDUCED VISIBILITY FOG 8 MILES AHEAD	0:04
12/8/09 19:43	REDUCED VISIBILITY SLICK SPOTS STRONG WIND	0:48
12/8/09 20:11	REDUCED VISIBILITY SLICK SPOTS STRONG WIND	0:28
12/9/09 3:45	REDUCED VISIBILITY STRONG WIND GUSTS 45+ MPH	4:33
12/9/09 4:12	REDUCED VISIBILITY STRONG WIND GUSTS 45+ MPH	0:27
12/9/09 4:17	REDUCED VISIBILITY STRONG WIND GUSTS 50+ MPH	0:05
12/9/09 4:24	REDUCED VISIBILITY STRONG WIND GUSTS 55+ MPH	0:06
12/9/09 5:13	REDUCED VISIBILITY STRONG WIND GUSTS 55+ MPH	0:48
12/9/09 5:14	REDUCED VISIBILITY STRONG WIND GUSTS 50+ MPH	0:01
12/9/09 5:14	REDUCED VISIBILITY STRONG WIND GUSTS 50+ MPH	0:00
12/9/09 6:13	REDUCED VISIBILITY STRONG WIND GUSTS 50+ MPH	0:58
	Total Times Occurring 2	**Ave. 2:27**
12/9/09 10:22	I-80 CLOSED ALL TRAFFIC MUST EXIT	4:09
12/9/09 11:14	I-80 CLOSED NO PARKING ON RAMPS	0:44
	Total Times Occurring 5	**Ave. 7:59**
12/14/09 16:19	STRONG WIND GUSTS 40+ MPH	22:59
12/14/09 16:33	STRONG WIND GUSTS 40+ MPH	0:14
12/16/09 5:48	STRONG WIND	13:15
12/16/09 6:39	STRONG WIND	0:50
12/16/09 9:17	STRONG WIND	2:37
	Total Times Occurring 1	**Ave. 0:06**
12/9/09 10:29	NO PARKING ON RAMPS	0:06

MP 341.6

Date	Message	Duration
	Total Times Occurring 50	**Ave. 3:53**
10/8/09 3:42	SLICK SPOTS REDUCE SPEED TURN OFF CRUISE CONTROL	23:58
10/8/09 3:43	SLICK SPOTS REDUCE SPEED TURN OFF CRUISE CONTROL	0:01
10/8/09 4:16	SLICK ROAD SNOWFALL REDUCE SPEED	0:32
10/8/09 7:08	SLICK ROAD SNOW REDUCE SPEED	2:52
10/8/09 11:13	SLICK ROAD SNOW TURN OFF CRUISE CONTROL	4:04

10/8/09 11:14	SLICK SPOTS SNOW TRUN OFF CRUISE CONTROL	0:01
10/11/09 11:29	SLICK SPOTS I-25 SOUTH CLOSED	0:14
10/11/09 11:53	SLICK SPOTS	0:23
10/11/09 12:13	SLICK SPOTS FOG	0:20
10/11/09 13:17	SLICK SPOTS FOG REDUCE SPEED	1:03
10/11/09 15:28	SLICK SPOTS FOG REDUCE SPEED	2:10
10/11/09 18:45	SLICK SPOTS FOG REDUCE VISIBILITY	3:17
10/12/09 0:19	SLICK SPOTS FOG REDUCE VISIBILITY	5:33
10/11/09 10:16	SLICK ROAD DENSE FOG	1:44
10/11/09 11:14	SLICK ROAD DENSE FOG I-25 SOUTH CLOSED	0:57
10/12/09 4:02	SLICK ROAD SNOW REDUCE SPEED	3:43
10/12/09 4:18	SLICK ROAD REDUCE SPEED	0:15
10/12/09 5:55	SLICK ROAD DENSE FOG REDUCE SPEED	1:37
10/12/09 6:45	SLICK ROAD DENSE FOG POOR VISIBILITY REDUCE SPEED	0:49
10/11/09 8:32	SLICK ROAD DENSE FOG ADVISE 35 MPH MAX SPEED	0:33
10/11/09 7:59	ADVISE 35 MPH SLICK ROAD DENSE FOG	3:34
10/10/09 22:49	SLICK SPOTS DRIFTED SNOW REDUCE SPEED	1:24
10/11/09 1:37	SLICK SPOTS REDUCE SPEED TURN OFF CRUISE CONTROL	2:48
10/11/09 4:25	SLICK SPOTS REDUCE SPEED FOG BLOWING SNOW	2:48
10/9/09 15:20	SLICK SPOTS REDUCE SPEED	0:31
10/9/09 17:20	SLICK SPOTS DENSE FOG REDUCE VISIBILITY	2:00
10/10/09 11:32	SLICK ROAD DRIFTED SNOW TURN OFF CRUISE CONTROL	4:33
10/10/09 21:24	SLICK SPOTS DRIFTED SNOW DENSE FOG POOR VISIBILITY	9:52
10/20/09 19:41	SLICK SPOTS SNOW	1:45
10/20/09 23:33	SLICK SPOTS SNOW TRUN OFF CRUISE CONTROL	3:51
10/21/09 0:44	SLICK SPOTS TURN OFF CRUISE CONTROL	1:11
10/21/09 2:52	SLICK SPOTS SNOW TRUN OFF CRUISE CONTROL	2:07
10/21/09 5:49	SLICK SPOTS TURN OFF CRUISE CONTROL	2:56
10/21/09 8:20	SLICK SPOTS WET TURN OFF CRUISE CONTROL	2:31
10/21/09 9:20	SLICK SPOTS FOG WET ROAD REDUCE SPEED	0:59
10/25/09 4:53	SLICK ROAD TURN OFF CRUISE CONTROL	14:26
10/25/09 5:43	SLICK ROAD SNOW TURN OFF CRUISE CONTROL	0:50
10/25/09 7:22	SLICK ROAD	1:38
10/25/09 7:30	SLICK ROAD TURN OFF CRUISE CONTROL	0:08
10/25/09 7:32	SLICK ROAD REDUCE SPEED	0:01
10/25/09 17:15	SLICK SPOTS REDUCE SPEED	0:43
10/26/09 6:37	SLICK SPOTS REDUCE SPEED	11:02
10/25/09 15:32	SLICK SPOTS SNOW REDUCE SPEED	0:11
10/25/09 16:25	SLICK SPOTS REDUCE SPEED	0:53
10/27/09 16:35	SLICK SPOTS SNOW TURN OFF CRUISE CONTROL	8:32
10/27/09 17:57	SLICK ROAD SNOW REDUCE SPEED	1:21
10/27/09 19:25	SLICK ROAD DRIFTED SNOW BLOWING SNOW REDUCE SPEED	1:28
10/28/09 2:40	SLICK ROAD REDUCE SPEED NO UNNECESSARY TRAVEL	7:14

10/28/09 2:48	SLICK ROAD REDUCE SPEED WRECK AHEAD 3 MILES	0:08
10/28/09 7:16	SLICK ROAD SNOW REDUCE SPEED	0:45
	Total Times Occurring 5	**Ave. 4:12**
10/25/09 16:31	WET ROAD REDUCE SPEED	0:05
10/25/09 9:42	WET ROAD SLICK SPOTS	2:09
10/25/09 15:21	WET ROAD SNOW REDUCE SPEED	4:41
10/21/09 11:14	WET ROAD	1:54
10/9/09 14:48	WET ROAD SLICK SPOTS SNOW REDUCE SPEED	12:10
	Total Times Occurring 1	**Ave. 0:17**
10/12/09 10:44	OVERSIZE LOAD RESTRICTION	0:17
	7	**Ave. 10:55**
10/31/09 15:15	STRONG WIND GUSTS 40+ MPH	3:41
10/1/09 20:04	STRONG WIND	1:55
10/6/09 3:43	STRONG WIND AHEAD	23:23
10/24/09 4:46	ADVISE NO LIGHT TRAILERS GUSTS 55+ MPH	18:30
10/24/09 8:23	ADVISE NO LIGHT TRAILERS STRONG WIND GUSTS 55+ MPH	3:36
10/24/09 9:34	STRONG WIND GUSTS 45+	1:04
10/24/09 9:54	STRONG WIND GUSTS 45+ MPH	0:19
	Total Times Occurring 10	**Ave. 4:27**
10/28/09 4:15	WRECK AHEAD EXIT NOW	1:26
10/28/09 4:23	WRECK AHEAD PREPARE TO STOP	0:08
10/28/09 4:24	WRECK AHEAD PREPARE TO STOP	0:00
10/28/09 6:09	WRECK AHEAD EXIT NOW	1:45
10/28/09 6:31	I-80 CLOSED ALL TRAFFIC MUST EXIT	0:21
10/28/09 11:41	WRECK AHEAD BE PREPARED TO STOP	4:24
10/28/09 14:06	WRECK AHEAD PREPARE TO EXIT	2:24
10/28/09 20:31	ROAD CLOSED NO STOPPING ON ROADWAY	6:25
10/29/09 9:49	ROAD BLOCKED 1 MILE AHEAD BE PREPARED TO EXIT	13:17
10/30/09 0:12	I-80 CLOSED	14:23
	Total Times Occurring 19	**Ave. 14:00**
10/12/09 16:29	FOG REDUCE SPEED	3:01
10/12/09 17:57	FOG REDUCE SPEED	1:05
10/12/09 23:18	FOG REDUCE SPEED REDUCED VISIBILITY	5:20
10/13/09 7:10	FOG REDUCE SPEED BLACK ICE	7:51
10/13/09 8:59	FOG REDUCE SPEED	1:49
10/20/09 13:10	FOG REDUCE SPEED	2:14
10/20/09 17:54	FOG POOR VISIBILITY	4:43
10/8/09 18:58	DENSE FOG REDUCE SPEED	6:07
10/8/09 23:13	DENSE FOG REDUCE SPEED	0:30
10/4/09 12:46	DENSE FOG REDUCED VISIBILITY	13:46
10/4/09 21:39	DENSE FOG AHEAD	8:53
10/5/09 0:52	REDUCED VISIBILITY	3:13
10/5/09 3:19	FOG	2:27

10/21/09 22:48	FOG REDUCE SPEED	10:12
10/22/09 5:28	FOG REDUCE SPEED	2:00
10/12/09 9:33	REDUCED VISIBILITY	0:16
10/12/09 9:35	REDUCED VISIBILITY SLICK ROAD DENSE FOG	0:02
10/12/09 10:07	REDUCED VISIBILITY SLICK SPOTS REDUCE SPEED	0:32
10/20/09 17:56	REDUCED VISIBILITY	0:01

MP 322.6

Date	Message	Duration
	Total Times Occurring 11	**Ave. 23:44**
10/7/09 22:58	ICY SPOTS	3:46
10/8/09 6:28	ICY ROAD	4:46
10/11/09 8:34	ICY SPOTS	20:43
10/12/09 0:32	ICY ROAD	15:58
10/23/09 3:33	ICY SPOTS	18:11
10/23/09 4:32	ICY ROAD	0:07
10/25/09 4:42	ICY ROAD	18:39
10/27/09 16:18	ICY SPOTS	4:33
10/27/09 17:00	ICY ROAD	0:42
10/28/09 10:08	ICY ROAD	3:32
10/31/09 12:16	ICY SPOTS	2:07
Date	Message	Duration
	Total Times Occurring 3	**Ave. 21:20**
11/13/09 7:55	ICY ROAD	16:05
11/15/09 12:39	CY SPOTS	4:43
11/23/09 7:30	ICY ROAD	19:11
Date	Message	Duration
	Total Times Occurring 6	**Ave. 23:59**
12/1/09 20:46	SLICK	4:53
12/2/09 11:58	ICY SPOTS	0:06
12/5/09 20:18	ICY SPOTS	6:48
12/5/09 21:34	ICY SPOTS	1:15
12/6/09 18:57	ICY SPOTS	7:56
12/14/09 8:34	ICY SPOTS	3:17

MP 323

Date	Message	Duration
	Total Times Occurring 39	**Ave. 4:04**
10/5/09 6:10	SLICK ROAD REDUCE SPEED	4:03
10/5/09 6:14	SLICK ROAD REDUCE SPEED	0:03
10/8/09 5:45	SNOW SLICK ROAD WATCH FOR ANIMALS	1:55
10/8/09 9:21	SLICK ROAD REDUCE SPEED	2:48
10/9/09 18:03	SLICK ROAD SNOW REDUCE SPEED	23:29
10/10/09 22:19	SLICK SPOTS REDUCE SPEED	4:15
10/11/09 0:36	SLICK SPOTS REDUCE SPEED BLOWING SNOW	2:16
10/11/09 2:01	SLICK SPOTS	1:25
10/11/09 2:06	SLICK SPOTS REDUCE SPEED	0:05
10/11/09 21:46	SLICK SPOTS SNOWFALL	19:39
10/11/09 21:56	SLICK SPOTS SNOW	0:09
10/11/09 21:57	SLICK SPOTS SNOW TURN OFF CRUISE CONTROL	0:01

10/12/09 3:59	SLICK ROAD SNOW TURN OFF CRUISE CONTROL	6:01
10/12/09 4:20	SLICK ROAD DENSE FOG TURN OFF CRUISE CONTROL	0:21
10/12/09 6:23	SLICK ROAD REDUCE SPEED TURN OFF CRUISE CONTROL	2:03
10/12/09 6:24	SLICK ROAD DENSE FOG	0:00
10/20/09 18:57	SLICK SPOTS SNOW WET ROAD REDUCE SPEED	12:33
10/20/09 23:42	SLICK SPOTS SNOW REDUCE SPEED	4:45
10/21/09 1:35	SLICK SPOTS REDUCE SPEED	1:53
10/21/09 4:14	SLICK SPOTS SNOW REDUCE SPEED	2:38
10/21/09 6:42	SLICK SPOTS REDUCE SPEED	2:28
10/23/09 4:17	SLICK ROAD SNOW REDUCED VISIBILITY	19:01
10/23/09 5:21	SLICK ROAD SNOW	1:03
10/23/09 6:22	SLICK ROAD SNOW FOG REDUCE SPEED	1:01
10/23/09 8:33	SLICK SPOTS	2:11
10/23/09 8:35	SLICK SPOTS FOG	0:01
10/23/09 9:00	SLICK SPOTS	0:25
10/25/09 3:56	SLICK ROAD SNOW REDUCE SPEED	3:29
10/25/09 18:30	SLICK ROAD REDUCE SPEED	3:37
10/26/09 2:19	SLICK SPOTS REDUCE SPEED	7:48
10/27/09 16:15	SLICK SPOTS SNOW	0:23
10/27/09 17:01	SLICK ROAD SNOW REDUCE SPEED	0:46
10/27/09 17:38	SLICK ROAD BLOWING SNOW REDUCE SPEED	0:36
10/27/09 20:33	SLICK ROAD BLOWING SNOW POOR VISIBILITY REDUCE SPEED	2:55
10/27/09 20:38	SLICK ROAD BLOWING SNOW REDUCE SPEED	0:05
10/28/09 9:36	SLICK ROAD DRIFTING SNOW STRONG WIND BLOWING SNOW	3:00
10/28/09 11:57	SLICK ROAD WRECK AHEAD BE PREPARED TO STOP	2:20
10/31/09 10:49	SLICK SPOTS REDUCE SPEED	14:17
10/7/09 22:57	SLICK SPOTS REDUCE SPEED	2:33
	Total Times Occurring 6	**Ave. 9:23**
10/5/09 2:06	WET ROAD TURN OFF CRUISE CONTROL	15:08
10/21/09 11:16	WET ROAD REDUCE SPEED	4:33
10/22/09 9:15	WATCH FOR WILDLIFE	21:58
10/25/09 14:53	WET ROAD SNOW	10:56
10/27/09 15:51	WET ROAD SNOW	1:31
10/5/09 8:23	WET ROAD	2:09
	Total Times Occurring 7	**Ave. 4:04**
10/30/09 20:32	I-80 ROAD CLOSED	4:23
10/28/09 20:25	I-80 CLOSED	8:28
10/28/09 20:27	I-80 ROAD CLOSED	0:01
10/29/09 1:23	I-80 CLOSED	4:55
10/28/09 6:36	I-80 CLOSED ALL TRAFFIC MUST EXIT	9:57
10/8/09 6:25	WRECK AHEAD USE LEFT LANE	0:39
10/8/09 6:33	WRECK AHEAD RIGHT LANE CLOSED	0:07
	Total Times Occurring 1	**Ave. 4:03**
10/2/09 8:38	STRONG WIND GUSTS 40+ MPH	4:03
	Total Times Occurring 10	**Ave. 4:19**
10/4/09 10:58	DENSE FOG REDUCED VISIBILITY	2:55
10/4/09 8:03	FOG REDUCED VISIBILITY	11:24
10/25/09 0:27	FOG REDUCE SPEED	3:26
10/8/09 18:34	DENSE FOG REDUCE SPEED	9:13
10/8/09 0:33	FOG REDUCE SPEED REDUCED VISIBILITY	1:35
10/8/09 3:31	FOG REDUCED VISIBILITY WATCH FOR ANIMALS	2:58
10/8/09 3:50	WATCH FOR ANIMALS	0:18
10/30/09 16:08	SLICK SPOTS STRONG WIND BLOWING SNOW POOR VISIBILITY	2:45
Date	Message	Duration
	Total Times Occurring 23	**Ave. 5:57**
11/2/09 18:53	SLICK SPOTS REDUCE SPEED	2:04
11/2/09 19:05	SLICK SPOTS NEXT 5 MILES REDUCE SPEED	0:12

11/24/09 23:56	SLICK SPOTS STRONG WIND	0:52
11/25/09 3:17	SLICK SPOTS	3:20
11/25/09 5:49	SLICK SPOTS	2:32
11/12/09 23:52	SLICK SPOTS SNOW REDUCE SPEED	3:27
11/13/09 4:06	SLICK SPOTS SNOW REDUCED VISIBILITY	4:14
11/13/09 5:38	SLICK SNOW REDUCED VISIBILITY	1:31
11/13/09 16:07	SLICK ROAD REDUCE SPEED	10:29
11/13/09 19:41	SLICK ROAD REDUCE SPEED STRONG WIND	3:33
11/14/09 6:02	SLICK ROAD REDUCE SPEED	10:21
11/14/09 15:04	SLICK SPOTS	9:01
11/14/09 16:30	SLICK SPOTS REDUCE SPEED	1:25
11/14/09 17:25	SLICK ROAD REDUCE SPEED	0:55
11/15/09 15:24	SLICK SPOTS REDUCE SPEED TURN OFF CRUISE CONTROL	2:41
11/16/09 0:16	SLICK SPOTS REDUCE SPEED WATCH FOR WILDLIFE	8:51
11/16/09 13:01	SLICK SPOTS REDUCE SPEED	12:45
11/17/09 17:26	SLICK SPOTS TURN OFF CRUISE CONTROL	2:23
11/23/09 4:52	SLICK SPOTS	7:36
11/23/09 7:26	SLICK ROAD SNOW	2:33
11/23/09 15:26	SLICK SPOTS TURN OFF CRUISE CONTROL	7:59
11/15/09 12:43	ICY SPOTS REDUCE SPEED TURN OFF CRUISE CONTROL	19:17
11/24/09 15:03	SLICK SPOTS REDUCE SPEED	18:51
	Total Times Occurring 3	**Ave. 2:15**
11/17/09 15:00	WRECK AHEAD REDUCE SPEED	1:58
11/17/09 15:02	WRECK AHEAD REDUCE SPEED	0:01
11/23/09 20:11	I-80 CLOSED EXPECT DELAYS	4:45
	Total Times Occurring 1	**Ave. 8:00**
11/24/09 23:03	STRONG WIND	8:00
	Total Times Occurring 2	**Ave. 8:34**
11/10/09 8:24	WYDOT SIGN TEST	1:19
11/20/09 9:16	WYDOT SIGN TEST	15:49
Date	Message	Duration
	Total Times Occurring 57	**Ave. 4:22**
12/1/09 19:39	SLICK ROAD SNOW BLOWING SNOW	1:08
12/1/09 20:01	SLICK ROAD BLOWING SNOW REDUCED VISIBILITY	0:22
12/1/09 23:02	SLICK ROAD BLOWING SNOW REDUCE SPEED	3:01
12/2/09 1:28	SLICK ROAD REDUCE SPEED	2:25
12/2/09 10:41	SLICK SPOTS REDUCE SPEED	9:13
12/3/09 17:56	SLICK SPOTS BLOWING SNOW REDUCE SPEED	2:15
12/4/09 3:38	SLICK SPOTS BLOWING SNOW STRONG WIND REDUCE SPEED	9:41
12/4/09 5:33	SLICK SPOTS BLOWING SNOW REDUCE SPEED	1:55
12/5/09 20:17	SLICK SPOTS REDUCE SPEED	2:43
12/5/09 20:55	SLICK SPOTS REDUCE SPEED BLOWING SNOW POOR VISIBILITY	0:38
12/5/09 21:33	SLICK SPOTS BLOWING SNOW REDUCED VISIBILITY	0:38
12/6/09 1:08	SLICK SPOTS BLOWING SNOW REDUCE SPEED	3:34
12/6/09 2:21	SLICK SPOTS BLOWING SNOW DRIFTED SNOW REDUCE SPEED	1:12
12/6/09 2:23	SLICK SPOTS BLOWING SNOW REDUCE SPEED	0:01
12/6/09 17:48	SLICK SPOTS SNOW REDUCE SPEED	15:25
12/6/09 18:48	SLICK SPOTS SNOW CRASH AHEAD MERGE RIGHT	1:00
12/6/09 18:56	SLICK SPOTS SNOW REDUCE SPEED	0:07
12/6/09 19:14	SLICK SPOTS BLOWING SNOW REDUCE SPEED	0:18
12/6/09 21:16	SLICK SPOTS BLOWING SNOW REDUCE SPEED	2:01
12/7/09 1:52	SLICK SPOTS SNOW REDUCE SPEED	4:36
12/7/09 1:54	SLICK SPOTS SNOW TRUN OFF CRUISE CONTROL	0:02
12/7/09 4:19	SLICK SPOTS SNOW BLOWING SNOW	2:24
12/7/09 17:24	SLICK SPOTS SNOW	13:05
12/7/09 18:08	SLICK SPOTS SNOW	0:43
12/7/09 19:19	SLICK SPOTS	1:10

12/7/09 19:40	SLICK SPOTS SNOW BLOWING SNOW	0:20
12/7/09 20:09	SLICK SPOTS SNOW BLOWING SNOW	0:29
12/7/09 23:24	SLICK SPOTS	3:14
12/8/09 0:11	SLICK SPOTS	0:46
12/8/09 5:27	SLICK SPOTS SNOW BLOWING SNOW REDUCE SPEED	5:16
12/8/09 6:14	SLICK SPOTS SNOW BLOWING SNOW REDUCE SPEED	0:46
12/8/09 11:19	SLICK SPOTS REDUCE SPEED	5:04
12/8/09 12:17	SLICK SPOTS REDUCE SPEED	0:58
12/9/09 1:47	SLICK SPOTS REDUCE SPEED BLOWING SNOW	13:30
12/9/09 2:24	SLICK SPOTS REDUCE SPEED BLOWING SNOW	0:36
12/9/09 14:06	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED	2:03
12/9/09 14:34	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED	0:27
12/9/09 22:26	SLICK SPOTS STRONG WIND ADVISE NO LIGHT TRAILERS	7:52
12/9/09 22:38	SLICK SPOTS STRONG WIND ADVISE NO LIGHT TRAILERS	0:11
12/10/09 16:31	SLICK SPOTS STRONG WIND	17:52
12/10/09 16:44	SLICK SPOTS STRONG WIND BLOWING SNOW	0:13
12/10/09 16:49	SLICK SPOTS STRONG WIND BLOWING SNOW	0:05
12/10/09 17:15	SLICK SPOTS BLOWING SNOW	0:26
12/10/09 17:49	SLICK SPOTS BLOWING SNOW	0:33
12/13/09 17:30	SLICK SPOTS SNOW	23:41
12/13/09 18:20	SLICK SPOTS SNOW	0:49
12/13/09 20:23	SLICK SPOTS SNOW WRECK AHEAD REDUCE SPEED	2:03
12/13/09 20:27	SLICK ROAD WRECK AHEAD REDUCE SPEED	0:04
12/13/09 21:13	SLICK ROAD	0:46
12/13/09 21:21	SLICK ROAD	0:07
12/14/09 5:28	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED	8:06
12/14/09 6:24	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED	0:55
12/14/09 8:30	SLICK SPOTS	2:06
12/14/09 9:26	SLICK SPOTS	0:55
12/14/09 16:46	SLICK SPOTS	7:20
12/14/09 17:29	SLICK SPOTS	0:43
12/15/09 6:40	SLICK SPOTS BLOWING SNOW	13:10
	Total Times Occurring 4	**Ave. 2:24**
12/9/09 10:25	I-80 CLOSED ALL TRAFFIC MUST EXIT	8:01
12/9/09 10:29	NO PARKING ON RAMPS	0:03
12/9/09 10:32	I-80 CLOSED NO PARKING ON RAMPS	0:02
12/9/09 12:03	I-80 CLOSED NO PARKING ON RAMPS	1:31
	Total Times Occurring 1	**Ave. 2:40**
12/1/09 18:30	DENSE FOG REUCE SPEED REDUCED VISIBILITY	2:40

MP 331.3

Date	Message	Duration
	Total Times Occurring 30	**Ave. 3:21**
10/8/09 6:51	SLICK ROAD SNOWFALL REDUCE SPEED	6:09
10/8/09 7:09	SLICK ROAD SNOW REDUCE SPEED	0:17
10/8/09 11:43	SLICK SPOTS	4:33
10/10/09 22:52	SLICK SPOTS DRIFTED SNOW BLOWING SNOW REDUCE SPEED	0:00
10/10/09 23:54	SLICK SPOTS DENSE FOG POOR VISIBILITY REDUCE SPEED	1:01
10/11/09 0:47	SLICK ROAD SNOW	0:53
10/11/09 1:40	SLICK ROAD SNOW REDUCE SPEED	0:52
10/11/09 2:22	SLICK SPOTS REDUCE SPEED	0:42
10/12/09 0:55	SLICK ROAD REDUCE SPEED	22:32
10/13/09 9:41	SLICK SPOTS RAIN REDUCE SPEED	11:46
10/23/09 3:32	SLICK SPOTS SNOW FOG AHEAD REDUCE SPEED	5:50
10/23/09 4:11	SLICK ROAD SNOW REDUCED VISIBILITY	0:38
10/23/09 5:20	SLICK ROAD SNOW	1:09
10/23/09 6:24	SLICK ROAD SNOW FOG REDUCE SPEED	1:04

10/25/09 3:56	SLICK ROAD SNOW REDUCE SPEED	3:27
10/25/09 15:33	SLICK SPOTS SNOW REDUCE SPEED	0:11
10/25/09 15:49	SLICK SPOTS REDUCE SPEED	0:15
10/25/09 19:36	SLICK SPOTS REDUCE SPEED	2:33
10/26/09 1:59	SLICK ROAD REDUCE SPEED	6:23
10/26/09 2:19	SLICK SPOTS REDUCE SPEED	0:19
10/27/09 16:52	SLICK SPOTS SNOW TURN OFF CRUISE CONTROL	2:32
10/27/09 17:38	SLICK ROAD BLOWING SNOW REDUCE SPEED	0:46
10/27/09 20:34	SLICK ROAD BLOWING SNOW POOR VISIBILITY REDUCE SPEED	2:55
10/27/09 20:36	SLICK ROAD SNOW REDUCE SPEED	0:02
10/25/09 16:32	SNOW WET ROAD REDUCE SPEED	0:43
10/25/09 17:02	SNOW SLICK SPOTS REDUCE SPEED	0:29
10/28/09 9:35	SLICK ROAD DRIFTING SNOW STRONG WIND BLOWING SNOW	3:01
10/30/09 16:06	SLICK SPOTS STRONG WIND BLOWING SNOW POOR VISIBILITY	2:30
10/31/09 10:47	ICEY ROADS REDUCE SPEED	17:05
10/31/09 10:48	ICY ROADS REDUCE SPEED	0:01
	Total Times Occurring 10	**Ave. 6:32**
10/4/09 8:07	FOG AHEAD REDUCED VISIBILITY	4:04
10/4/09 10:57	DENSE FOG AHEAD REDUCED VISIBILITY	2:49
10/5/09 0:53	DENSE FOG REDUCED VISIBILITY	13:56
10/8/09 0:42	FOG REDUCE SPEED REDUCED VISIBILITY	11:48
10/10/09 17:07	POOR VISIBILITY REDUCE SPEED	5:24
10/10/09 22:52	POOR VISIBILITY REDUCE SPEED SLICK SPOTS FOG	5:44
10/12/09 21:54	FOG REDUCE SPEED	20:59
10/25/09 0:29	FOG AHEAD REDUCE SPEED	6:04
10/28/09 6:34	I-80 CLOSED ALL TRAFFIC MUST EXIT	9:58
10/30/09 17:41	I-80 CLOSED BLOWING SNOW POOR VISIBILITY	1:35
	Total Times Occurring 4	**Ave. 3:09**
10/25/09 14:54	WET ROAD SNOW	10:58
10/25/09 15:20	WET ROAD SNOWFALL REDUCE SPEED	0:25
10/25/09 15:22	WET ROAD SNOW REDUCE SPEED	0:02
10/31/09 12:00	WET ROAD	1:11
	Total Times Occurring 1	**Ave. 6:09**
10/1/09 16:03	SIGN TEST	6:09
Date	Message	Duration
	Total Times Occurring 16	**Ave. 5:10**
11/13/09 19:35	SLICK ROAD REDUCE SPEED	6:09
11/13/09 19:59	SLICK ROAD REDUCE SPEED STRONG WIND	0:24
11/14/09 6:03	SLICK ROAD REDUCE SPEED	10:03
11/14/09 15:00	SLICK SPOTS	8:57
11/14/09 16:30	SLICK SPOTS REDUCE SPEED	1:29
11/14/09 17:25	SLICK ROAD REDUCE SPEED	0:55
11/21/09 13:05	SLICK SPOTS STRONG WIND BLOWING SNOW	7:40
11/21/09 16:17	SLICK SPOTS BLOWING SNOW	3:11
11/22/09 5:12	SLICK SPOTS	12:55
11/23/09 12:11	SLICK ROAD STRONG WIND BLOWING SNOW	6:58
11/23/09 17:33	SLICK SPOTS STRONG WIND BLOWING SNOW	5:22
11/23/09 21:10	SLICK ROAD STRONG WIND BLOWING SNOW	3:37
11/23/09 21:59	SLICK ROAD ADVISE 45 MPH STRONG WIND BLOWING SNOW	0:48
11/24/09 8:10	SLICK ROAD STRONG WIND BLOWING SNOW	10:10
11/24/09 8:42	SLICK ROAD ADVISE 55 MPH STRONG WIND BLOWING SNOW	0:32
11/24/09 12:15	SLICK ROAD	3:32
	Total Times Occurring 2	**Ave. 9:15**
11/2/09 6:51	FOG AHEAD REDUCE SPEED	6:51
11/2/09 18:30	FOG 10 MILES AHEAD REDUCE SPEED	11:39
	Total Times Occurring 3	**Ave. 2:18**
11/6/09 10:23	STRONG WIND GUSTS 45+MPH	3:52

11/6/09 12:12	STRONG WIND GUSTS 45+ MPH	1:49
11/6/09 13:25	STRONG WIND GUSTS 40+ MPH	1:13
Date	Message	Duration
	Total Times Occurring 27	**Ave. 3:34**
12/1/09 19:39	SLICK ROAD SNOW BLOWING SNOW	1:08
12/2/09 9:53	SLICK SPOTS REDUCE SPEED	14:14
12/3/09 17:57	SLICK SPOTS BLOWING SNOW REDUCE SPEED	2:03
12/4/09 3:36	SLICK SPOTS BLOWING SNOW STRONG WIND REDUCE SPEED	9:39
12/5/09 18:01	SLICK SPOTS SNOW AHEAD REDUCE SPEED	2:24
12/5/09 21:41	SLICK SPOTS REDUCE SPEED	3:39
12/6/09 14:59	SLICK SPOTS REDUCE SPEED BLOWING SNOW	17:18
12/6/09 21:29	SLICK SPOTS REDUCE SPEED	6:29
12/7/09 2:00	SLICK SPOTS TURN OFF CRUISE CONTROL	4:30
12/7/09 4:19	SLICK SPOTS SNOW BLOWING SNOW	2:19
12/8/09 17:36	SLICK ROAD BLOWING SNOW	1:16
12/8/09 18:21	SLICK ROAD BLOWING SNOW	0:45
12/8/09 20:52	SLICK SPOTS REDUCE SPEED DRIFTED SNOW BLOWING SNOW	0:30
12/8/09 21:22	SLICK SPOTS REDUCE SPEED DRIFTED SNOW BLOWING SNOW	0:30
12/9/09 14:35	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED	0:03
12/9/09 17:16	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED	2:40
12/9/09 17:33	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED	0:17
12/9/09 17:46	SLICK SPOTS STRONG WIND ADVISE NO LIGHT TRAILERS	0:13
12/9/09 18:34	SLICK SPOTS STRONG WIND ADVISE NO LIGHT TRAILERS	0:47
12/9/09 19:37	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED	1:03
12/9/09 20:34	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED	0:57
12/9/09 22:25	SLICK SPOTS STRONG WIND ADVISE NO LIGHT TRAILERS	1:51
12/9/09 22:35	SLICK SPOTS STRONG WIND ADVISE NO LIGHT TRAILERS	0:09
12/10/09 16:29	SLICK SPOTS STRONG WIND BLOWING SNOW	17:54
12/10/09 16:45	SLICK SPOTS STRONG WIND BLOWING SNOW	0:16
12/13/09 19:22	SLICK SPOTS SNOW	2:37
12/13/09 20:22	SLICK SPOTS SNOW	0:59
	Total Times Occurring 2	**Ave. 1:42**
12/16/09 5:48	STRONG WIND	2:25
12/16/09 6:47	STRONG WIND	0:59
	Total Times Occurring 12	**Ave. 1:18**
12/1/09 18:30	DENSE FOG REDUCE SPEED REDUCED VISIBILITY	2:15
12/8/09 19:52	REDUCED VISIBILITY 8 MILES AHEAD	1:31
12/8/09 20:21	REDUCED VISIBILITY 8 MILES AHEAD	0:29
12/9/09 3:45	REDUCED VISIBILITY STRONG WIND GUSTS 45+ MPH	6:23
12/9/09 4:18	REDUCED VISIBILITY STRONG WIND GUSTS 50+ MPH	0:32
12/9/09 4:24	REDUCED VISIBILITY STRONG WIND GUSTS 55+ MPH	0:06
12/9/09 4:26	REDUCED VISIBILITY STRONG WIND GUSTS 55+ MPH	0:01
12/9/09 5:14	REDUCED VISIBILITY STRONG WIND GUSTS 50+ MPH	0:48
12/9/09 5:27	REDUCED VISIBILITY STRONG WIND GUSTS 50+ MPH	0:12
12/9/09 13:56	35 MPH ADVISED POOR VISIBILITY BLOWING SNOW REDUCE SPEED	1:25
12/9/09 14:32	35 MPH ADVISED POOR VISIBILITY BLOWING SNOW REDUCE SPEED	0:35
	Total Times Occurring 5	**Ave. 1:24**
12/9/09 10:22	I-80 CLOSED ALL TRAFFIC MUST EXIT	4:55
12/9/09 10:30	I-80 CLOSED ALL TRAFFIC MUST EXIT	0:07
12/9/09 12:20	I-80 CLOSED	1:50
12/9/09 12:26	I-80 CLOSED NO PARKING ON SHOULDER	0:06
12/9/09 12:31	I-80 CLOSED NO PARKING ON SHOULDER	0:04

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Date	Message	Duration
	Total Times Occurring 22	**Ave. 4:02**
10/8/09 6:51	SLICK ROAD SNOWFALL REDUCE SPEED	2:51
10/8/09 7:08	SLICK ROAD SNOW REDUCE SPEED	0:16
10/8/09 11:42	SLICK SPOTS	4:34
10/11/09 0:47	SLICK ROAD SNOW	1:55
10/11/09 1:40	SLICK ROAD SNOW REDUCE SPEED	0:53
10/11/09 2:22	SLICK SPOTS REDUCE SPEED	0:42
10/12/09 1:09	SLICK SPOTS REDUCE SPEED	22:47
10/12/09 4:05	SLICK ROAD REDUCE SPEED	2:55
10/13/09 9:42	SLICK SPOTS RAIN REDUCE SPEED	11:46
10/23/09 4:20	SLICK ROAD SNOW REDUCED VISIBILITY	2:13
10/23/09 5:20	SLICK ROAD SNOW	0:59
10/23/09 6:24	SLICK ROAD SNOW FOG REDUCE SPEED	1:04
10/23/09 6:46	SLICK ROAD FOG WRECK AHEAD REDUCE SPEED	0:22
10/25/09 3:56	SLICK ROAD SNOW REDUCE SPEED	2:16
10/25/09 9:20	SLICK ROAD SNOW BLOWING SNOW REDUCE SPEED	5:24
10/27/09 16:52	SLICK SPOTS SNOW TRUN OFF CRUISE CONTROL	2:31
10/27/09 17:39	SLICK ROAD BLOWING SNOW REDUCE SPEED	0:46
10/28/09 9:37	SLICK ROAD DRIFTED SNOW STRONG WIND BLOWING SNOW	3:05
10/28/09 9:53	SLICK ROAD DRIFTING SNOW STRONG WIND BLOWING SNOW	0:15
10/30/09 16:05	SLICK SPOTS STRONG WIND BLOWING SNOW POOR VISIBILITY	2:43
10/31/09 10:47	ICY ROADS REDUCE SPEED	14:15
	Total Times Occurring 3	**Ave. 2:31**
10/6/09 3:46	STRONG WIND	2:53
10/6/09 5:59	STRONG WIND	2:12
10/18/09 14:11	STRONG WIND	2:29
	Total Times Occurring 9	**Ave. 4:51**
10/23/09 9:57	WRECK AHEAD USE LEFT LANE	3:10
10/23/09 16:14	WRECK AHEAD USE LEFT LANE 3 MILES	6:16
10/23/09 17:39	WRECK 3 MILES AHEAD USE LEFT LANE	1:24
10/28/09 6:31	I-80 CLOSED ALL TRAFFIC MUST EXIT	12:52
10/28/09 20:25	I-80 CLOSED	10:32
10/28/09 20:27	I-80 ROAD CLOSED	0:01
10/29/09 1:22	I-80 CLOSED	4:54
10/30/09 17:40	I-80 CLOSED BLOWING SNOW POOR VISIBILITY	1:35
10/30/09 20:31	I-80 ROAD CLOSED	2:50
	Total Times Occurring 1	**Ave. 1:08**
10/31/09 11:56	WET ROAD	1:08
	Total Times Occurring 10	**Ave. 5:26**
10/4/09 10:57	DENSE FOG AHEAD REDUCED VISIBLITY	2:49
10/5/09 0:53	DENSE FOG REDUCED VISIBILITY	13:55

10/4/09 8:07	FOG AHEAD REDUCED VISIBILITY	1:49
10/21/09 22:07	FOG REDUCE SPEED	2:56
10/12/09 21:55	FOG REDUCE SPEED	17:50
10/8/09 18:34	DENSE FOG REDUCE SPEED	6:51
10/10/09 17:04	POOR VISIBILITY REDUCE ADVISE 10 MPH	2:29
10/10/09 17:05	POOR VISIBILITY REDUCE SPEED	0:01
10/10/09 17:08	POOR VISIBILITY REDUCE SPEED	0:03
10/10/09 22:51	POOR VISIBILITY REDUCE SPEED SLICK SPOTS FOG	5:42
Date	Message	Duration
	Total Times Occurring 16	**Ave. 2:51**
11/14/09 17:25	SLICK ROAD REDUCE SPEED	2:59
11/16/09 21:48	SLICK SPOTS REDUCE SPEED	2:23
11/21/09 13:05	SLICK SPOTS STRONG WIND BLOWING SNOW	2:16
11/21/09 16:15	SLICK SPOTS BLOWING SNOW	3:09
11/23/09 10:44	SLICK ROAD SNOW BLOWING SNOW	2:29
11/23/09 12:10	SLICK SPOTS STRONG WIND BLOWING SNOW	1:25
11/23/09 17:33	SLICK SPOTS STRONG WIND BLOWING SNOW	5:22
11/23/09 21:10	SLICK SPOTS STRONG WIND BLOWING SNOW	3:37
11/23/09 21:58	SLICK ROAD ADVISE 45 MPH STRONG WIND BLOWING SNOW	0:48
11/24/09 4:31	SLICK ROAD ADVISE 45 MPH ADVISE NO LIGHT TRAILERS	6:32
11/24/09 6:09	SLICK ROAD ADVISE 45 MPH	1:37
11/24/09 8:09	SLICK ROAD ADVISE 55 MPH	1:59
11/24/09 12:14	SLICK ROAD	4:05
11/24/09 15:03	SLICK SPOTS BLOWING SNOW REDUCE SPEED	2:48
11/24/09 23:07	SLICK SPOTS STRONG WIND	0:03
11/25/09 3:16	SLICK SPOTS	4:09
	Total Times Occurring 4	**Ave. 3:45**
12/9/09 10:20	I-80 CLOSED ALL TRAFFIC MUST EXIT	13:09
12/9/09 11:14	I-80 CLOSED ALL TRAFFIC MUST EXIT	0:53
12/9/09 11:30	I-80 CLOSED NO PARKING ON SHOULDER	0:16
12/9/09 12:14	I-80 CLOSED NO PARKING ON SHOULDER	0:43
	Total Times Occurring 6	**Ave. 2:45**
11/24/09 23:03	STRONG WIND	8:00
12/16/09 5:46	STRONG WIND	2:11
12/16/09 6:40	STRONG WIND	0:53
11/6/09 10:22	STRONG WIND GUSTS 45+MPH	2:25
11/6/09 12:11	STRONG WIND GUSTS 45+ MPH	1:49
11/6/09 13:25	STRONG WIND GUSTS 40+ MPH	1:13
Date	Message	Duration
	Total Times Occurring 20	**Ave. 2:12**
12/1/09 23:15	SLICK ROAD SNOW BLOWING SNOW REDUCE SPEED	4:44
12/2/09 9:53	SLICK SPOTS REDUCE SPEED	10:38
12/8/09 17:02	SLICK SPOTS BLOWING SNOW	2:08

12/8/09 17:10	SLICK SPOTS BLOWING SNOW	0:08
12/8/09 19:55	SLICK SPOTS BLOWING SNOW REDUCED VISIBILITY	2:44
12/8/09 20:11	SLICK SPOTS BLOWING SNOW REDUCED VISIBILITY	0:16
12/8/09 20:52	SLICK SPOTS REDUCE SPEED DRIFTED SNOW BLOWING SNOW	0:40
12/8/09 20:52	SLICK SPOTS REDUCE SPEED DRIFTED SNOW BLOWING SNOW	0:00
12/8/09 21:11	SLICK SPOTS REDUCE SPEED DRIFTED SNOW BLOWING SNOW	0:19
12/9/09 14:35	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED	0:20
12/2/09 9:53	SLICK SPOTS REDUCE SPEED	10:38
12/8/09 17:02	SLICK SPOTS BLOWING SNOW	2:08
12/8/09 17:10	SLICK SPOTS BLOWING SNOW	0:08
12/8/09 19:55	SLICK SPOTS BLOWING SNOW REDUCED VISIBILITY	2:44
12/8/09 20:11	SLICK SPOTS BLOWING SNOW REDUCED VISIBILITY	0:16
12/8/09 20:52	SLICK SPOTS REDUCE SPEED DRIFTED SNOW BLOWING SNOW	0:40
12/8/09 20:52	SLICK SPOTS REDUCE SPEED DRIFTED SNOW BLOWING SNOW	0:00
12/8/09 21:11	SLICK SPOTS REDUCE SPEED DRIFTED SNOW BLOWING SNOW	0:19
12/1/09 23:15	SLICK ROAD SNOW BLOWING SNOW REDUCE SPEED	4:44
12/9/09 14:35	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED	0:20
	Total Times Occurring 4	**Ave. 3:45**
12/9/09 10:20	I-80 CLOSED ALL TRAFFIC MUST EXIT	13:09
12/9/09 11:14	I-80 CLOSED ALL TRAFFIC MUST EXIT	0:53
12/9/09 11:30	I-80 CLOSED NO PARKING ON SHOULDER	0:16
12/9/09 12:14	I-80 CLOSED NO PARKING ON SHOULDER	0:43
	Total Times Occurring 2	**Ave. 1:32**
12/16/09 5:46	STRONG WIND	2:11
12/16/09 6:40	STRONG WIND	0:53
	Total Times Occurring 6	**Ave. 1:24**
12/1/09 18:30	DENSE FOG REUCE SPEED REDUCED VISIBILITY	2:13
12/9/09 13:53	35 MPH ADVISED POOR VISIBILITY BLOWING SNOW REDUCE SPEED	1:39
12/9/09 14:14	35 MPH ADVISED POOR VISIBILITY BLOWING SNOW REDUCE SPEED	0:20
12/1/09 18:30	DENSE FOG REUCE SPEED REDUCED VISIBILITY	2:13
12/9/09 13:53	35 MPH ADVISED POOR VISIBILITY BLOWING SNOW REDUCE SPEED	1:39
12/9/09 14:14	35 MPH ADVISED POOR VISIBILITY BLOWING SNOW REDUCE SPEED	0:20

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Date	Message	Duration
	Total Times Occurring 50	Ave. **3:16**
10/1/09 5:35	SLICK SPOTS STRONG WIND SNOW	4:22
10/8/09 3:14	SNOW SLICK SPOTS REDUCE SPEED	2:43
10/8/09 3:52	SNOW SLICK SPOTS REDUCE SPEED	0:37
10/8/09 4:35	SNOW SLICK ROAD REDUCE SPEED	0:43
10/8/09 11:43	SLICK SPOTS	1:55
10/8/09 9:47	SNOW SLICK ROAD REDUCE SPEED	3:02

10/8/09 6:45	SNOW SLICK ROAD REDUCE SPEED WRECK 10 MILES AHEAD RIGHT LANE CLOSED	2:09
10/9/09 19:12	SNOW BLOWING SNOW REDUCED VISIBILITY	2:13
10/10/09 2:22	SNOW BLOWING SNOW REDUCED VISIBILITY	7:10
10/10/09 11:21	SLICK ROAD SNOW REDUCE SPEED	8:58
10/10/09 22:59	SLICK SPOTS SNOW REDUCE SPEED	4:53
10/10/09 23:52	SLICK SPOTS DENSE FOG REDUCED VISIBILITY REDUCE SPEED	0:53
10/11/09 0:45	SLICK ROAD SNOW REDUCE SPEED	0:53
10/11/09 2:17	SLICK SPOTS REDUCE SPEED	1:31
10/11/09 4:08	SLICK SPOTS REDUCE SPEED DENSE FOG REDUCED VISIBILITY	1:51
10/11/09 11:53	SLICK SPOTS REDUCE SPEED	7:44
10/11/09 21:46	SLICK SPOTS SNOWFALL	9:53
10/11/09 22:02	SLICK SPOTS SNOW	0:16
10/12/09 1:10	SLICK SPOTS TURN OFF CRUISE CONTROL	3:07
10/12/09 4:05	SLICK ROAD TURN OFF CRUISE CONTROL	2:55
10/7/09 23:06	SLICK SPOTS SNOWFALL AHEAD	2:45
10/12/09 10:19	SLICK SPOTS STRONG WIND	1:03
10/20/09 23:48	SLICK SPOTS TURN OFF CRUISE CONTROL	4:05
10/21/09 2:54	SNOW SLICK SPOTS TURN OFF CRUISE CONTROL	3:05
10/21/09 4:47	SLICK SPOTS TURN OFF CRUISE CONTROL	1:53
10/21/09 8:20	SLICK SPOTS WET TURN OFF CRUISE CONTROL	3:32
10/21/09 9:20	SLICK SPOTS FOG WET ROAD REDUCE SPEED	1:00
10/23/09 5:34	SLICK ROAD SNOW	2:13
10/23/09 6:22	SLICK ROAD SNOW FOG AHEAD REDUCE SPEED	0:47
10/23/09 6:27	SLICK ROAD SNOW FOG REDUCE SPEED	0:05
10/23/09 8:37	SLICK SPOTS	2:09
10/25/09 3:51	SLICK ROAD SNOW REDUCE SPEED	17:13
10/25/09 9:21	SLICK ROAD SNOW BLOWING SNOW REDUCE SPEED	5:29
10/25/09 15:32	SLICK SPOTS SNOW REDUCE SPEED	0:07
10/25/09 15:49	SLICK SPOTS REDUCE SPEED	0:16
10/25/09 17:03	SLICK SPOTS SNOW REDUCE SPEED	0:07
10/20/09 19:36	SLICK SPOTS SNOW	2:00
10/20/09 19:37	SLICK SPOTS SNOW TURN OFF CRUISE CONTROL	0:01
10/25/09 18:36	SLICK SPOTS REDUCE SPEED	0:03
10/25/09 22:11	SLICK SPOTS FOG REDUCE SPEED	3:34
10/25/09 23:03	SLICK SPOTS REDUCE SPEED	0:52
10/26/09 1:59	SLICK ROAD REDUCE SPEED	2:56
10/26/09 2:19	SLICK SPOTS REDUCE SPEED	0:20
10/26/09 9:06	SLICK SPOTS BLOWING SNOW	6:46
10/26/09 9:59	SLICK SPOTS	0:53
10/27/09 17:36	SLICK ROAD BLOWING SNOW REDUCE SPEED	1:14
10/27/09 20:39	SLICK ROAD BLOWING SNOW REDUCED VISIBILITY	3:02
10/30/09 16:05	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCED VISIBILITY REDUCE SPEED	7:36

10/31/09 10:54	SLICK SPOTS REDUCE SPEED		17:13
10/28/09 9:34	SLICK ROAD DRIFTING SNOW SNOW STRONG WIND BLOWING SNOW		3:03
	Total Times Occurring	**3**	Ave. **8:39**
10/24/09 4:44	NO LIGHT TRAILER ADVISORY GUSTS 55+ MPH		20:06
10/24/09 4:46	ADVISE NO LIGHT TRAILERS GUSTS 55+ MPH		0:01
10/24/09 10:37	STRONG WIND AHEAD GUSTS 40+ MPH		5:51
		11	Ave. **3:24**
10/20/09 19:43	WET ROADS SLICK SPOTS TURN OFF CRUISE CONTROL		0:02
10/20/09 17:36	WET ROAD SNOW		2:43
10/20/09 19:41	WET ROADS SLICK SPOTS TURN OFF CRUISE CONTROL		0:03
10/25/09 15:25	WET ROAD SNOW REDUCE SPEED		6:04
10/25/09 16:56	WET ROAD SLICK SPOTS SNOW REDUCE SPEED		1:06
10/25/09 18:33	WET ROAD SLICK SPOTS REDUCE SPEED		1:29
10/27/09 15:54	WET ROAD SNOW		19:17
10/27/09 16:18	WET ROAD SLICK ROAD SNOW TURN OFF CRUISE CONTROL		0:24
10/27/09 16:21	WET ROAD SLICK SPOTS SNOW TURN OFF CRUISE CONTROL		0:03
10/31/09 11:56	WET ROAD		1:02
10/12/09 9:15	WET ROAD SLICK SPOTS STRONG WIND		5:09
	Total Times Occurring	**4**	Ave. **5:35**
10/28/09 6:31	I-80 CLOSED ALL TRAFFIC MUST EXIT		9:52
10/28/09 11:45	WRECK AHEAD BE PREPARED TO STOP SLICK ROAD SNOW BLOWING SNOW		2:11
10/28/09 20:28	I-80 CLOSED NO PARKING ON SHOULDER		8:42
10/30/09 17:40	I-80 CLOSED REDUCED VISIBILITY REDUCE SPEED		1:35
	Total Times Occurring	**11**	Ave. **3:43**
10/26/09 17:15	STRONG WIND		7:15
10/26/09 20:36	STRONG WIND		3:21
10/1/09 1:12	STRONG WIND GUSTS 40+ MPH		3:22
10/1/09 6:16	STRONG WIND SNOW BLOWING SNOW		0:41
10/1/09 7:35	STRONG WIND		1:18
10/1/09 9:50	STRONG WIND GUSTS 55+ MPH		2:15
10/1/09 10:10	STRONG WIND GUSTS 50+ MPH		0:20
10/1/09 13:56	STRONG WIND GUSTS 45+ MPH		3:45
10/1/09 15:21	STRONG WIND GUSTS 50+ MPH		1:24
10/1/09 17:35	STRONG WIND		2:14
10/2/09 8:38	STRONG WIND GUSTS 40+ MPH		15:02
	Total Times Occurring	**3**	Ave. **1:34**
10/5/09 4:20	WET ROAD REDUCE SPEED		0:42
10/5/09 5:20	WET ROAD SLICK SPOTS REDUCE SPEED		1:00
10/5/09 8:20	WET ROAD		2:59
	Total Times Occurring	**17**	Ave. **3:59**
10/5/09 3:37	FOG WET ROAD REDUCE SPEED		3:10
10/4/09 10:56	FOG REDUCED VISIBILITY TURN OFF CRUISE CONTROL		2:17

10/4/09 10:57	DENSE FOG AHEAD REDUCED VISIBLITY	0:00
10/4/09 11:10	DENSE FOG REDUCED VISIBILITY REDUCE SPEED	0:12
10/4/09 14:26	DENSE FOG REDUCED VISIBILITY WET ROAD REDUCE SPEED	3:16
10/4/09 18:58	DENSE FOG REDUCED VISIBILITY SLICK SPOTS SNOW FOG	4:31
10/4/09 19:01	DENSE FOG REDUCED VISIBILITY SLICK SPOTS SNOW	0:02
10/5/09 0:23	DENSE FOG REDUCED VISIBILITY WET	5:22
10/5/09 0:24	DENSE FOG REDUCED VISIBILITY WET ROAD	0:01
10/5/09 0:26	DENSE FOG REDUCED VISIBILITY WET ROAD REDUCE SPEED	0:01
10/8/09 0:18	FOG AHEAD	1:12
10/8/09 0:30	FOG REDUCED VISIBILITY REDUCE SPEED	0:12
10/8/09 18:34	DENSE FOG REDUCE SPEED	6:51
10/9/09 16:58	DENSE FOG REDUCED VISIBILITY	22:23
10/10/09 17:06	REDUCED VISIBILITY REDUCE SPEED	5:45
10/10/09 18:05	REDUCED VISIBILITY DENSE FOG SLICK SPOTS REDUCE SPEED	0:59
10/12/09 21:52	FOG REDUCE SPEED	11:33
Date	Message	Duration
	Total Times Occurring 41	Ave. 3:51
11/2/09 18:52	SLICK SPOTS 10 MILES AHEAD	2:55
11/13/09 1:42	SLICK SPOTS SNOW REDUCE SPEED	2:23
11/13/09 3:26	SLICK SPOTS SNOW REDUCE SPEED REDUCED VISIBILITY	1:44
11/13/09 5:38	SLICK SNOW REDUCE SPEED REDUCED VISIBILITY	2:11
11/13/09 7:47	SLICK SNOW REDUCE SPEED	2:08
11/13/09 16:07	SLICK ROADS REDUCE SPEED	8:20
11/13/09 17:28	SLICK ROAD REDUCE SPEED WRECK AHEAD USE RIGHT LANE	1:21
11/13/09 19:35	SLICK ROAD REDUCE SPEED	2:06
11/13/09 19:47	SLICK ROAD REDUCE SPEED	0:11
11/13/09 21:07	SLICK ROAD STRONG WIND REDUCE SPEED	1:19
11/14/09 1:58	SLICK ROAD REDUCE SPEED	4:51
11/14/09 15:00	SLICK SPOTS TURN OFF CRUISE CONTROL	13:02
11/14/09 17:24	SLICK ROAD SNOW REDUCE SPEED	2:23
11/15/09 9:37	SLICK ROAD REDUCE SPEED	16:13
11/15/09 11:19	SLICK SPOTS REDUCE SPEED	1:42
11/15/09 12:41	ICY SPOTS TURN OFF CRUISE CONTROL	1:21
11/15/09 15:20	SLICK SPOTS TURN OFF CRUISE CONTROL	2:39
11/16/09 10:19	SLICK SPOTS TURN OFF CRUISE CONTROL BLOWING SNOW	18:59
11/16/09 21:51	SLICK SPOTS BLOWING SNOW REDUCE SPEED	11:31
11/17/09 0:14	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED	2:23
11/17/09 5:41	SLICK SPOTS TURN OFF CRUISE CONTROL	5:27
11/21/09 13:01	SLICK SPOTS STRONG WIND BLOWING SNOW	3:51
11/21/09 16:15	SLICK SPOTS BLOWING SNOW	3:13
11/21/09 16:38	SLICK SPOTS TURN OFF CRUISE CONTROL	0:23
11/23/09 4:07	SLICK ROAD BLOWING SNOW STRONG WIND	2:29
11/23/09 4:28	SLICK ROAD BLOWING SNOW STRONG WIND REDUCED VISIBILITY	0:20

11/23/09 4:44	SLICK ROAD BLOWING SNOW STRONG WIND REDUCED VISIBILITY	0:16
11/23/09 5:00	SLICK ROAD BLOWING SNOW STRONG WIND	0:15
11/23/09 5:08	SLICK SPOTS BLOWING SNOW	0:08
11/23/09 12:10	SLICK ROAD STRONG WIND BLOWING SNOW	7:01
11/23/09 17:32	SLICK SPOTS STRONG WIND BLOWING SNOW	5:22
11/23/09 21:10	SLICK ROAD STRONG WIND BLOWING SNOW	3:37
11/23/09 21:57	SLICK ROAD STRONG WIND BLOWING SNOW ADVISE 45 MPH	0:47
11/24/09 0:20	SLICK ROAD STRONG WIND BLOWING SNOW REDUCED VISIBILITY ADVISE 45 MPH	2:22
11/24/09 4:30	SLICK ROAD BLOWING SNOW ADVISE 45 MPH ADVISE NO LIGHT TRAILERS REDUCED VISIBILITY	4:10
11/24/09 5:31	SLICK ROAD BLOWING SNOW ADVISE 45 MPH ADVISE NO LIGHT TRAILERS	1:00
11/24/09 6:10	SLICK ROAD BLOWING SNOW ADVISE 45 MPH	0:39
11/24/09 8:08	SLICK ROAD BLOWING SNOW ADVISE 55 MPH	1:58
11/24/09 12:14	SLICK ROAD	4:05
11/24/09 23:03	STRONG WIND	10:48
11/24/09 23:08	SLICK SPOTS STRONG WIND	0:04
	Total Times Occurring 7	Ave. 3:13
11/25/09 3:25	DON'T DRINK & DRIVE PLEASE BUCKLE UP	0:16
11/25/09 8:14	DON'T DRINK & DRIVE PLEASE BUCKLE UP	4:48
11/25/09 8:18	DON'T DRINK & DRIVE PLEASE BUCKLE UP	0:03
11/25/09 15:23	DON'T DRINK & DRIVE PLEASE BUCKLE UP	7:05
11/10/09 8:18	WYDOT SIGN TEST	6:52
11/20/09 8:56	WYDOT SIGN TEST	3:14
11/20/09 9:10	WYDOT SIGN TEST	0:14
	Total Times Occurring 4	Ave. 1:54
11/6/09 10:21	STRONG WIND GUSTS 45+ MPH	2:29
11/6/09 13:25	STRONG WIND GUSTS 40+ MPH	3:03
11/25/09 0:10	STRONG WIND AHEAD	1:02
11/25/09 1:25	STRONG WIND AHEAD GUSTS 40+ MPH	1:14
11/25/09 3:08	STRONG WIND AHEAD	1:43
Date	Message	Duration
	Total Times Occurring 74	Ave. 2:05
12/1/09 19:35	SLICK ROAD SNOW BLOWING SNOW REDUCE SPEED	0:34
12/2/09 2:23	SLICK SPOTS TURN OFF CRUISE CONTROL	6:47
12/2/09 17:21	SLICK SPOTS TURN OFF CRUISE CONTROL	14:57
12/3/09 0:12	SLICK SPOTS SNOW TURN OFF CRUISE CONTROL	6:51
12/3/09 3:36	SLICK SPOTS TURN OFF CRUISE CONTROL	3:24
12/3/09 13:01	SLICK SPOTS STRONG WIND BLOWING SNOW TURN OFF CRUISE CONTROL	9:25
12/3/09 13:38	SLICK SPOTS BLOWING SNOW TURN OFF CRUISE CONTROL	0:36
12/4/09 3:36	SLICK SPOTS BLOWING SNOW STRONG WIND REDUCE SPEED	13:58
12/5/09 6:02	SLICK SPOTS REDUCE SPEED	2:26
12/5/09 6:10	SLICK SPOTS TURN OFF CRUISE CONTROL	0:07
12/5/09 19:39	SLICK SPOTS SNOW	13:29

12/5/09 19:46	SLICK SPOTS SNOW REDUCE SPEED	0:07
12/5/09 20:00	SLICK SPOTS BLOWING SNOW REDUCE SPEED	0:13
12/6/09 21:16	SLICK SPOTS REDUCE SPEED	2:16
12/7/09 2:00	SLICK SPOTS TURN OFF CRUISE CONTROL	4:43
12/7/09 4:19	SLICK SPOTS SNOW BLOWING SNOW TURN OFF CRUISE CONTROL	2:19
12/7/09 14:45	SLICK SPOTS TURN OFF CRUISE CONTROL	10:25
12/7/09 19:17	SLICK SPOTS TURN OFF CRUISE CONTROL	1:09
12/7/09 20:08	SLICK SPOTS TURN OFF CRUISE CONTROL	0:50
12/8/09 0:01	SLICK SPOTS FOG REDUCE SPEED	3:53
12/8/09 0:09	SLICK SPOTS FOG REDUCE SPEED	0:07
12/8/09 2:31	SLICK SPOTS FOG REDUCED VISIBILITY TURN OFF CRUISE CONTROL	2:22
12/8/09 3:11	SLICK SPOTS FOG REDUCED VISIBILITY TURN OFF CRUISE CONTROL	0:39
12/8/09 4:55	SLICK SPOTS FOG TURN OFF CRUISE CONTROL	1:44
12/8/09 4:58	SLICK SPOTS FOG BLOWING SNOW SNOW TURN OFF CRUISE CONTROL	0:02
12/8/09 5:12	SLICK SPOTS FOG BLOWING SNOW SNOW TURN OFF CRUISE CONTROL	0:14
12/8/09 6:00	SLICK SPOTS SNOW TRUN OFF CRUISE CONTROL	0:48
12/8/09 6:12	SLICK SPOTS SNOW TURN OFF CRUISE CONTROL	0:12
12/8/09 7:20	SLICK SPOTS DRIFTED/BLOWING SNOW TURN OFF CRUISE CONTROL	1:08
12/8/09 8:09	SLICK ROAD SNOW REDUCED VISIBILITY REDUCE SPEED	0:48
12/8/09 8:14	SLICK ROAD SNOW REDUCED VISIBILITY REDUCE SPEED	0:04
12/8/09 9:24	SLICK ROAD SNOW REDUCED VISIBILITY REDUCE SPEED	1:10
12/8/09 11:45	SLICK ROAD BLOWING SNOW REDUCE SPEED	2:21
12/8/09 12:17	SLICK ROAD BLOWING SNOW REDUCE SPEED	0:31
12/8/09 15:21	SLICK ROAD BLOWING SNOW REDUCE SPEED DRIFTED SNOW	3:04
12/8/09 16:18	SLICK ROAD BLOWING SNOW REDUCE SPEED DRIFTED SNOW	0:56
12/8/09 18:51	SLICK ROAD BLOWING SNOW REDUCE SPEED	0:31
12/8/09 19:19	SLICK ROAD BLOWING SNOW REDUCE SPEED	0:28
12/8/09 19:45	SLICK SPOTS BLOWING SNOW DRIFTED SNOW REDUCED VISIBILITY STRONG WIND REDUCE SPEED	0:26
12/8/09 19:54	SLICK SPOTS BLOWING SNOW DRIFTED SNOW REDUCED VISIBILITY STRONG WIND REDUCE SPEED	0:08
12/8/09 20:19	SLICK SPOTS BLOWING SNOW DRIFTED SNOW REDUCED VISIBILITY STRONG WIND REDUCE SPEED	0:25
12/8/09 21:00	SLICK SPOTS BLOWING SNOW REDUCE SPEED	0:03
12/8/09 23:34	SLICK SPOTS BLOWING SNOW REDUCE SPEED	2:34
12/8/09 23:48	SLICK SPOTS BLOWING SNOW REDUCE SPEED ADVISE NO LIGHT TRAILERS 25 MILES AHEAD	0:14
12/9/09 0:21	SLICK SPOTS BLOWING SNOW REDUCE SPEED ADVISE NO LIGHT TRAILERS 25 MILES AHEAD	0:32
12/9/09 1:07	SLICK SPOTS BLOWING SNOW REDUCE SPEED DRIFTED SNOW LIMITED VISIBILITY	0:45
12/9/09 1:09	SLICK SPOTS BLOWING SNOW REDUCE SPEED DRIFTED SNOW REDUCED VISIBILITY	0:02
12/9/09 1:23	SLICK SPOTS BLOWING SNOW REDUCE SPEED DRIFTED SNOW REDUCED VISIBILITY	0:14
12/9/09 2:49	SLICK SPOTS BLOWING SNOW REDUCE SPEED DRIFTED SNOW REDUCED VISIBILITY STRONG WIND	1:25
12/9/09 3:24	SLICK SPOTS BLOWING SNOW REDUCE SPEED DRIFTED SNOW REDUCED VISIBILITY STRONG WIND	0:35

12/9/09 3:44	SLICK SPOTS BLOWING/DRIFTED SNOW REDUCED VISIBILITY STRONG WIND GUSTS 45+ MPH	0:19
12/9/09 4:18	SLICK SPOTS BLOWING/DRIFTED SNOW REDUCED VISIBILITY STRONG WIND GUSTS 50+ MPH	0:34
12/9/09 4:22	SLICK SPOTS BLOWING SNOW REDUCED VISIBILITY ADVISE NO LIGHT TRAILERS GUSTS 50+ MPH	0:04
12/9/09 4:23	SLICK SPOTS BLOWING SNOW REDUCED VISIBILITY ADVISE NO LIGHT TRAILERS GUSTS 50+ MPH	0:00
12/9/09 4:24	SLICK SPOTS BLOWING SNOW REDUCED VISIBILITY ADVISE NO LIGHT TRAILERS GUSTS 55+ MP	0:01
12/9/09 4:27	SLICK SPOTS BLOWING SNOW REDUCED VISIBILITY ADVISE NO LIGHT TRAILERS GUSTS 55+ MPH	0:02
12/9/09 5:14	SLICK SPOTS BLOWING SNOW REDUCED VISIBILITY ADVISE NO LIGHT TRAILERS GUSTS 50+ MPH	0:47
12/9/09 5:27	SLICK SPOTS BLOWING SNOW REDUCED VISIBILITY ADVISE NO LIGHT TRAILERS GUSTS 50+ MP	0:12
12/9/09 14:39	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED	0:06
12/9/09 15:27	SLICK SPOTS STRONG WIND BLOWING SNOW TURN OFF CRUISE CONTROL	0:47
12/9/09 15:33	SLICK SPOTS STRONG WIND BLOWING SNOW TURN OFF CRUISE CONTROL	0:06
12/9/09 17:47	SLICK SPOTS STRONG WIND BLOWING SNOW ADVISE NO LIGHT TRAILERS	2:13
12/9/09 17:48	SLICK SPOTS STRONG WIND BLOWING SNOW ADVISE NO LIGHT TRAILERS	0:01
12/9/09 18:35	SLICK SPOTS STRONG WIND BLOWING SNOW ADVISE NO LIGHT TRAILERS	0:47
12/9/09 19:38	SLICK SPOTS STRONG WIND BLOWING SNOW	1:02
12/9/09 19:40	SLICK SPOTS STRONG WIND BLOWING SNOW	0:01
12/9/09 22:17	SLICK SPOTS STRONG WIND BLOWING SNOW ADVISE NO LIGHT TRAILERS	2:37
12/9/09 22:41	SLICK SPOTS STRONG WIND BLOWING SNOW ADVISE NO LIGHT TRAILERS	0:24
12/10/09 16:28	SLICK SPOTS STRONG WIND BLOWING SNOW	17:46
12/10/09 16:50	SLICK SPOTS STRONG WIND BLOWING SNOW	0:22
12/14/09 16:37	SLICK SPOTS BLOWING SNOW ADVISE NO LIGHT TRAILERS GUSTS 50+ MPH	0:08
12/8/09 20:56	BLOWING SNOW DRIFTED SNOW SLICK SPOTS REDUCE SPEED	0:37
12/8/09 17:33	ROAD BLOWING SNOW REDUCE SPEED	1:14
12/8/09 18:19	ROAD BLOWING SNOW REDUCE SPEED	0:46
	Total Times Occurring 9	Ave. 1:38
12/14/09 12:48	STRONG WIND GUSTS 40+MPH	2:58
12/14/09 13:28	STRONG WIND GUSTS 40+MPH	0:39
12/14/09 16:06	STRONG WIND GUSTS 45+ MPH	2:38
12/14/09 16:29	STRONG WIND GUSTS 45+ MPH	0:22
12/16/09 5:47	STRONG WIND	1:09
12/16/09 6:42	STRONG WIND	0:55
12/16/09 11:57	STRONG WIND	5:14
12/16/09 12:12	STRONG WIND	0:15
12/16/09 12:45	STRONG WIND	0:32
	Total Times Occurring 2	Ave. 1:41
12/7/09 17:38	TURN OFF CRUISE CONTROL SLICK SPOTS SNOW BLOWING SNOW	2:53
12/7/09 18:08	TURN OFF CRUISE CONTROL SLICK SPOTS SNOW BLOWING SNOW	0:29
	Total Times Occurring 4	Ave. 1:24

12/1/09 18:31	DENSE FOG REDUCED VISIBILITY REDUCE SPEED	3:07
12/1/09 19:00	DENSE FOG REDUCED VISIBILITY SNOW REDUCE SPEED	0:29
12/9/09 13:52	35 MPH ADVISED BLOWING SNOW REDUCED VISIBILITY	1:20
12/9/09 14:33	35 MPH ADVISED BLOWING SNOW REDUCED VISIBILITY	0:40
	Total Times Occurring 3	2:21
12/9/09 11:40	I-80 CLOSED SINCLAIR TO CHEYENNE ALL TRAFFIC MUST EXIT	6:12
12/9/09 12:18	I-80 CLOSED CHEYENNE TO SINCLAIR ALL TRAFFIC MUST EXIT	0:38
12/9/09 12:31	I-80 CLOSED CHEYENNE TO SINCLAIR ALL TRAFFIC MUST EXIT	0:12

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Date	Message	Duration
	Total Times Occurring 61	**Ave. 2:44**
10/5/09 5:09	SLICK SPOTS REDUCE SPEED	1:49
10/5/09 5:42	SLICK SPOTS WREAK AHEAD REDUCE SPEED	0:32
10/5/09 6:23	SLICK SPOTS WRECK AHEAD REDUCE SPEED	0:41
10/5/09 7:19	SLICK SPOTS TURN OFF CRUISE CONTROL	0:56
10/8/09 3:43	SLICK SPOTS REDUCE SPEED TURN OFF CRUISE CONTROL	3:08
10/8/09 4:19	SLICK ROAD SNOWFALL REDUCE SPEED	0:36
10/8/09 6:30	SLICK ROAD SNOWFALL REDUCED VISIBILITY	2:10
10/8/09 7:09	SLICK ROAD SNOW REDUCED VISIBILITY	0:38
10/8/09 7:39	SLICK ROAD SNOW	0:30
10/8/09 11:12	SLICK ROAD SNOW TURN OFF CRUISE CONTROL	3:33
10/8/09 11:14	SLICK SPOTS SNOW TURN OFF CRUISE CONTROL	0:02
10/10/09 21:24	SLICK SPOTS DRIFTED SNOW DENSE FOG POOR VISIBILITY	4:18
10/10/09 22:48	SLICK SPOTS DRIFTED SNOW REDUCE SPEED	1:23
10/10/09 23:52	SLICK SPOTS DENSE FOG POOR VISIBILITY	1:03
10/11/09 1:36	SLICK SPOTS REDUCE SPEED TURN OFF CRUISE CONTROL	1:44
10/11/09 4:24	SLICK SPOTS REDUCE SPEED FOG BLOWING SNOW	2:48
10/11/09 8:32	SLICK ROAD DENSE FOG ADVISE 35 MPH MAX SPEED	0:33
10/11/09 10:16	SLICK ROAD DENSE FOG	1:44
10/11/09 10:39	SLICK ROAD SNOW BLOWING SNOW REDUCE SPEED	0:22
10/12/09 3:51	SLICK ROAD SNOW REDUCE SPEED	17:11
10/12/09 4:18	SLICK ROAD REDUCE SPEED	0:26
10/12/09 5:54	SLICK ROAD DENSE FOG REDUCE SPEED	1:36
10/12/09 6:07	SLICK ROAD DENSE FOG POOR VISIBILITY REDUCE SPEED	0:12
10/12/09 6:43	SLICK ROAD DENSE FOG REDUCE SPEED	0:36
10/9/09 15:18	SLICK SPOTS SNOW TRUN OFF CRUISE CONTROL	0:30
10/9/09 17:27	SLICK SPOTS DENSE FOG REDUCE VISIBILITY	2:09
10/9/09 18:55	SLICK ROAD SNOW REDUCED VISIBILITY	1:27
10/20/09 23:33	SLICK SPOTS SNOW TRUN OFF CRUISE CONTROL	3:51
10/21/09 0:45	SLICK SPOTS TURN OFF CRUISE CONTROL	1:12
10/21/09 2:52	SLICK SPOTS SNOW TRUN OFF CRUISE CONTROL	2:06
10/21/09 5:49	SLICK SPOTS TURN OFF CRUISE CONTROL	2:57

10/21/09 8:19	SLICK SPOTS WET TURN OFF CRUISE CONTROL	2:29
10/21/09 9:20	SLICK SPOTS FOG WET ROAD REDUCE SPEED	1:01
10/20/09 19:41	SLICK SPOTS SNOW	4:05
10/23/09 8:30	SLICK SPOTS WET TURN OFF CRUISE CONTROL	2:41
10/25/09 4:53	SLICK ROAD TURN OFF CRUISE CONTROL	18:59
10/25/09 5:43	SLICK ROAD SNOW TURN OFF CRUISE CONTROL	0:49
10/25/09 7:21	SLICK ROAD	1:38
10/25/09 7:30	SLICK ROAD TURN OFF CRUISE CONTROL	0:09
10/25/09 7:32	SLICK ROAD REDUCE SPEED	0:01
10/25/09 16:27	SLICK SPOTS REDUCE SPEED	0:37
10/25/09 16:31	SLICK SPOTS SNOW REDUCE SPEED	0:04
10/25/09 16:49	SLICK SPOTS SNOW TURN OFF CRUISE CONTROL	0:17
10/25/09 17:10	SLICK ROAD SNOW TURN OFF CRUISE CONTROL	0:21
10/25/09 17:45	SLICK ROAD SNOW WRECK AHEAD REDUCE SPEED	0:35
10/25/09 19:34	SLICK ROAD WRECK AHEAD REDUCE SPEED	1:49
10/25/09 19:48	SLICK ROAD REDUCE SPEED	0:14
10/25/09 20:37	SLICK SPOTS REDUCE SPEED	0:48
10/26/09 2:00	SLICK ROAD REDUCE SPEED	5:22
10/26/09 2:19	SLICK SPOTS REDUCE SPEED	0:19
10/27/09 16:35	SLICK SPOTS SNOW TRUN OFF CRUISE CONTROL	19:58
10/27/09 17:56	SLICK ROAD SNOW REDUCE SPEED	1:21
10/27/09 19:25	SLICK ROAD DRIFTED SNOW BLOWING SNOW REDUCE SPEED	1:28
10/28/09 9:36	SLICK ROAD DRIFTING SNOW STRONG WIND BLOWING SNOW	3:05
10/30/09 16:04	SLICK SPOTS REDUCE SPEED	2:41
10/30/09 16:58	SLICK SPOTS REDUCE SPEED ADVISE 45 MPH	0:53
10/30/09 17:40	SLICK SPOTS REDUCE SPEED I-80 CLOSED	0:42
10/31/09 10:43	SLICK SPOTS BLACK ICE REDUCE SPEED SNOW	14:10
10/25/09 15:21	SNOW WET ROAD REDUCE SPEED	0:32
10/25/09 15:50	SNOW SLICK SPOTS REDUCE SPEED	0:28
10/10/09 11:31	SLICK ROAD DRIFTED SNOW TURN OFF CRUISE CONTROL	16:36
	Total Times Occurring 5	**Ave. 4:29**
10/5/09 12:34	STRONG WIND AHEAD	4:13
10/31/09 15:11	STRONG WIND GUSTS 40+ MPH	4:28
10/26/09 18:13	STRONG WIND AHEAD	8:58
10/26/09 20:36	STRONG WIND	2:22
10/24/09 9:53	STRONG WIND GUSTS 45+ MPH	2:23
	Total Times Occurring 8	**Ave. 3:58**
10/19/09 10:04	ROAD WORK AHEAD USE CAUTION	2:01
10/28/09 11:41	WRECK AHEAD BE PREPARED TO STOP	2:05
10/28/09 13:41	WRECK AHEAD BE PREPARED TO STOP	2:00
10/28/09 20:26	I-80 CLOSED	6:44
10/28/09 20:28	I-80 ROAD CLOSED	0:01
10/29/09 1:22	I-80 CLOSED	4:54

10/30/09 20:32	I-80 ROAD CLOSED	2:51
10/28/09 6:30	I-80 CLOSED ALL TRAFFIC MUST EXIT	11:05
	Total Times Occurring 12	**Ave. 4:58**
10/5/09 8:21	WET ROAD	1:01
10/25/09 9:42	WET ROAD SLICK SPOTS	2:09
10/25/09 14:49	WET ROAD SNOW	5:07
10/21/09 11:09	WET ROAD	1:49
10/26/09 9:15	WET ROAD SLICK SPOTS	6:55
10/1/09 5:32	WET ROAD SLICK SPOTS STRONG WIND SNOW	2:56
10/1/09 6:34	STRONG WIND SNOW	1:01
10/1/09 7:16	STRONG WIND	0:41
10/1/09 20:04	STRONG WIND	12:48
10/1/09 23:00	STRONG WIND	2:56
10/8/09 18:00	WET SLICK SPOTS TURN OFF CRUISE CONTROL	6:45
10/9/09 14:47	WET ROAD SLICK SPOTS SNOW REDUCE SPEED	15:34
	Total Times Occurring 15	**Ave. 3:56**
10/8/09 19:00	TURN OFF CRUISE CONTROL DENSE FOG REDUCE SPEED	1:00
10/8/09 23:13	DENSE FOG REDUCE SPEED	4:13
10/10/09 17:06	POOR VISIBILITY REDUCE SPEED	5:35
10/11/09 7:59	ADVISE 35 MPH SLICK ROAD DENSE FOG	3:34
10/12/09 16:28	FOG REDUCE SPEED	9:44
10/12/09 18:02	FOG REDUCE SPEED	1:34
10/4/09 10:57	DENSE FOG AHEAD REDUCED VISIBLITY	0:13
10/4/09 18:59	DENSE FOG AHEAD SLICK SPOTS SNOW	8:01
10/4/09 21:39	DENSE FOG AHEAD	2:39
10/5/09 0:52	REDUCED VISIBILITY	3:12
10/5/09 3:19	FOG	2:27
10/4/09 10:43	FOG AHEAD	2:43
10/21/09 22:06	FOG AHEAD REDUCE SPEED	10:56
10/21/09 22:49	FOG REDUCE SPEED	0:42
10/20/09 15:36	REDUCED VISIBILITY	2:32
Date	Message	Duration
	Total Times Occurring 4	**Ave. 5:04**
11/1/09 6:08	STRONG WIND AHEAD	14:56
11/6/09 10:22	STRONG WIND GUSTS 45+MPH	2:16
11/6/09 12:11	STRONG WIND GUSTS 45+ MPH	1:48
11/6/09 13:25	STRONG WIND GUSTS 40+ MPH	1:14
	Total Times Occurring 23	**Ave. 4:32**
11/13/09 5:10	SLICK SNOW REDUCED VISIBILITY	2:44
11/13/09 5:35	SLICK SPOTS WET TURN OFF CRUISE CONTROL	0:24
11/13/09 9:30	SLICK SPOTS WET TURN OFF CRUISE CONTROL	3:55
11/13/09 10:20	SLICK ROAD TURN OFF CRUISE CONTROL	0:50
11/13/09 16:15	SLICK ROAD REDUCE SPEED	5:54

11/13/09 23:52	SLICK SPOTS REDUCE SPEED	7:37
11/13/09 23:53	SLICK ROAD REDUCE SPEED	0:00
11/14/09 16:30	SLICK SPOTS REDUCE SPEED	16:37
11/14/09 18:58	SLICK ROAD REDUCE SPEED	2:28
11/14/09 21:46	SLICK ROAD POOR VISIBILITY REDUCE SPEED	2:48
11/15/09 0:29	SLICK ROAD REDUCE SPEED REDUCED VISIBILITY	2:42
11/15/09 1:20	SLICK ROAD REDUCE SPEED	0:51
11/15/09 1:22	SLICK ROAD REDUCE SPEED	0:01
11/15/09 3:27	SLICK ROAD DRIFTED SNOW REDUCE SPEED	2:05
11/15/09 9:53	SLICK ROAD REDUCE SPEED	6:26
11/16/09 6:22	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED	20:28
11/16/09 12:52	SLICK SPOTS TURN OFF CRUISE CONTROL	6:29
11/16/09 15:32	SLICK SPOTS BLOWING SNOW TURN OFF CRUISE CONTROL	2:40
11/17/09 1:01	SICK SPOTS BLOWING SNOW STRONG WIND REDUCE SPEED	9:28
11/17/09 6:00	SICK SPOTS BLOWING SNOW REDUCE SPEED	4:59
11/17/09 6:41	SLICK SPOTS BLOWING SNOW REDUCE SPEED	0:40
11/17/09 8:40	SLICK SPOTS TURN OFF CRUISE CONTROL	1:59
11/23/09 5:53	SLICK SPOTS TURN OFF CRUISE CONTROL	2:12
	Total Times Occurring 5	**Ave. 7:23**
11/2/09 5:43	DENSE FOG AHEAD REDUCED SPEED	23:35
11/2/09 6:04	DENSE FOG AHEAD REDUCE SPEED	0:20
11/2/09 11:36	FOG	5:32
11/2/09 11:40	FOG AHEAD	0:03
11/2/09 19:06	FOG REDUCE SPEED	7:25
Date	Message	Duration
	Total Times Occurring 58	**Ave. 3:18**
12/1/09 18:56	SLICK SPOTS SNOW REDUCE SPEED	0:24
12/1/09 19:29	SLICK ROAD SNOW REDUCE SPEED	0:32
12/1/09 20:57	SLICK ROAD SNOW REDUCED VISIBILITY	1:27
12/1/09 22:44	SLICK SPOTS BLOWING SNOW TURN OFF CRUISE CONTROL	1:47
12/2/09 1:37	SLICK SPOTS DRIFTED SNOW BLOWING SNOW REDUCE SPEED	2:52
12/2/09 4:38	SLICK SPOTS SNOW BLOWING SNOW REDUCE SPEED	3:00
12/2/09 8:13	SLICK SPOTS TURN OFF CRUISE CONTROL	3:35
12/3/09 0:11	SLICK SPOTS SNOW TRUN OFF CRUISE CONTROL	15:57
12/3/09 3:36	SLICK SPOTS AHEAD TURN OFF CRUISE CONTROL	3:24
12/3/09 14:33	SLICK SPOTS BLOWING SNOW TURN OFF CRUISE CONTROL	10:57
12/4/09 3:36	SLICK SPOTS BLOWING SNOW STRONG WIND REDUCE SPEED	13:03
12/5/09 0:56	SLICK SPOTS BLOWING SNOW STRONG WIND GUSTS 50+ MPH	21:19
12/5/09 1:15	SLICK SPOTS BLOWING SNOW STRONG WIND GUSTS 45+ MPH	0:18
12/5/09 21:40	SLICK SPOTS REDUCE SPEED	20:14
12/5/09 22:17	SLICK SPOTS REDUCE SPEED REDUCED VISIBILITY	0:36
12/5/09 22:17	SLICK SPOTS BLOWING SNOW REDUCED VISIBILITY	0:00
12/6/09 0:49	SLICK SPOTS BLOWING SNOW REDUCE SPEED	2:31

12/6/09 18:29	SLICK SPOTS SNOW REDUCE SPEED	17:40
12/6/09 20:59	SLICK SPOTS REDUCE SPEED	2:29
12/7/09 0:19	SLICK SPOTS SNOW TURN OFF CRUISE CONTROL	3:20
12/7/09 2:53	SLICK SPOTS DRIFTED SNOW BLOWING SNOW REDUCE SPEED	2:33
12/7/09 4:38	SLICK SPOTS DRIFTED SNOW REDUCED VISIBILITY	1:45
12/7/09 6:27	SLICK SPOTS DRIFTED SNOW SNOW BLOWING SNOW	1:48
12/7/09 7:02	SLICK SPOTS BLOWING SNOW TURN OFF CRUISE CONTROL	0:35
12/7/09 12:44	SLICK SPOTS TURN OFF CRUISE CONTROL	5:42
12/7/09 13:05	SLICK SPOTS TURN OFF CRUISE CONTROL	0:21
12/7/09 16:14	SLICK SPOTS BLOWING SNOW TURN OFF CRUISE CONTROL	3:08
12/7/09 17:07	SLICK SPOTS BLOWING SNOW TURN OFF CRUISE CONTROL	0:52
12/7/09 19:17	SLICK SPOTS TURN OFF CRUISE CONTROL	2:09
12/7/09 20:08	SLICK SPOTS TURN OFF CRUISE CONTROL	0:50
12/7/09 22:28	SLICK SPOTS FOG REDUCED VISIBILITY	2:20
12/7/09 23:10	SLICK SPOTS FOG REDUCED VISIBILITY	0:41
12/8/09 5:59	SLICK SPOTS BLOWING SNOW REDUCED VISIBILITY	6:49
12/8/09 6:14	SLICK SPOTS BLOWING SNOW REDUCED VISIBILITY	0:14
12/8/09 8:10	SLICK ROAD SNOW REDUCED VISIBILITY	1:56
12/8/09 8:13	SLICK ROAD SNOW REDUCED VISIBILITY	0:03
12/8/09 8:14	SLICK ROAD SNOW REDUCED VISIBILITY	0:01
12/8/09 10:21	SLICK ROAD BLOWING SNOW REDUCED VISIBILITY	2:06
12/8/09 11:16	SLICK ROAD BLOWING SNOW REDUCED VISIBILITY	0:55
12/8/09 11:36	SLICK ROADS BLOWING SNOW	0:19
12/8/09 11:39	SLICK ROAD BLOWING SNOW	0:02
12/8/09 12:17	SLICK ROAD BLOWING SNOW	0:38
12/8/09 20:52	SLICK SPOTS REDUCE SPEED DRIFTED SNOW BLOWING SNOW	8:35
12/8/09 21:23	SLICK SPOTS REDUCE SPEED DRIFTED SNOW BLOWING SNOW	0:30
12/8/09 21:31	SLICK SPOTS BLOWING SNOW REDUCE SPEED	0:08
12/8/09 22:23	SLICK SPOTS BLOWING SNOW REDUCE SPEED	0:52
12/8/09 22:25	SLICK SPOTS BLOWING SNOW STRONG WIND REDUCE SPEED	0:01
12/9/09 3:46	SLICK SPOTS BLOWING SNOW STRONG WIND GUSTS 45+ MPH	5:20
12/9/09 4:17	SLICK SPOTS BLOWING SNOW STRONG WIND GUSTS 50+ MPH	0:31
12/9/09 4:27	SLICK SPOTS BLOWING SNOW STRONG WIND GUSTS 50+ MPH	0:09
12/9/09 19:34	SLICK SPOTS STRONG WIND BLOWING SNOW	0:15
12/9/09 19:35	SLICK SPOTS STRONG WIND BLOWING SNOW	0:01
12/9/09 22:25	SLICK SPOTS STRONG WIND ADVISE NO LIGHT TRAILERS	2:49
12/9/09 22:36	SLICK SPOTS STRONG WIND ADVISE NO LIGHT TRAILERS	0:11
12/10/09 11:03	BLOWING SNOW REDUCE SPEED	5:22
12/10/09 11:43	BLOWING SNOW REDUCE SPEED	0:40
12/10/09 16:11	BLOWING SNOW STRONG WIND	4:28
12/10/09 16:45	BLOWING SNOW STRONG WIND	0:33
	Total Times Occurring 4	**Ave. 1:46**
12/9/09 10:20	I-80 CLOSED ALL TRAFFIC MUST EXIT	5:53

12/9/09 10:29	I-80 CLOSED ALL TRAFFIC MUST EXIT	0:08
12/9/09 11:28	I-80 CLOSED NO PARKING ON SHOULDER	0:59
12/9/09 11:31	I-80 CLOSED NO PARKING ON SHOULDER	0:02
	Total Times Occurring 12	**Ave. 2:07**
12/10/09 21:02	STRONG WIND	4:17
12/10/09 21:46	STRONG WIND	0:43
12/11/09 7:44	STRONG WIND BLOWING SNOW	9:57
12/11/09 7:51	STRONG WIND BLOWING SNOW	0:06
12/11/09 11:33	STRONG WIND	3:41
12/11/09 11:53	STRONG WIND	0:19
12/16/09 5:38	STRONG WIND	2:45
12/16/09 5:44	STRONG WIND	0:06
12/5/09 1:24	STRONG WIND GUSTS 50+ MPH	0:09
12/5/09 1:25	STRONG WIND GUSTS 45+ MPH	0:01
12/9/09 19:18	ADVISE NO LIGHT TRAILERS SLICK SPOTS STRONG WIND	0:43
12/1/09 18:31	DENSE FOG AHEAD	2:38
	Total Times Occurring 7	**Ave. 2:01**
12/9/09 13:51	35 MPH ADVISED POOR VISIBILITY BLOWING SNOW REDUCE SPEED	2:19
12/9/09 14:33	35 MPH ADVISED POOR VISIBILITY BLOWING SNOW REDUCE SPEED	0:42
12/9/09 17:44	35 MPH ADVISED POOR VISIBILITY ADVISE NO LIGHT TRAILERS	3:11
12/9/09 18:35	35 MPH ADVISED POOR VISIBILITY ADVISE NO LIGHT TRAILERS	0:50
12/10/09 5:01	REDUCED VISIBILITY BLOWING SNOW SLOW DOWN	6:25
12/10/09 5:04	REDUCED VISIBILITY BLOWING SNOW SLOW DOWN	0:03
12/10/09 5:40	REDUCED VISIBILITY BLOWING SNOW SLOW DOWN	0:35

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Date	Message	Duration
	Total Times Occurring 16	**Ave. 3:26**
10/1/09 1:11	STRONG WIND GUSTS 40+ MPH	3:02
10/1/09 5:14	STRONG WIND AHEAD	4:02
10/1/09 7:10	STRONG WIND	1:56
10/1/09 10:46	STRONG WIND	3:35
10/1/09 11:34	STRONG WIND AHEAD GUSTS 50+ MPH	0:48
10/1/09 13:55	STRONG WIND AHEAD GUSTS 45+ MPH	2:21
10/1/09 15:20	STRONG WIND AHEAD GUSTS 50+ MPH	1:25
10/1/09 17:35	STRONG WIND	2:14
10/1/09 20:04	STRONG WIND	2:28
10/2/09 8:36	STRONG WIND GUSTS 40+ MPH	12:32
10/5/09 12:33	STRONG WIND AHEAD	4:10
10/18/09 14:12	STRONG WIND	2:33
10/24/09 12:19	STRONG WIND AHEAD	7:33
10/24/09 4:42	NO LIGHT TRAILER ADVISORY GUSTS 55+ MPH	2:13

10/24/09 4:45	ADVISE NO LIGHT TRAILERS GUSTS 55+ MPH	0:03
10/31/09 15:10	STRONG WIND GUSTS 40+ MPH	3:58
	Total Times Occurring 50	**Ave. 2:40**
10/8/09 3:41	SLICK SPOTS REDUCE SPEED TURN OFF CRUISE CONTROL	3:08
10/8/09 4:16	SLICK ROAD SNOWFALL REDUCE SPEED TURN OFF CRUISE CONTROL	0:34
10/8/09 7:07	SLICK ROAD SNOW REDUCE SPEED TURN OFF CRUISE CONTROL	2:51
10/8/09 7:53	SLICK ROAD SNOW REDUCE SPEED	0:45
10/8/09 11:13	SLICK SPOTS SNOW TRUN OFF CRUISE CONTROL	3:20
10/9/09 15:16	SLICK SPOTS SNOW TURN OFF CRUISE CONTROL	0:31
10/9/09 15:22	SLICK SPOTS SNOW TRUN OFF CRUISE CONTROL	0:05
10/9/09 17:28	SLICK SPOTS SNOW DENSE FOG REDUCED VISIBILITY	2:06
10/20/09 23:42	SLICK SPOTS SNOW	2:43
10/21/09 0:05	SLICK SPOTS SNOW	0:23
10/21/09 3:07	SLICK SPOTS SNOW TURN OFF CRUISE CONTROL	3:01
10/21/09 5:49	SLICK SPOTS TURN OFF CRUISE CONTROL	2:41
10/10/09 11:10	SLICK ROAD SNOW BLOWING SNOW REDUCE SPEED	13:40
10/10/09 11:31	SLICK ROAD DRIFTED SNOW TURN OFF CRUISE CONTROL	0:21
10/10/09 20:50	SLICK SPOTS DENSE FOG REDUCED VISIBILITY REDUCE SPEED	9:18
10/10/09 22:57	SLICK SPOTS DRIFTED SNOW REDUCE SPEED	2:07
10/10/09 23:52	SLICK SPOTS DENSE FOG REDUCED VISIBILITY REDUCE SPEED	0:54
10/11/09 2:04	SLICK SPOTS SNOW REDUCE SPEED TURN OFF CRUISE CONTROL	2:12
10/11/09 3:35	SLICK SPOTS SNOW BLOWING SNOW FOG REDUCE SPEED	1:31
10/11/09 10:16	SLICK ROAD DENSE FOG	1:43
10/11/09 11:38	SLICK SPOTS FOG TURN OFF CRUISE CONTROL	1:22
10/11/09 12:32	SLICK SPOTS FOG WRECK 20 MILES AHEAD REDUCE SPEED	0:53
10/11/09 12:35	SLICK SPOTS FOG REDUCED VISIBILITY WRECK 20 MILES AHEAD REDUCE SPEED	0:02
10/11/09 8:33	SLICK ROAD DENSE FOG ADVISE 35 MPH MAX SPEED	0:34
10/11/09 13:27	SLICK SPOTS FOG WRECK 20 MILES AHEAD REDUCE SPEED	0:04
10/11/09 13:48	SLICK SPOTS FOG TURN OFF CRUISE CONTROL	0:21
10/11/09 15:27	SLICK SPOTS FOG REDUCED VISIBILITY TURN OFF CRUISE CONTROL	1:38
10/11/09 22:04	SLICK SPOTS TURN OFF CRUISE CONTROL	6:37
10/12/09 0:23	SLICK ROAD SNOW TURN OFF CRUISE CONTROL	2:18
10/12/09 4:17	SLICK ROAD REDUCE SPEED	3:54
10/12/09 5:54	SLICK ROAD DENSE FOG REDUCE SPEED	1:36
10/12/09 6:07	SLICK ROAD DENSE FOG REDUCED VISIBILITY REDUCE SPEED	0:12
10/12/09 10:19	SLICK SPOTS REDUCED VISIBILITY REDUCE SPEED	0:15
10/12/09 10:42	SLICK SPOTS REDUCED VISIBILITY REDUCE SPEED OVERSIZE LOAD RESTRICTION	0:23
10/27/09 18:42	SLICK ROAD SNOW REDUCE SPEED	2:08
10/28/09 2:39	SLICK ROAD SNOW REDUCE SPEED NO UNNECESSARY TRAVEL	7:56
10/30/09 16:03	SLICK SPOTS TURN OFF CRUISE CONTROL	2:34
10/30/09 16:57	SLICK SPOTS TURN OFF CRUISE CONTROL ADVISE 45 MPH 15 MILES AHEAD	0:53

10/30/09 17:39	SLICK SPOTS TURN OFF CRUISE CONTROL I-80 CLOSED	0:42
10/31/09 11:11	SLICK SPOTS REDUCE SPEED	8:50
10/25/09 4:36	SLICK SPOTS TURN OFF CRUISE CONTROL	16:17
10/25/09 5:40	SLICK SPOTS SNOW TRUN OFF CRUISE CONTROL	1:04
10/25/09 7:19	SLICK SPOTS	1:39
10/25/09 7:30	SLICK SPOTS TURN OFF CRUISE CONTROL	0:11
10/25/09 7:31	SLICK SPOTS REDUCE SPEED	0:01
10/11/09 7:59	ADVISE 35 MPH SLICK ROAD DENSE FOG	4:23
10/25/09 15:20	SNOW WET ROAD AHEAD REDUCE SPEED	7:48
10/25/09 15:31	SNOW AHEAD SLICK SPOTS REDUCE SPEED	0:11
10/28/09 9:34	SLICK ROAD DRIFTING SNOW SNOW STRONG WIND BLOWING SNOW	4:03
10/28/09 10:22	SLICK ROAD DRIFTING SNOW STRONG WIND BLOWING SNOW OVERSIZE LOAD RESTRICTION	0:47
	Total Times Occurring 10	Ave. **2:38**
10/9/09 18:59	I-80 CLOSED MULTIPLE CRASHES REDUCED VISIBILITY	1:30
10/9/09 19:37	I-80 CLOSED MULTIPLE CRASHES	0:38
10/9/09 21:29	I-80 CLOSED RETURN TO CHEYENNE	1:51
10/11/09 12:53	ROAD CLOSED WRECK 20 MILES AHEAD REDUCE SPEED	0:18
10/11/09 13:23	ROAD CLOSED WRECK 20 MILES AHEAD	0:29
10/28/09 5:31	I 80 CLOSED ALL TRAFFIC MUST EXIT	2:52
10/28/09 11:34	I-80 CLOSED DUE TO WRECK RETURN TO CHEYENNE	1:12
10/28/09 20:28	I-80 CLOSED NO PARKING ON SHOULDER	8:53
10/30/09 19:26	AN ALTERNATE ROUTE IS I-25 NORTH TO CASPER I-80 CLOSED	1:46
10/31/09 2:20	ALTERNATE ROUTE I-25 NORTH TO CASPER I-80 CLOSED	6:54
	Total Times Occurring 9	**Ave. 3:35**
10/21/09 11:09	WET ROAD	1:57
10/12/09 11:27	WET ROAD DENSE FOG REDUCE SPEED OVERSIZE LOAD RESTRICTION	0:44
10/5/09 4:18	WET ROAD REDUCE SPEED	0:59
10/5/09 8:23	WET ROAD	4:04
10/25/09 16:23	WET ROAD REDUCE SPEED	0:52
10/27/09 16:34	WET ROAD SLICK SPOTS SNOW TURN OFF CRUISE CONTROL	2:10
10/20/09 20:58	WET ROAD SLICK SPOTS SNOW	3:06
10/9/09 14:45	WET ROAD SLICK SPOTS SNOW TURN OFF CRUISE CONTROL	14:30
10/12/09 10:04	WET ROAD SLICK SPOTS REDUCED VISIBILITY REDUCE SPEED	3:57
	Total Times Occurring 16	**Ave. 6:19**
10/5/09 3:18	FOG WET ROAD REDUCE SPEED	2:28
10/4/09 12:44	FOG REDUCED VISIBILITY REDUCE SPEED	2:07
10/4/09 14:26	DENSE FOG REDUCED VISIBILITY WET ROAD REDUCE SPEED	1:41
10/5/09 0:50	DENSE FOG REDUCED VISIBILITY AHEAD WET ROAD REDUCE SPEED	10:24
10/9/09 0:15	DENSE FOG REDUCE SPEED	13:01
10/12/09 16:26	FOG AHEAD REDUCE SPEED	4:58
10/12/09 17:56	FOG AHEAD REDUCE SPEED	1:30
10/12/09 23:07	FOG REDUCE SPEED REDUCED VISIBILITY	5:10

10/13/09 7:08	FOG REDUCE SPEED BLACK ICE	8:00
10/13/09 9:00	FOG REDUCE SPEED	1:52
10/14/09 3:30	FOG REDUCED VISIBILITY REDUCE SPEED	18:29
10/14/09 5:39	FOG REDUCED VISIBILITY REDUCE SPEED	2:08
10/20/09 13:09	FOG REDUCE SPEED	2:56
10/20/09 17:52	FOG REDUCED VISIBILITY	4:43
10/21/09 9:11	FOG SLICK SPOTS TURN OFF CRUISE CONTROL	3:22
10/22/09 5:28	FOG REDUCE SPEED	18:19
Date	Message	Duration
	Total Times Occurring 5	**Ave. 3:48**
11/6/09 10:21	STRONG WIND GUSTS 45+ MPH	2:52
11/6/09 13:25	STRONG WIND GUSTS 40+ MPH	3:03
11/12/09 6:27	ADVISE NO LIGHT TRAILERS LARAMIE TO WALCOTT JUNCTION GUSTS 55+MPH	2:01
11/24/09 4:35	ADVISE NO LIGHT TRAILERS 20 MILES AHEAD	11:03
11/24/09 4:38	ADVISE NO LIGHT TRAILERS 20 MILES AHEAD STRONG WINDS GUSTS 45+ MPH	0:03
	Total Times Occurring 21	**Ave. 5:24**
11/13/09 4:47	SLICK SNOW REDUCED VISIBILITY	22:20
11/13/09 5:34	SLICK SNOW REDUCE SPEED TURN OFF CRUISE CONTROL	0:47
11/13/09 9:30	SLICK SPOTS WET REDUCE SPEED TURN OFF CRUISE CONTROL	3:55
11/13/09 14:57	SLICK ROAD SNOW REDUCE SPEED TURN OFF CRUISE CONTROL	5:26
11/13/09 16:14	SLICK ROAD REDUCE SPEED	1:17
11/13/09 19:33	SLICK ROAD REDUCE SPEED DRIFTED SNOW BLOWING SNOW	3:18
11/13/09 20:12	SLICK ROAD DRIFTED SNOW BLOWING SNOW REDUCE SPEED	0:38
11/13/09 23:51	SLICK SPOTS REDUCE SPEED	3:39
11/14/09 16:49	SLICK SPOTS TURN OFF CRUISE CONTROL	16:58
11/14/09 20:12	SLICK ROAD SNOW REDUCE SPEED	3:22
11/14/09 21:49	SLICK ROAD REDUCED VISIBILITY REDUCE SPEED	1:36
11/15/09 1:22	SLICK ROAD REDUCE SPEED	3:33
11/16/09 5:54	SLICK SPOTS BLOWING SNOW FOG	17:05
11/16/09 6:21	SLICK SPOTS STRONG WIND BLOWING SNOW REDUCE SPEED	0:26
11/16/09 15:30	SLICK SPOTS BLOWING SNOW TURN OFF CRUISE CONTROL	9:09
11/16/09 16:43	SLICK SPOTS BLOWING SNOW AHEAD TURN OFF CRUISE CONTROL	1:12
11/17/09 0:57	SLICK SPOTS BLOWING SNOW STRONG WIND TURN OFF CRUISE CONTROL	8:13
11/17/09 4:19	SLICK SPOTS BLOWING SNOW TURN OFF CRUISE CONTROL	3:22
11/17/09 8:38	SLICK SPOTS TURN OFF CRUISE CONTROL	4:19
11/17/09 8:40	SLICK SPOTS BLOWING SNOW TURN OFF CRUISE CONTROL	0:01
11/23/09 7:29	SLICK SPOTS TURN OFF CRUISE CONTROL	2:49
	Total Times Occurring 6	**Ave. 7:27**
11/23/09 17:32	DON'T DRINK AND DRIVE PLEASE BUCKLE UP	10:02
11/25/09 0:08	DON'T DRINK & DRIVE PLEASE BUCKLE UP	19:29
11/25/09 0:13	DON'T DRINK & DRIVE PLEASE BUCKLE UP	0:05
11/25/09 8:06	DON'T DRINK & DRIVE PLEASE BUCKLE UP	7:53

11/25/09 8:17	DON'T DRINK & DRIVE PLEASE BUCKLE UP	0:10
11/25/09 15:22	DON'T DRINK & DRIVE PLEASE BUCKLE UP	7:05
	Total Times Occurring 5	**Ave. 4:15**
11/2/09 5:42	DENSE FOG AHEAD REDUCED VISIBILITY REDUCE SPEED	2:32
11/2/09 11:36	FOG	5:53
11/2/09 11:39	FOG AHEAD	0:03
11/2/09 18:28	FOG AHEAD REDUCE SPEED	6:48
11/3/09 0:28	FOG REDUCE SPEED	6:00
	Total Times Occurring 1	**Ave. 11:26**
11/15/09 12:49	WET ROAD	11:26
Date	Message	Duration
	Total Times Occurring 53	**Ave. 2:19**
12/1/09 18:56	SLICK SPOTS SNOW REDUCE SPEED	3:33
12/1/09 20:16	SLICK ROAD SNOW REDUCE SPEED	1:20
12/1/09 21:09	SLICK ROAD SNOW REDUCE SPEED REDUCED VISIBILITY	0:53
12/1/09 22:39	SLICK SPOTS SNOW TRUN OFF CRUISE CONTROL	1:30
12/1/09 23:15	SLICK SPOTS SNOW BLOWING SNOW TURN OFF CRUISE CONTROL	0:36
12/2/09 4:34	SLICK SPOTS TURN OFF CRUISE CONTROL	5:18
12/2/09 8:13	SLICK SPOTS TURN OFF CRUISE CONTROL	3:38
12/3/09 19:16	SLICK SPOTS BLOWING SNOW TURN OFF CRUISE CONTROL	2:03
12/6/09 12:24	SLICK SPOTS BLOWING SNOW REDUCE SPEED	14:45
12/6/09 18:28	SLICK SPOTS SNOW REDUCE SPEED	6:04
12/6/09 20:58	SLICK SPOTS REDUCE SPEED	2:29
12/7/09 0:18	SLICK SPOTS SNOW TRUN OFF CRUISE CONTROL	3:20
12/7/09 2:53	SLICK SPOTS DRIFTED SNOW SNOW BLOWING SNOW TURN OFF CRUISE CONTROL	2:34
12/7/09 4:37	SLICK SPOTS DRIFTED SNOW STRONG WIND BLOWING SNOW REDUCED VISIBILITY	1:44
12/7/09 6:08	SLICK SPOTS DRIFTED SNOW SNOW BLOWING SNOW TURN OFF CRUISE CONTROL	1:30
12/7/09 7:37	SLICK SPOTS BLOWING SNOW TURN OFF CRUISE CONTROL	1:29
12/7/09 12:43	SLICK SPOTS TURN OFF CRUISE CONTROL	5:05
12/7/09 22:43	SLICK SPOTS TURN OFF CRUISE CONTROL REDUCED VISIBILITY 13 MILES AHEAD	9:59
12/7/09 22:43	SLICK SPOTS TURN OFF CRUISE CONTROL REDUCED VISIBILITY 13 MILES AHEAD	0:00
12/7/09 22:57	SLICK SPOTS TURN OFF CRUISE CONTROL FOG REDUCED VISIBILITY	0:14
12/7/09 23:08	SLICK SPOTS TURN OFF CRUISE CONTROL FOG REDUCED VISIBILITY	0:10
12/8/09 3:53	SLICK SPOTS SNOW REDUCE SPEED	4:45
12/8/09 4:09	SLICK SPOTS SNOW REDUCE SPEED	0:15
12/8/09 5:58	SLICK SPOTS SNOW REDUCE SPEED REDUCED VISIBILITY	1:48
12/8/09 6:09	SLICK SPOTS SNOW REDUCE SPEED REDUCED VISIBILITY	0:11
12/8/09 7:09	SLICK SPOTS BLOWING SNOW REDUCE SPEED REDUCED VISIBILITY	1:00
12/8/09 7:10	SLICK SPOTS BLOWING SNOW REDUCED VISIBILITY TURN OFF CRUISE CONTROL	0:01
12/8/09 8:06	SLICK ROAD SNOW REDUCED VISIBILITY REDUCE SPEED	0:55

12/8/09 8:09	SLICK ROAD SNOW REDUCED VISIBILITY REDUCE SPEED".		0:03
12/8/09 10:20	SLICK ROAD BLOWING SNOW REDUCED VISIBILITY TURN OFF CRUISE CONTROL REDUCE SPEED		2:10
12/8/09 11:10	SLICK ROAD BLOWING SNOW REDUCED VISIBILITY TURN OFF CRUISE CONTROL REDUCE SPEED".		0:50
12/8/09 11:34	SLICK ROAD BLOWING SNOW TURN OFF CRUISE CONTROL REDUCE SPEED		0:23
12/8/09 11:39	SLICK ROAD BLOWING SNOW REDUCE SPEED		0:05
12/8/09 12:10	SLICK ROAD BLOWING SNOW REDUCE SPEED		0:31
12/8/09 15:19	SLICK ROAD BLOWING SNOW REDUCE SPEED		2:08
12/8/09 16:11	SLICK ROAD BLOWING SNOW REDUCE SPEED		0:51
12/8/09 21:32	SLICK ROAD REDUCE SPEED		5:20
12/8/09 21:32	SLICK ROAD REDUCE SPEED		0:00
12/8/09 22:12	SLICK ROAD REDUCE SPEED		0:40
12/8/09 22:14	SLICK SPOTS REDUCE SPEED		0:02
12/8/09 22:15	SLICK SPOTS REDUCE SPEED		0:00
12/8/09 22:26	SLICK SPOTS REDUCE SPEED STRONG WIND 17 MILES AHEAD		0:11
12/8/09 23:12	SLICK SPOTS REDUCE SPEED STRONG WIND 17 MILES AHEAD		0:46
12/9/09 4:20	SLICK SPOTS REDUCE SPEED ADVISE NO LIGHT TRAILERS GUSTS 50+ MPH		5:07
12/9/09 4:30	SLICK SPOTS REDUCED VISIBILITY AHEAD ADVISE NO LIGHT TRAILERS GUSTS 50+ MPH		0:10
12/9/09 15:10	SLICK ROAD AHEAD LIMITED VISIBILITY REDUCE SPEED		2:55
12/9/09 15:15	SLICK SPOTS DRIFTED SNOW BLOWING SNOW STRONG WIND REDUCE SPEED		0:04
12/9/09 15:15	SLICK SPOTS DRIFTED SNOW BLOWING SNOW STRONG WIND REDUCE SPEED		0:00
12/9/09 15:57	SLICK SPOTS DRIFTED SNOW BLOWING SNOW STRONG WIND REDUCED VISIBILITY REDUCE SPEED		0:42
12/9/09 16:16	SLICK SPOTS DRIFTED SNOW BLOWING SNOW STRONG WIND REDUCED VISIBILITY REDUCE SPEED		0:18
12/9/09 19:35	SLICK SPOTS DRIFTED SNOW STRONG WIND BLOWING SNOW REDUCED VISIBILITY		1:18
12/9/09 20:16	SLICK SPOTS DRIFTED SNOW STRONG WIND BLOWING SNOW REDUCED VISIBILITY		0:41
12/5/09 21:39	SLICK SPOTS SNOW REDUCE SPEED		20:16
	Total Times Occurring 2	**Ave.**	**0:30**
12/8/09 12:37	DRIFTED/BLOWING SNOW SLICK ROAD REDUCE SPEED		0:26
12/8/09 13:11	DRIFTED/BLOWING SNOW SLICK ROAD REDUCE SPEED		0:33
	Total Times Occurring 7	**Ave.**	**1:06**
12/9/09 4:34	I-80 CLOSED		0:03
12/9/09 5:13	I-80 CLOSED		0:39
12/9/09 10:15	I-80 CLOSED CHEYENNE TO SINCLAIR		5:01
12/9/09 10:43	I-80 CLOSED CHEYENNE TO SINCLAIR DETOUR I-25 TO WY 220 (CASPER) TO WY 287 (RAWLINS)		0:28
12/9/09 11:14	I-80 CLOSED CHEYENNE TO SINCLAIR DETOUR I-25 TO WY 220 (CASPER) TO WY 287 (RAWLINS)		0:30
12/9/09 11:28	I-80 CLOSED CHEYENNE TO SINCLAIR DETOUR I-25 TO WY 220 (CASPER) TO US 287 (RAWLINS)		0:13
12/9/09 12:15	I-80 CLOSED CHEYENNE TO SINCLAIR DETOUR I-25 TO WY 220 (CASPER) TO US 287 (RA		0:47
	Total Times Occurring 24	**Ave.**	**2:44**
12/10/09 16:27	STRONG WIND		1:03
12/10/09 17:23	STRONG WIND		0:56

12/12/09 12:02	STRONG WIND	2:38
12/12/09 12:30	STRONG WIND	0:28
12/16/09 5:35	STRONG WIND	2:04
12/16/09 5:45	STRONG WIND	0:10
12/16/09 11:24	STRONG WIND	5:38
12/16/09 11:28	STRONG WIND	0:03
12/16/09 11:46	STRONG WIND	0:18
12/16/09 12:22	STRONG WIND	0:35
12/16/09 12:47	STRONG WIND	0:24
12/9/09 17:43	ADVISE NO LIGHT TRAILERS DRIFTED SNOW STRONG WIND REDUCED VISIBILITY REDUCE SPEED	1:27
12/9/09 18:16	ADVISE NO LIGHT TRAILERS DRIFTED SNOW STRONG WIND REDUCED VISIBILITY REDUCE SP	0:32
12/9/09 22:16	ADVISE NO LIGHT TRAILERS STRONG WIND BLOWING SNOW REDUCED VISIBILITY	2:00
12/9/09 22:19	ADVISE NO LIGHT TRAILERS STRONG WIND BLOWING SNOW REDUCED VISIBILITY	0:02
12/10/09 4:58	ADVISE NO LIGHT TRAILERS STRONG WIND BLOWING SNOW REDUCED VISIBILITY SLOW DOWN	6:39
12/10/09 5:20	ADVISE NO LIGHT TRAILERS STRONG WIND BLOWING SNOW REDUCED VISIBILITY SLOW DOWN	0:21
12/10/09 15:01	ADVISE NO LIGHT TRAILERS STRONG WIND	9:41
12/10/09 15:23	ADVISE NO LIGHT TRAILERS STRONG WIND	0:21
12/4/09 3:46	STRONG WIND AHEAD	8:29
12/4/09 6:58	STRONG WIND BLOWING SNOW REDUCE SPEED	3:12
12/5/09 0:55	BLOWING SNOW REDUCE SPEED STRONG WIND GUSTS 50+ MPH	17:56
12/5/09 1:14	BLOWING SNOW REDUCE SPEED STRONG WIND GUSTS 45+ MPH	0:19
12/5/09 1:23	STRONG WIND GUSTS 45+ MPH	0:08

APPENDIX B: SURVEY DOCUMENTS OF RANDOM AND FREQUENT TRAVELERS

I-80 Traveler Intercept Survey: Travel Advisory

We are doing a survey in conjunction with the WY Dept. of Transportation to get traveler opinions about the Dynamic Message Signs along I-80 between Laramie and Cheyenne. The survey takes a few minutes and your responses will be used to help to improve the system and guide future enhancements.

1. Can I ask you the questions? (If yes, continue. If no, thank them and Stop)

2. Were you the driver on I-80 today? (If yes, continue. If no, thank them and Stop)

3. Did you see or use any travel information today? (If yes, continue. If no, thank them and Stop)

Date:	**Time:**	**Location:**	**Driver's Gender:** Male / Female (Circle One)	**Interviewer Name:**

4. Please identify your age group:
❑ 16 – 25 ❑ 26 – 35 ❑ 36 – 45 ❑ 46 – 55 ❑ Over 55.

5. What direction are you traveling on I-80? ___East (toward Cheyenne) ___West (toward Laramie)

6. What type of vehicle are you driving? (Car, Pickup, Passenger Van, Bus, or Commercial Vehicle)

7. HOW OFTEN do you travel on this section of I-80?
- ❑ Almost every day.
- ❑ 1-4 times per week.
- ❑ A few times a month.
- ❑ Once a month or less.
- ❑ This is my first time.

8. For WHICH REASON do you **most often** travel this section of I-80?
- ❑ Commuting to/from school or work.
- ❑ Shipping or delivery.
- ❑ Errands.
- ❑ Traveling through on vacation.
- ❑ Traveling through on business.
- ❑ Other (please specify): _____

9. From which of the following did you get your travel information from today? (Choose all that apply)
- ❑ 511/1-888-WyoRoad Phone Service
- ❑ Broadcast radio
- ❑ Dynamic Message Signs
- ❑ Flashing Caution Signs
- ❑ Highway Advisory Radio (530 or 1610 AM Radio)
- ❑ Television
- ❑ WYDOT website
- ❑ 511 Notify Text/E-mail message service
- ❑ Other_____

10. For each source of information you used, please rank the top 3 according to:
Accuracy, *Timeliness*, and *Credibility* (*Place a "1" for the most, a "2" for the next most, and so on.)*

	Accurate	**Timely**	**Credible**
511 Phone Service			
Broadcast Radio			
Dynamic Message Signs			
Flashing Caution Signs			
Highway Advisory Radio (530 or 1610 AM Radio)			
Television			
WYDOT website			
511 Notify Text/E-mail message service			
Other: _____			

11. Did you READ the advisory on the **Dynamic Message Signs** (DMS) in this section of I-80?
___ Yes (please rate your level of agreement/disagreement with the following statements)
___ No (skip to end)

Statement	**Completely Agree**	**Somewhat Agree**	**Neutral**	**Somewhat Disagree**	**Completely Disagree**	**Not Sure**
The DMS signs were clearly VISIBLE.						
The DMS messages were EASY to understand.						
The DMS messages were USEFUL.						
The DMS messages were ACCURATE.						
The DMS messages were SPECIFIC/ DETAILED enough to help make decisions about your trip.						
The DMS messages BETTER PREPARED you for changing travel conditions.						
The DMS signs were appropriately spaced to keep you informed about travel conditions.						
Because of the DMS messages, you took the action advised by slowing down, watching for ice, etc.						

12. Has the information on the Dynamic Message Signs ever caused you to: (Please mark all that apply.)

- ❑ Cancel or not take the trip.
- ❑ Turn back and wait until conditions change.
- ❑ Drive more carefully.
- ❑ Drive slower.
- ❑ None of the above, you ignore the Dynamic Message Signs.
- ❑ Other (please specify):

_____

13. Do you think other driver's respond appropriately to the travel advisories?
___ Yes
___ No

14. Is there any additional information that should be displayed on the signs?
Please specify: _____

I-80 Traveler Intercept Survey: Road Closure

We are doing a survey in conjunction with the WY Dept. of Transportation to get traveler opinions about the Dynamic Message Signs along I-80 between Laramie and Cheyenne. The survey takes a few minutes and your responses will be used to help to improve the system and guide future enhancements.

15. Can I ask you the questions? (If yes, continue. If no, thank them and Stop)
16. Are you the driver on I-80 today? (If yes, continue. If no, thank them and Stop)
17. Did you see or use any travel information today? (If yes, continue. If no, thank them and Stop)

Date:	**Time:**	**Location:**	**Driver's Gender:** Male / Female (Circle One)	**Interviewer Name:**

18. Please identify your age group:
❑ 16 – 25 ❑ 26 – 35 ❑ 36 – 45 ❑ 46 – 55 ❑ Over 55.

19. What direction are you traveling on I-80? ___East (toward Cheyenne) ___West (toward Laramie)
20. What type of vehicle are you driving? (Car, Pickup, Passenger Van, Bus, or Commercial Vehicle)

21. HOW OFTEN do you travel on this section of I-80?
❑ Almost every day.
❑ 1-4 times per week.
❑ A few times a month.
❑ Once a month or less.
❑ This is my first time.

22. For WHICH REASON do you **<u>most often</u>** travel this section of I-80?
❑ Commuting to/from school or work.
❑ Shipping or delivery.
❑ Errands.
❑ Traveling through on vacation.
❑ Traveling through on business.
❑ Other (please specify): _____

23. From which of the following did you get your travel information from today? (Choose all that apply)

- ❑ 511 Phone Service
- ❑ Broadcast radio
- ❑ Dynamic Message Signs
- ❑ Flashing Caution Signs
- ❑ Highway Advisory Radio (530 or 1610 AM Radio)
- ❑ Television
- ❑ WYDOT website
- ❑ 511 Notify Text/E-mail message service
- ❑ Other_____

24. For each source of information you used, please rank the top 3 according to:
Accuracy, Timeliness, and *Credibility* (*Place a "1" for the most, a "2" for the next most, and so on.)*

	Accurate	**Timely**	**Credible**
511 Phone Service			
Broadcast Radio			
	Accurate	**Timely**	**Credible**
Dynamic Message Signs			
Flashing Caution Signs			
Highway Advisory Radio (530 or 1610 AM Radio)			
Television			
WYDOT website			
511 Notify Text/E-mail message service			
Other: _____			

25. How did you hear about the I-80 road closure?

_____

26. What information source(s) will you use to find out when the roads are open?

_____

27. Did you READ about the road closure on the **Dynamic Message Signs** (DMS) in this section of I-80?

___ Yes (please rate your level of agreement/disagreement with the following statements)

___ No (please skip end)

Statement	Completely Agree	Somewhat Agree	Neutral	Somewhat Disagree	Completely Disagree	Not Sure
The DMS signs were clearly VISIBLE.						
The DMS messages were EASY to understand.						
The DMS messages were USEFUL.						
The DMS messages were ACCURATE.						
The DMS messages were SPECIFIC/ DETAILED enough to help make decisions about your trip.						
The DMS messages BETTER PREPARED you for changing travel conditions.						
The DMS signs were appropriately spaced to keep you informed about travel conditions.						
Because of the DMS messages, you took the action advised by slowing down, watching for ice, etc.						

28. Has the information on the Dynamic Message Signs ever caused you to: (Please mark all that apply.)

- ❑ Cancel or not take the trip.
- ❑ Turn back and wait until conditions change.
- ❑ Drive more carefully.
- ❑ Drive slower.
- ❑ None of the above, you ignore the Dynamic Message Signs.
- ❑ Other (please specify):

_____

29. Do you think other driver's respond appropriately to the travel advisories?

___ Yes

___ No

30. Is there any additional information that should be displayed on the signs?

Please specify: _____

Frequent Traveler Profile

Local Traveler Profile Survey

Page 1

Local Traveler Profile Background Survey

As part of a larger study to evaluate the effectiveness of travel information for the I-80 between Cheyenne and Laramie, we are recruiting a Frequent Traveler Panel for this corridor. As a memeber of the Frequent Traveler Panel you will be periodically asked to fill out a survey about conditions in the corridor and how useful the travel information was regarding the conditions you encountered. We are anticipating that there will be a one month period in late 2007 and another one month period in the spring of 2008 where you will recieve regular survey requests, possibly up to two per week. In other times the frequency of the survey requests will most likely be one or two per month.

The informaiton collected during this study will be used to evaluate the effectiveness of the installed technology in the corridor and will also provide feedback to the Wyoming Department of Transportation on how to most effectively provide travel information.

If you are willing to become a member of the Frequent Traveler Panel, please fill out the following background profile. Much of this information will be used to send you survey request only for those roadway conditions you were likely to have encountered.

---

1. First Name*

2. Last Name*

3. Phone Number
   with area code

4. E-mail:*

5. Highest Level of Education
   Check One

   - ◯ Less than High School Graduate
   - ◯ High School Graduate
   - ◯ Some College or Junior College Graduate
   - ◯ College Gradute
   - ◯ Post-Graduate Degree
   - ◯ Other, please specify

11. Number of trips typically taken between Cheyenne and Laramie per week:
Count each direction as a separate trip.

_____

12. What is your most common reason for taking the trip?
Check One.

- ◯ Commuting to work or school
- ◯ Shipping or delivery
- ◯ Errands
- ◯ Vacation/Recreation

13. In the table below, please indicate the days and times you typically take a WESTBOUND trip on I-80 from Cheyenne to Laramie:
Check all days and times that apply

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Midnight-6 a.m.	☐	☐	☐	☐	☐	☐	☐	☐
6-9 a.m.	☐	☐	☐	☐	☐	☐	☐	☐
9 a.m.-Noon	☐	☐	☐	☐	☐	☐	☐	☐
Noon-3 p.m.	☐	☐	☐	☐	☐	☐	☐	☐
3-6 p.m.	☐	☐	☐	☐	☐	☐	☐	☐
6-9 p.m.	☐	☐	☐	☐	☐	☐	☐	☐
9 p.m.-Midnight	☐	☐	☐	☐	☐	☐	☐	☐

14. In the table below, please indicate the days and times you typically take an EASTBOUND trip on I-80 from Laramie to Cheyenne:
Check all days and times that apply.

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Midnight-6 a.m.	☐	☐	☐	☐	☐	☐	☐	☐
6-9 a.m.	☐	☐	☐	☐	☐	☐	☐	☐
9 a.m.-Noon	☐	☐	☐	☐	☐	☐	☐	☐
Noon-3 p.m.	☐	☐	☐	☐	☐	☐	☐	☐
3-6 p.m.	☐	☐	☐	☐	☐	☐	☐	☐
6-9 p.m.	☐	☐	☐	☐	☐	☐	☐	☐
9 p.m.-Midnight	☐	☐	☐	☐	☐	☐	☐	☐

Please tell us about your travel information experiences for I-80 trips between Laramie and Cheyenne. Keep in mind that travel information sources include:

BEFORE Trip Sources:
WYDOT Website
Television
511 Telephone Service or 1-888-WYO-ROAD
Broadcast Radio

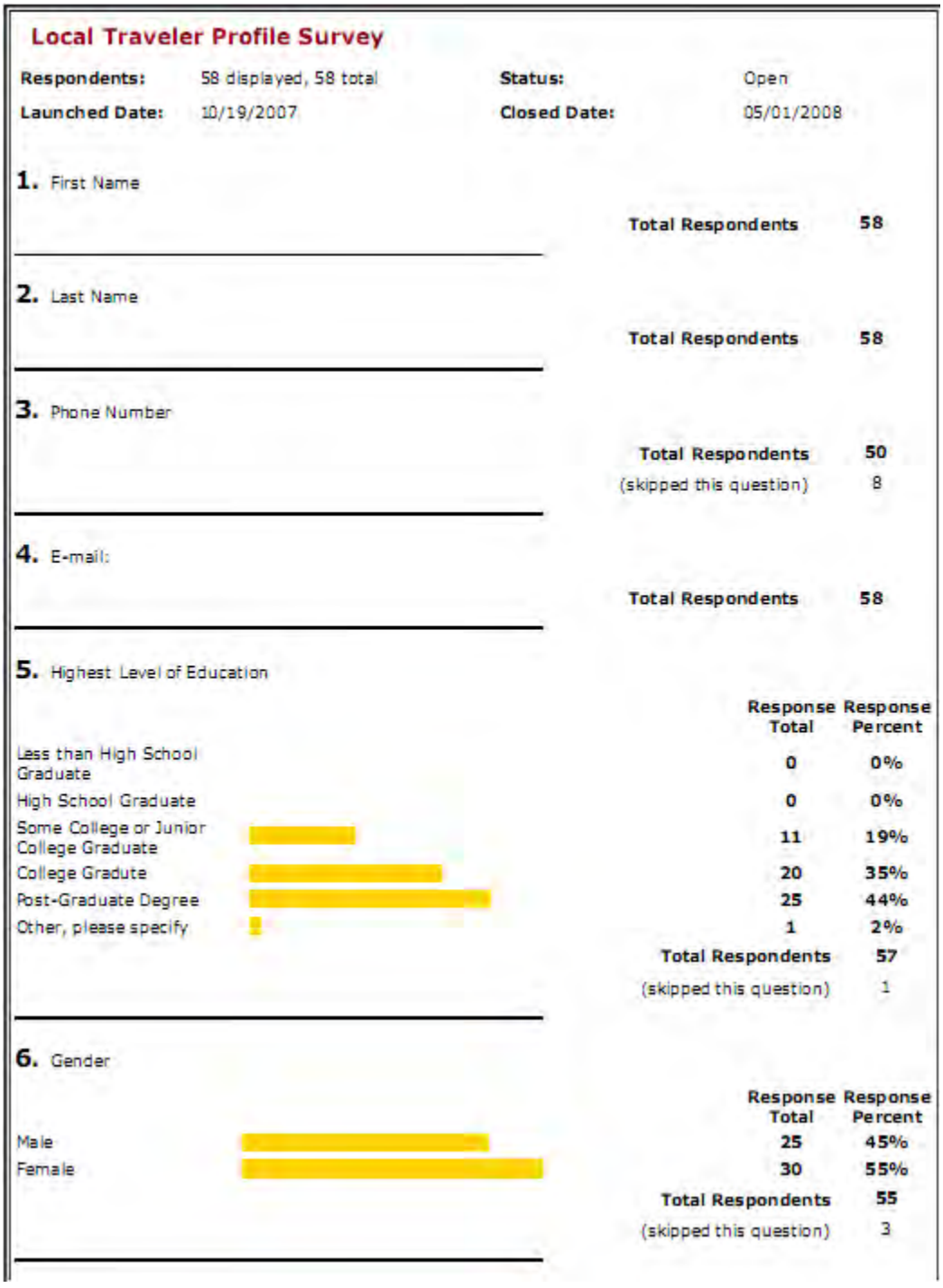
DURING Trip Sources:
Roadside Dynamic Message Signs
Flashing Caution Signs
Highway Advisory Radio
Broadcast Radio (in the vehicle)

15. Respond to the following statements regarding your past travel behavior on I-80 between Cheyenne and Laramie.

	Never	Rarely	Sometimes	Routinely	Always
I use travel information to help have a safer trip.	○	○	○	○	○
I use weather information to increase my ability to respond to changes in weather conditions.	○	○	○	○	○
I use road condition information to increase my ability to repsond to changes in road conditions.	○	○	○	○	○
I use traffic information to increase my ability to respond to changes in traffic conditions.	○	○	○	○	○
I take action (e.g., slow down, watch for ice, etc.) when advised by the travel information.	○	○	○	○	○

Thank you for your willingness to particpate as a member in the Frequent Traveler Panel. You will be contacted shortly with more information on the project. If you have any questions in the meantime please contact Dr. Rhonda Young at the University of Wyoming at 307-766-2184 or rkyoung@uwyo.edu.

Frequent Traveler Profile Survey



Local Traveler Profile Survey

Respondents: 58 displayed, 58 total
Status: Open
Launched Date: 10/19/2007
Closed Date: 05/01/2008

1. First Name

Total Respondents	**58**

2. Last Name

Total Respondents	**58**

3. Phone Number

Total Respondents	**50**
(skipped this question)	8

4. E-mail:

Total Respondents	**58**

5. Highest Level of Education

	Response Total	Response Percent
Less than High School Graduate	**0**	**0%**
High School Graduate	**0**	**0%**
Some College or Junior College Graduate	**11**	**19%**
College Gradute	**20**	**35%**
Post-Graduate Degree	**25**	**44%**
Other, please specify	**1**	**2%**
Total Respondents	**57**	
(skipped this question)	1	

6. Gender

	Response Total	Response Percent
Male	**25**	**45%**
Female	**30**	**55%**
Total Respondents	**55**	
(skipped this question)	3	

7. What is your current age?

	Response Total	Response Percent
18-24	3	5%
25-34	13	23%
35-44	12	21%
45-54	20	35%
55-64	8	14%
65+	1	2%
Total Respondents	**57**	
(skipped this question)	1	

8. Which of the following best describes your current employment status?

	Response Total	Response Percent
Employed full-time	48	86%
Employed part-time	1	2%
Retired	2	4%
Not currently employed	0	0%
Full-time student/Not employed	5	9%
Total Respondents	**56**	
(skipped this question)	2	

9. Are you a current employee of the Wyoming Department of Transportation?

	Response Total	Response Percent
Yes	1	2%
No	57	98%
Total Respondents	**58**	

10. Please select your preferred method for receiving and responding to these surveys.

	Response Total	Response Percent
E-mail Notification and Web Survey	51	88%
E-mail Notification and E-mail Survey	6	10%
Phone Notification and Mailed Paper Survey	1	2%
Total Respondents	**58**	

11. Number of trips typically taken between Cheyenne and Laramie per week:

	Response Average
	7.56
Total Respondents	54
(skipped this question)	4

12. What is your most common reason for taking the trip?

	Response Total	Response Percent
Commuting to work or school	43	80%
Shipping or delivery	1	2%
Errands	4	7%
Vacation/Recreation	6	11%
Total Respondents	54	
(skipped this question)	4	

13. In the table below, please indicate the days and times you typically take a WESTBOUND trip on I-80 from Cheyenne to Laramie:

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Response Total
Midnight-6 a.m.	33% (1)	67% (2)	67% (2)	100% (3)	67% (2)	0% (0)	33% (1)	0% (0)	3
6-9 a.m.	0% (0)	62% (10)	81% (13)	62% (10)	81% (13)	62% (10)	0% (0)	0% (0)	16
9 a.m.-Noon	18% (2)	36% (4)	0% (0)	18% (2)	0% (0)	27% (3)	36% (4)	9% (1)	11
Noon-3 p.m.	33% (1)	0% (0)	0% (0)	33% (1)	33% (1)	0% (0)	0% (0)	0% (0)	3
3-6 p.m.	20% (5)	92% (23)	88% (22)	84% (21)	92% (23)	96% (24)	12% (3)	12% (3)	25
6-9 p.m.	35% (6)	41% (7)	41% (7)	41% (7)	29% (5)	41% (7)	18% (3)	12% (2)	17
9 p.m.-Midnight	25% (2)	12% (1)	12% (1)	12% (1)	12% (1)	12% (1)	12% (1)	12% (1)	8
							Total Respondents		53
							(skipped this question)		5

14. In the table below, please indicate the days and times you typically take an EASTBOUND trip on I-80 from Laramie to Cheyenne:

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Response Total
Midnight-6 a.m.	0% (0)	33% (2)	0% (0)	17% (1)	50% (3)	17% (1)	0% (0)	17% (1)	6
6-9 a.m.	0% (0)	150% (24)	156% (25)	144% (23)	138% (22)	150% (24)	0% (0)	0% (0)	16
9 a.m.-Noon	17% (1)	17% (1)	17% (1)	33% (2)	33% (2)	17% (1)	67% (4)	33% (2)	6
Noon-3 p.m.	0% (0)	50% (3)	17% (1)	17% (1)	17% (1)	50% (3)	0% (0)	0% (0)	6
3-6 p.m.	22% (6)	59% (16)	48% (13)	48% (13)	48% (13)	41% (11)	15% (4)	7% (2)	27
6-9 p.m.	6% (1)	12% (2)	18% (3)	18% (3)	18% (3)	29% (5)	29% (5)	18% (3)	17
9 p.m.-Midnight	18% (2)	18% (2)	9% (1)	18% (2)	27% (3)	18% (2)	18% (2)	9% (1)	11

Total Respondents	**54**
(skipped this question)	4

15. Respond to the following statements regarding your past travel behavior on I-80 between Cheyenne and Laramie.

	Never	Rarely	Sometimes	Routinely	Always	Response Total
I use travel information to help have a safer trip.	0% (0)	4% (2)	28% (15)	54% (29)	15% (8)	**54**
I use weather information to increase my ability to respond to changes in weather conditions.	2% (1)	2% (1)	11% (6)	63% (34)	22% (12)	**54**
I use road condition information to increase my ability to repsond to changes in road conditions.	0% (0)	0% (0)	17% (9)	61% (33)	22% (12)	**54**
I use traffic information to increase my ability to respond to changes in traffic conditions.	13% (7)	7% (4)	20% (11)	52% (28)	7% (4)	**54**
I take action (e.g., slow down, watch for ice, etc.) when advised by the travel information.	0% (0)	0% (0)	6% (3)	46% (25)	48% (26)	**54**

Total Respondents	**54**
(skipped this question)	4

APPENDIX C: FREQUENT TRAVELER PANEL FULL RESULTS

Frequent Traveler Panel Survey Results Fall 2009

The ability to know how severe weather incidents will affect drivers is critical in deciding what messages to put on Dynamic Message signs and other forms of communication with the public. Five of these incidents occurred from November 13 to December 8 2009. The incidents happened as follows with corresponding dates:

1. A 25 person panel was surveyed for an incident on Friday, November 13th including:
• Weather conditions along the entire corridor for the whole day and a road closure in the eastbound direction from 3:00 pm to 4:00 pm.

2. A 21 person panel was surveyed for incidents occurring on Monday, November 23rd and continuing through the morning of Tuesday, November 24th including:
• Road closure in the Eastbound direction due to a wreck from 8:00 PM and 10:30 PM on Monday evening
• Reduced Visibility between Happy Jack/Summit and Buford on Monday night/Tuesday early morning
• High Winds beginning on Tuesday around 5:00 AM and continuing throughout the morning

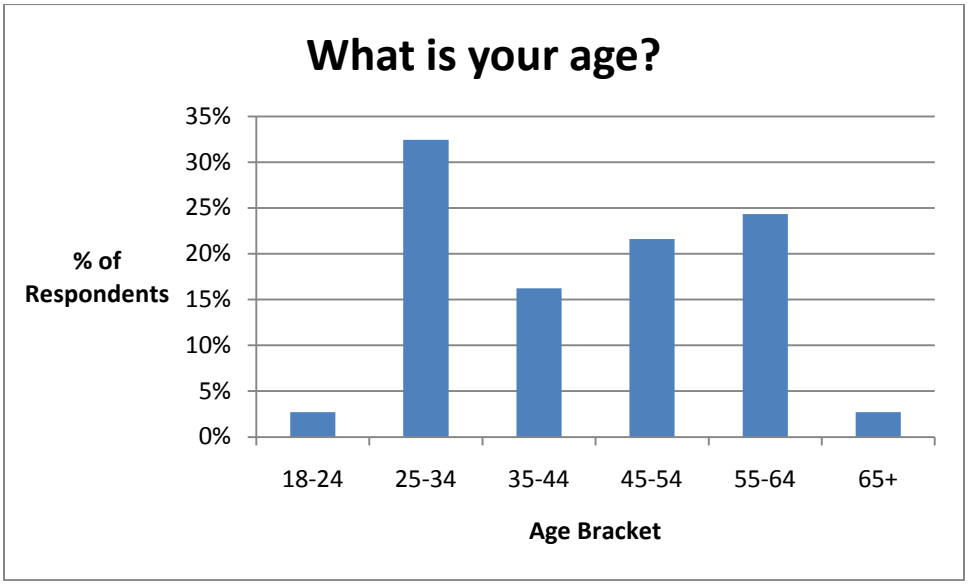
3. A 21 person panel was surveyed for incidents on December 1st including:
• I-80 Reduced Visibility between the Albany/Laramie County Line and Harriman between 9:00pm and 11:00pm
• I-80 Reduced Visibility between Laramie and the Happy Jack Summit Interchange between 6:40pm and midnight
• High Winds beginning on Tuesday around 6:00 PM and continuing throughout the night

4. A 13 person panel was surveyed for incidents that may have impacted drivers on the evening of Saturday, December 5th and the morning of Sunday December 6th including:
• I-80 Reduced Visibility between the Laramie and Cheyenne from 9:00pm and 1:00am

5. Two panels made of 23 and 24 people were surveyed on incidents that may have impacted drivers on the evening of Monday, December 7th and the morning of Tuesday December 8th including:
• I-80 Reduced Visibility between the Laramie and Cheyenne from 10:30 pm and 11:30am

In total, there were 37 frequent traveler panel members. The reason that the number of survey filled out was greater than the number of panel members was that many of the panel members were involved with several of the incidences. The following is an analysis of these panel members:

1. What is your current age?
A break-down of the panel members ages are shown in the following graph

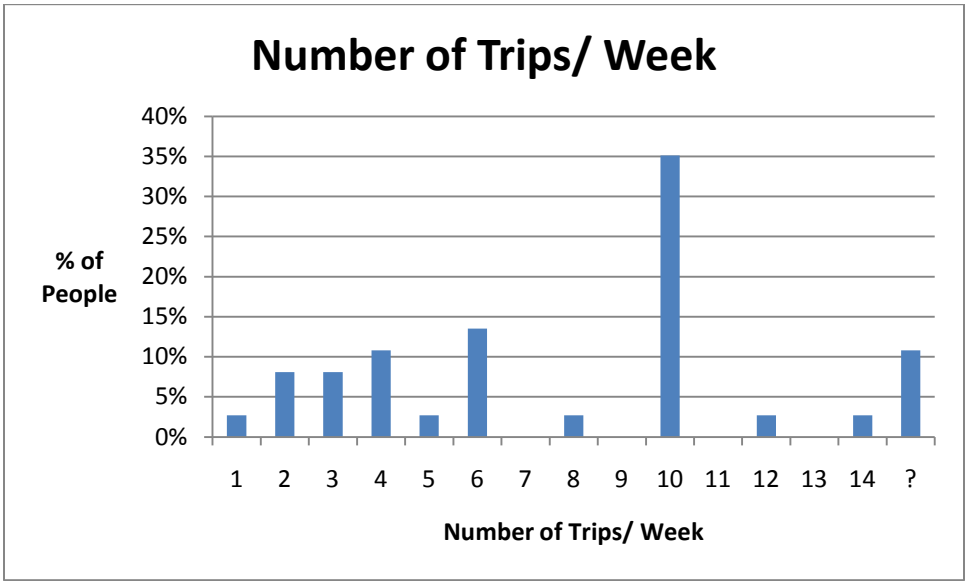


2. Which of the following best describes your current employment status?
Of the 37 panel members, 32 were full-time employees, 3 were part-time employees and 1 was a full-time student. Only 1 panel member was retired.

3. Are you a current employee of the Wyoming Department of Transportation?
Only one panel member was an employee of the Wyoming Department of Transportation.

4. Please select your preferred method for receiving and responding to these surveys.
All 37 panel member were notified of this survey through email and took a web based survey online.

5. Number of trips typically taken between Cheyenne and Laramie per week:
The following graph shows the results of trips taken per week as a percentage of the respondents:



6. What is your most common reason for taking the trip?
Of the respondents, 27 (73%) said commuting to and from work or school was their primary reason for taking the trip, 4 (11%) said they were taking a vacation, 5 (14%) said they had various reasons and only 1 person (3%) said they were running errands.

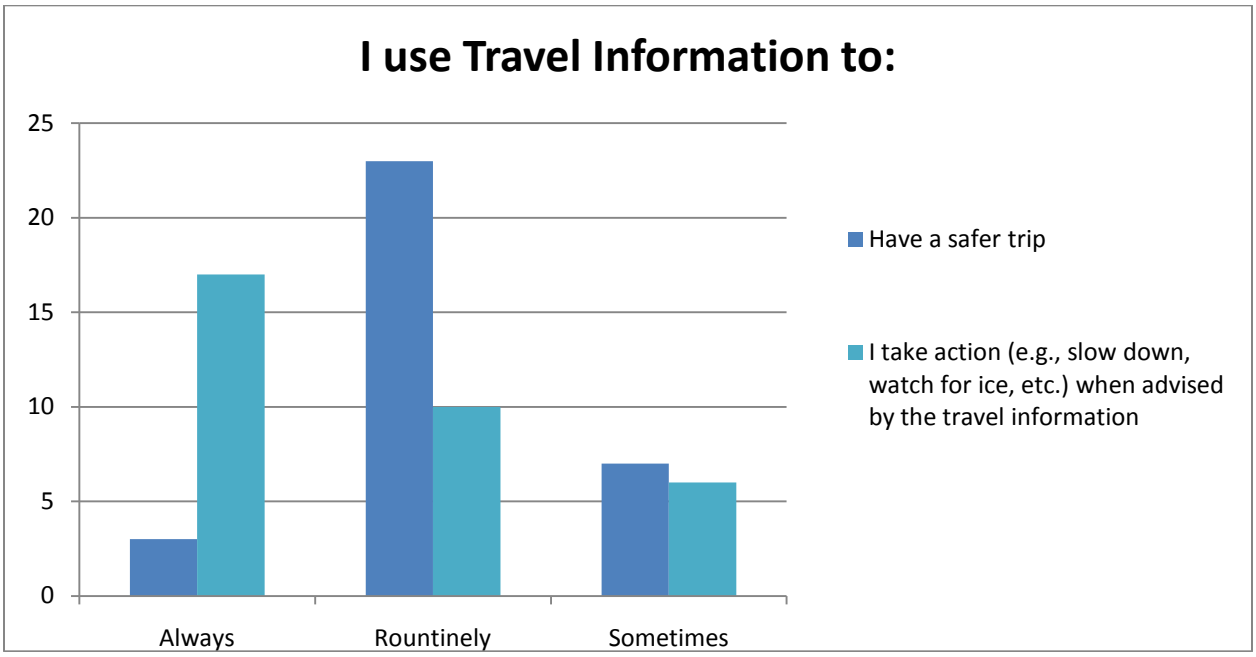
7. In the table below, please indicate the days and times you typically take a WESTBOUND trip on I-80 from Cheyenne to Laramie:

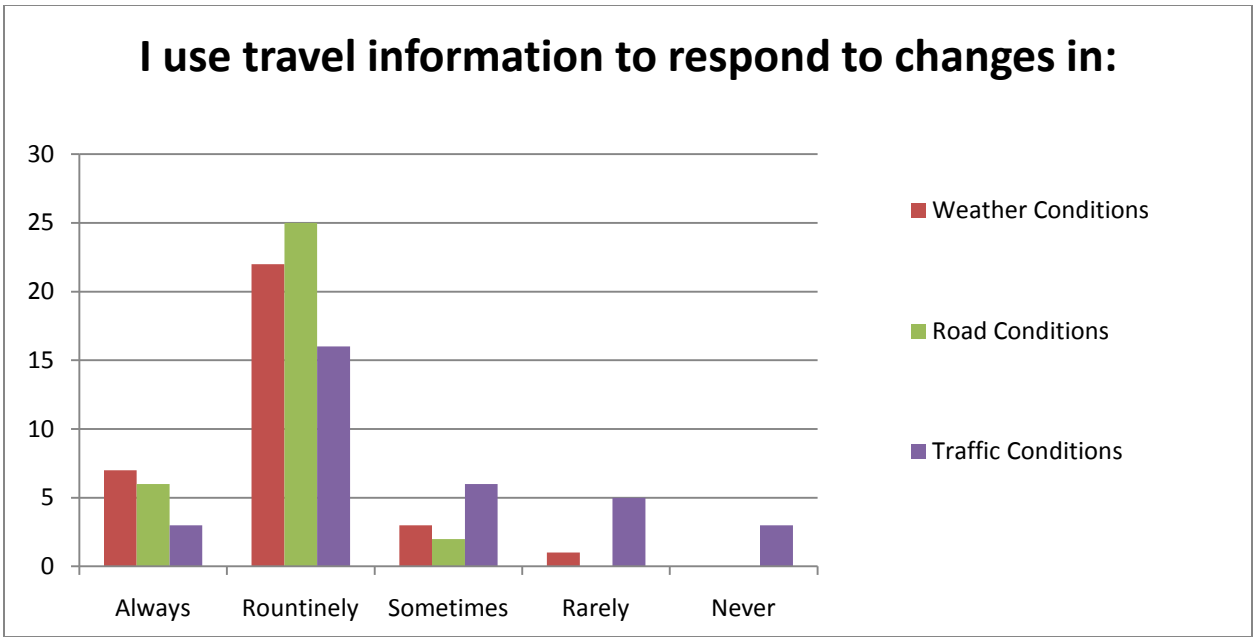
	Westbound						
	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
6-9 a.m.	7	6	8	6	7	5	2
9-12 a.m.	1	2	2	1	2	1	1
Noon-3 p.m.	2	2	3	1	1	1	0
3-6 p.m.	11	13	16	12	13	3	4
6-9 p.m.	3	2	4	2	3	1	4
9-12 p.m.	0	1	1	1	0	0	0
Midnight- 6 a.m.	1	1	1	1	1	1	1

8. In the table below, please indicate the days and times you typically take a WESTBOUND trip on I-80 from Cheyenne to Laramie:

	Eastbound						
	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
6-9 a.m.	10	11	11	9	9	1	3
9-12 a.m.	2	1	1	3	3	4	1
Noon-3 p.m.	2	1	2	2	3	2	2
3-6 p.m.	8	7	10	9	10	2	3
6-9 p.m.	3	3	4	4	3	3	2
9-12 p.m.	0	1	1	0	0	0	0
Midnight- 6 a.m.	3	2	3	2	2	0	0

9. Respond to the following statements regarding your past travel behavior on I-80 between Cheyenne and Laramie.





Frequent traveler panel members were sent the survey via email when an incident occurred. An incident was defined as a road closure or inclement weather conditions. The survey was designed in two sections to analyze the information that travelers received BEFORE beginning their trip and the information received DURING their trip. Over the course of a three week period from November 13, 2009 to December 8, 2009, 6 incidents were defined and a total of X surveys were emailed out. Of the surveys sent out, 127 surveys were completed and returned. The following is a summary of the questions on the surveys:

1. Were you traveling or considering traveling on I-80 during the date/time of the incident? If no, skip to end of survey.

Of the respondents, 54 (43%) of them replied yes to this question.

2. Were you aware of this incident BEFORE leaving for your scheduled trip? If No, please skip to #12.

Now analyzing the 54 surveys who answered "Yes" to question #1, 39 (72 %) of those participants replied yes to this question. Those who replied no, skipped to question number 12 and were not included in the BEFORE trip analysis (which includes questions 3 through 11).

3. How did you learn about the incident BEFORE your scheduled trip?

Participants were asked to mark all options that applied to them. They were given the options of the 511 telephone service, broadcast radio, television, the WYDOT website, 511 Notify Text or E-mail service and also other. For the 'other' category, respondents were asked to list what other sources they used. The breakdown of results is shown in Figure 1.

The participants that marked 'other' were asked to list these other sources of information. The responses were as follows:

- Friend who drove over I-80 called and warned me
- Signs on I-80
- Contact with others in my area who were also watching for when the road would be open again
- I live on the summit and could see that the wind was blowing the snow.

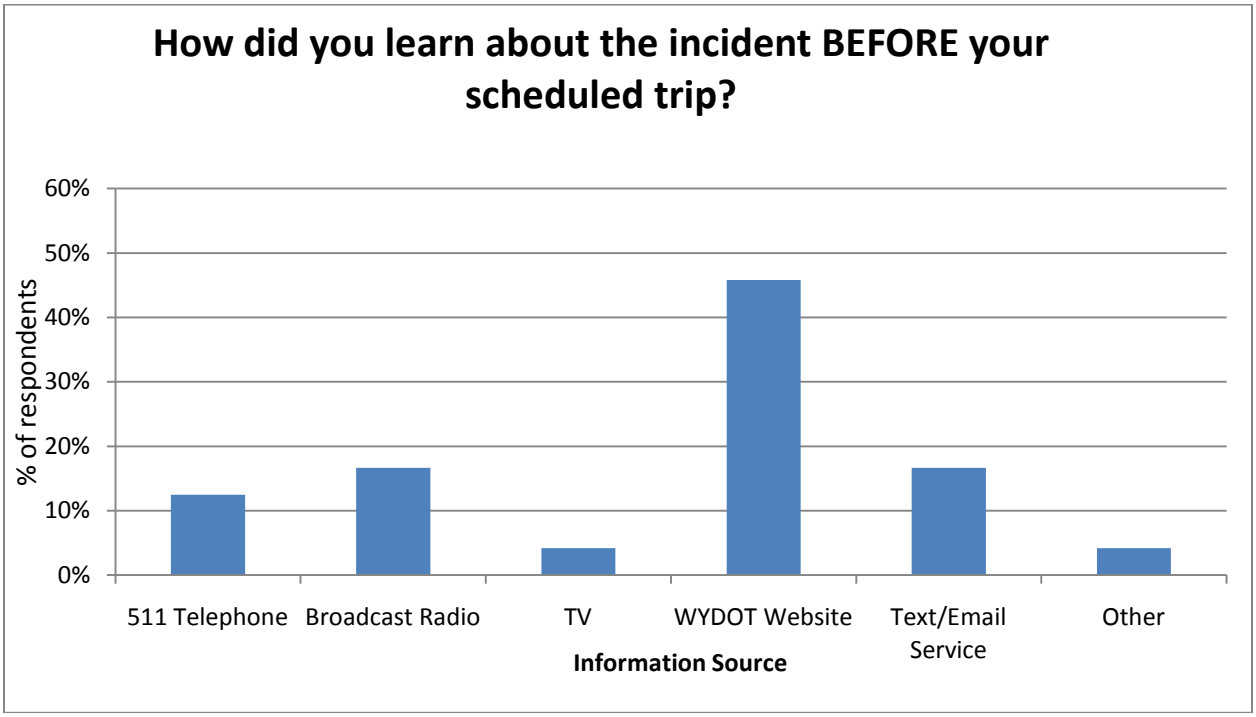


Figure 1. Sources of information BEFORE the trip.

4. How did the information about the incident affect your scheduled trip?

Respondents were given numerous choices including "changed my route", "cancelled my trip", "delayed my trip" and "left earlier" for this question and were asked to mark all that applied. The results are shown in Figure 2.

The participants that marked 'other' were asked to specify other ways in which the information affected their trip. The 'other' responses were as follows:

- I felt less stress because of being informed of the situation
- I learned the road was closed, waited for it to open up again

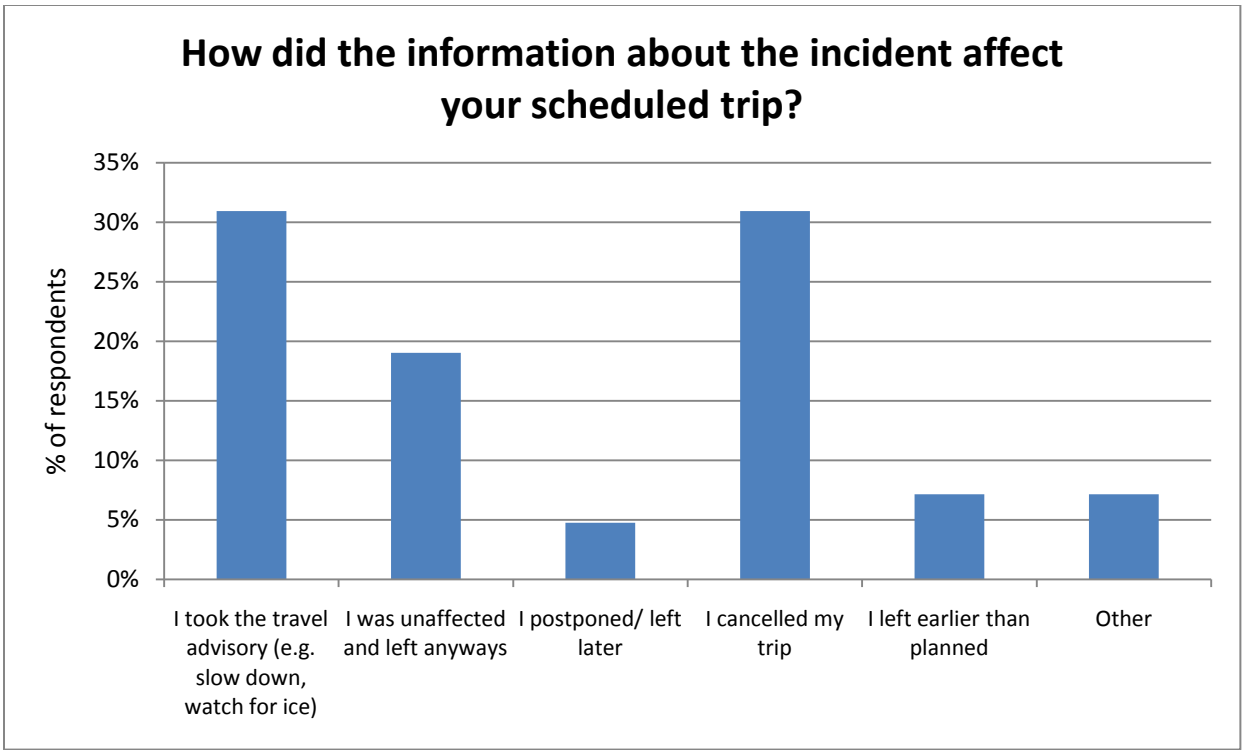


Figure 2. Effects of BEFORE trip information.

5. For the "BEFORE" trip information, please rate your agreement/disagreement for the following statements:

- The information was USEFUL for making travel decisions (e.g., go, no-go, delay trip).
- The information was EASY to understand.
- The information was ACCURATE.
- The information was CREDIBLE.
- You were BETTER PREPARED to react to changing weather, road and traffic conditions because of the information.
- The information was TIMELY and gave you enough time to decide what action to take (e.g., turn back, slow down, etc.).
- You took the action advised by the travel information (e.g., slow down, watch for ice, etc.).
- You used the information to help have a safer trip.

Participants were asked to rate each of the statements with Completely Agree, Somewhat Agree, Neutral, Somewhat Disagree, Completely Disagree, or Not Sure. The results from the first four statements are shown in Figure 3, while the results from the last four statements are shown in Figure 4.

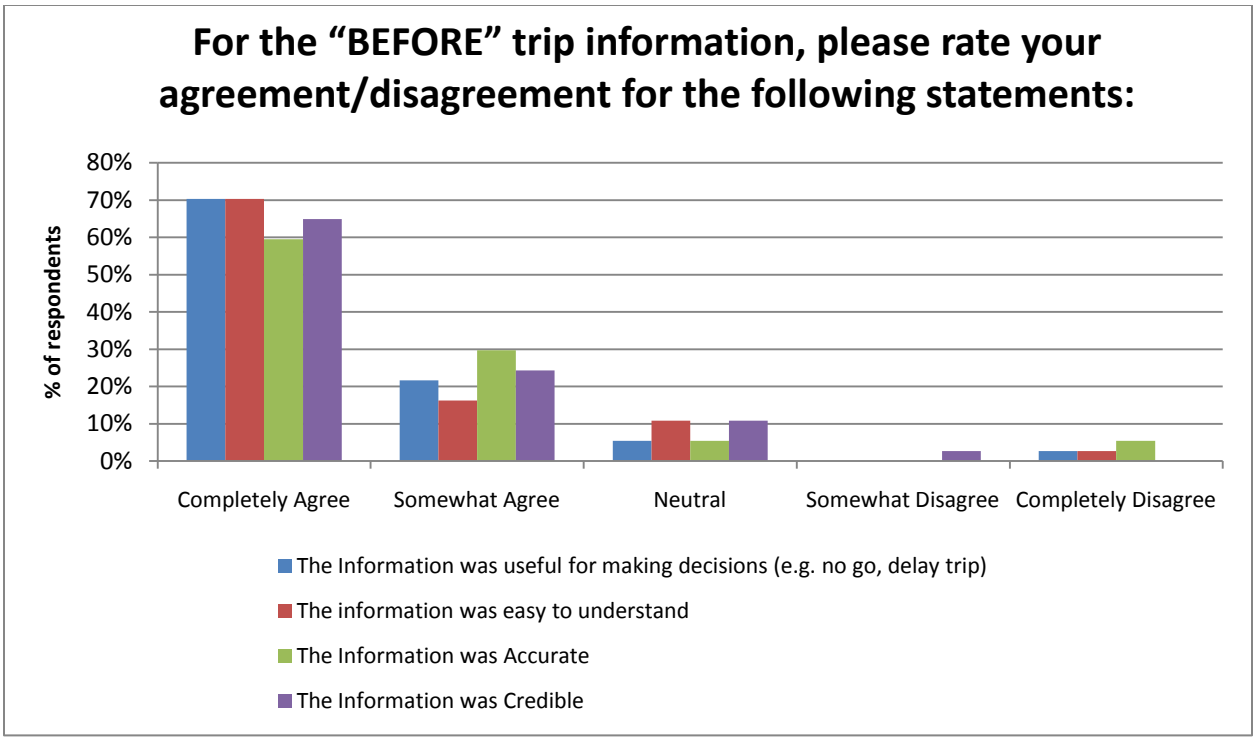


Figure 3. BEFORE trip information analysis.

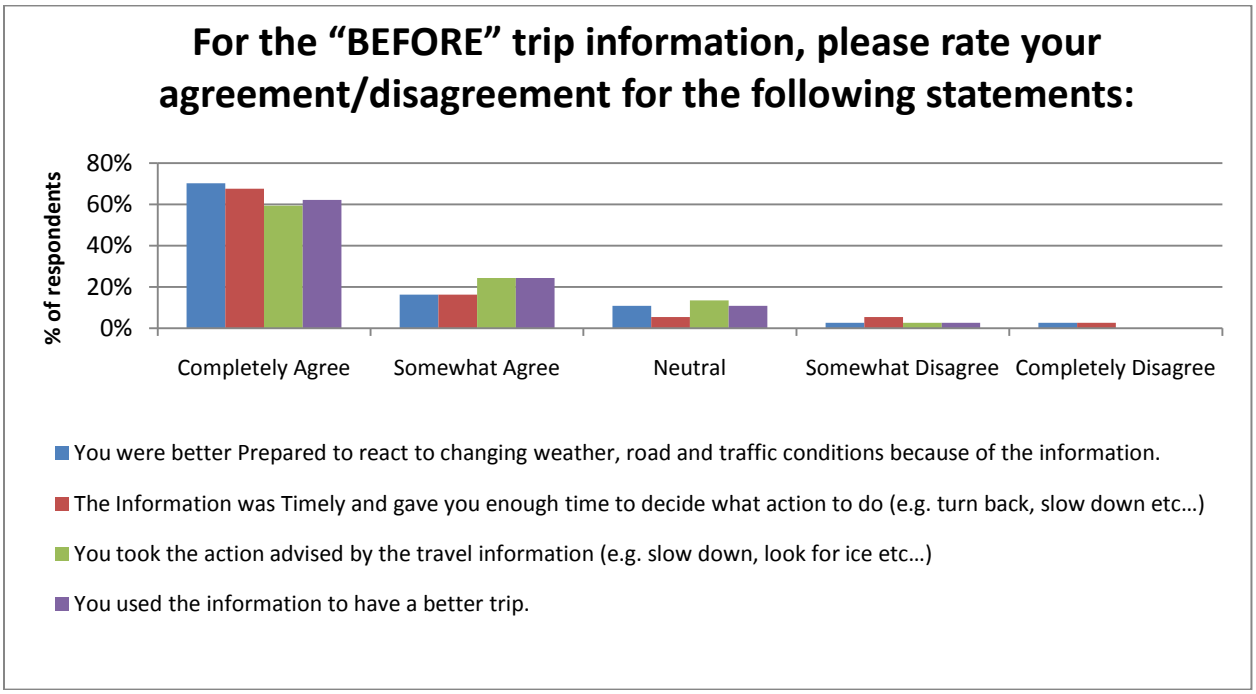


Figure 4. BEFORE trip information analysis.

6 and 7. What travel information sources were most important to you BEFORE this trip?

Respondents were given several choices and asked to rank the most important source with a 1, the second most important source with a 2, all the way up to 5 for the fifth most important. Since some of the sources were ranked highly by some people but not ranked at all by others, an average ranking would overinflate the importance some of the sources. Therefore, the number of times each source was ranked #1 through #5 is shown in order to show how many times each source was ranked as well as how highly each was rated.

The participants that marked 'other' were asked to specify other sources of information that were important to them. The 'other' responses were as follows:

- Contact with others in the area who were also watching for when the road would be open again
- My friend drove over the same stretch of road and she called me to warn me
- WYDOT radio
- Traveling sign on I-80 leaving Laramie on the East Bound side
- I live on the summit and could see that the wind was blowing onto the road

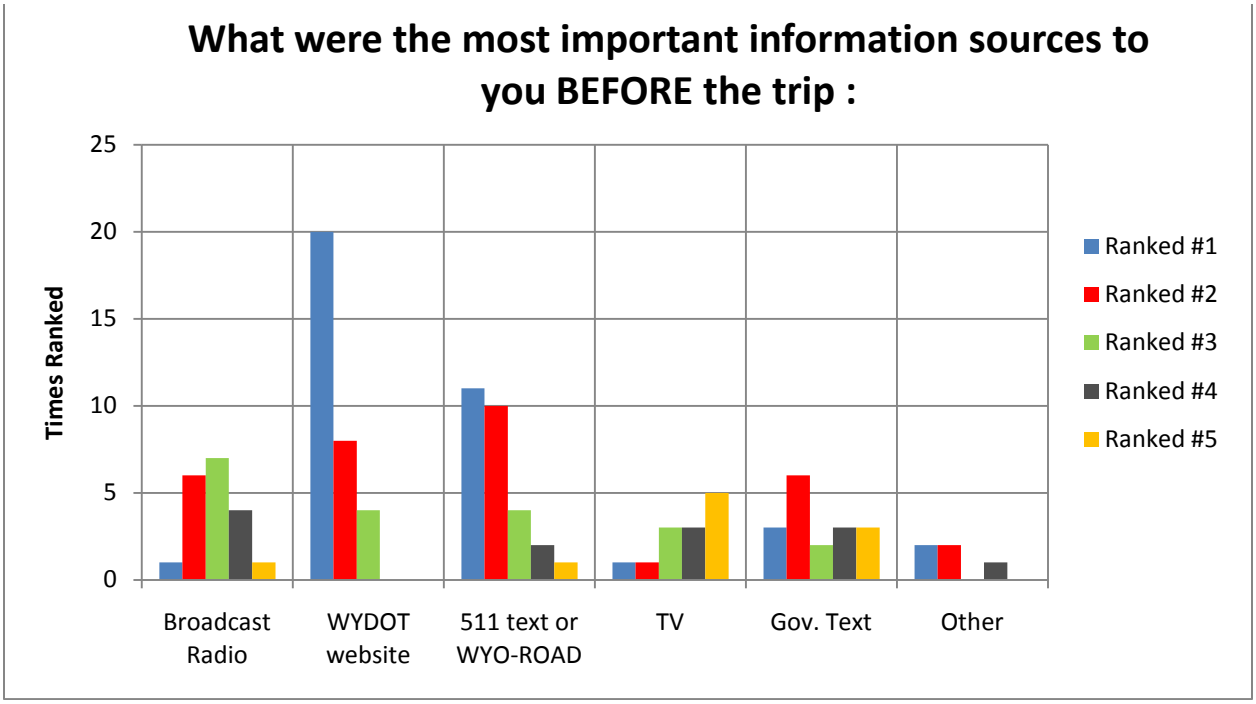


Figure 5. Importance of information sources for BEFORE trip.

8. Referring to the information source you ranked first (i.e. most important) in question #6, why was it the most important information source to you?

This question asked participants to give reasons for the ranking they had given in the previous question. Respondents that ranked the WYDOT website as their first choice gave the following reasons for this ranking: The website is up to date and the webcams are extremely helpful. The webcams provide information on the road conditions and where to expect difficulties.

Nineteen respondents ranked the WYDOT website as their number one choice. They gave the following reason for this ranking:

- I was monitoring I-80 from work using the new map (love it!) and the web cameras (love the new ones--very helpful, but more are needed between Rawlins and Rock Springs). We have no access to TV or radio at work, and I almost never use the 511 (I usually call my husband and he looks at the web cameras) and the text messages were good, but not the deciding factor in me not making the trip to Green River. The deciding factor was the radar (from NWS) and the road conditions.
- I am at a computer most of the day so it is easy to check the road report & cameras on a regular basis
- You get to see the road
- Visual and accurate
- It is what I use the most. I always check the website and the posted photos prior to going over the hill.
- By looking at the web cams I am fully aware of the current road conditions.
- I was considering leaving work early, and the WYDOT website let me know that the road was closed. When I finally did leave at 4:30, I checked the WYDOT website to view the webcams and read about the road conditions so I knew what to expect.
- Webcam pictures of road conditions help prepare for the drive
- The webcams provided a picture of road conditions and I could prepare myself mentally for driving the prospective road conditions.
- Because the website has the most information and it's up to date
- Helped me determine which vehicle to drive to work Tuesday morning - I selected my SUV.
- Because I had it up on my computer and was tracking the conditions constantly. I was scheduled to leave Cheyenne and drive home to Laramie at midnight.
- Easily accessible to me at work before leaving for the drive.
- Can view the web cameras to confirm the information provided by the 511 map
- I could get to it from work.
- Most accessible
- Webcams
- It was the information that was most available at the time. I was sitting at a computer, looking up the information before I made my trip home from Cheyenne to Laramie. I got off work at midnight and had to drive home.
- The web cameras give a great idea of road conditions

Seven respondents ranked the 511/ 1-888-WYO-ROAD Phone service as the most important for the following reasons:

- It was my only way to know. I was in a remote place with no electricity so my phone was my only communication.
- This is the most important because I can usually access the information number at any time with a phone.
- Only source available. Was driving on interstate so no access to TV.
- I always have my cell phone.
- I always call WYO ROAD before I leave to drive. I usually trust the information provided but I don't know that I can after that trip. It took me close to 2 hours to make it home. The blowing snow was so brutal that every time a semi drove past I couldn't see a single thing, not even the deliniator posts on the side of the road. I had to time when they would pass me as best as I could so they would only drive past on straight parts. It was one of the worst trips between Cheyenne and Laramie I have ever had. I don't know why the roads were open but they definitely should

not have been. That was dangerous and one of the worst trips I have ever had. I will not trust WYO ROAD as much after that trip.
- weather information on the road
- I always have my phone with me, so this is the most convenient way to access road information.

Two respondents ranked their 'other' choice as the most important to them. They gave the following reasons.

- My friend told me, and she drives a similar car as I do and knew why I had to go over, she let me know that it was really nasty driving and I should avoid driving over if I could.
- The sign said "slick roads, blowing snow" or something to that effect.

Five respondents ranked Government text messages as the most important to them.

- Timely information
- I had been on the road on I-80 and I did not receive accurate information.
- I keep my phone on me at all times but I do not always have internet access to check WYDOT
- I got the info before leving the drive way and it was 10 min. old
- It told me the road conditions at that time.

One respondent ranked TV as the most important to them.

- Info accessed first thing in the morning (whether or not the weather will be bad, I always watch the local news in the morning)

9. What information was most useful to you?

Respondents were given a blank box question in which to answer this question. Four participants (of the 37 analyzed) chose not to answer this question. The majority of the responses fell into the categories of road conditions and web cameras. The responses can be seen below, with a number in parenthesis on the side indicating how many time the answer was given if repeated by multiple respondents.

- Web cams (14)
- Road closure and condition (10)
- Weather report (2)
- 511 email service(2)
- Condition of the road; Trucks lined up in Laramie waiting for the I-80 to open as well as the pictures of road conditions between Lincoln Monument and Buford confirmed that the drive home would be difficult .
- I listened to the WYOROAD information first and when I heard how bad it was on the phone I called my friend. They were both useful.
- Take off cruise control message; slick roads; reduce speed
- High winds and slick spots- helped me know what to expect
- Ice warning
- Slick Roads as blowing snow doesn't bother me too much.
- None of the information given to me ended up being very accurate. I was extremely disappointed in that.
- Actually seeing the snow blowing in the wind while I was clearing our subdivision road.
- It is useful to see that I80 conditions are before trying to leave house.
- Seeing if the gates are closed or open
- I can look at the road and weather conditions and judge for myself if it worth going or not. Is it just windy at Arlington? Is Harriman fogged in, again? How is it at Bitter Creek? What about the tunnels at Green River?

10. What do you think could be improved?

Respondents were again given a blank box question in which to answer this question. Thirteen of the 37 participants (35%) chose not to answer this question, or gave the response of "N/A." All responses to this question are important to fully understand the feelings of the travelers and the wide range of concerns that they have. Therefore, they can all be seen below.

- To know ahead of time that you can press 2 to get another road report.
- The colors on the WyoRoad map are a bit confusing to me. Brown is multiple conditions, but to my mind, that would be something dry, like wind. Green is dry (I suppose for 'go') but my mind interprets it as wet. I usually just click on the road to get the conditions and it takes a second for my brain to register the conditions.
- The system takes forever to get through.
- On map showing the camera and weather sites, it could be updated to have links to the new cameras. Also the existing links do not bring up the same camera views as the list of the cameras along I80 do.
- Slowing down the semis.
- Reduce the speed limit on the roads when conditions are bad. A 45 mile an hour speed limit (or lower) in my opinion is warranted when the weather is bad. Or, keep semi trucks off the highways when conditions are slick with limited visibility.
- more cameras, more places
- Better descriptions. The site said "slick", but it was very icy. The term "slick" or "slick in spots" has been used quite frequently, and my experience has been that it may be very bad or not bad at all. I have never, however, seen it say just "slick" and have it this bad. If I knew the true conditions I would not have gone (it was for a basketball game). If the roads are really bad, it will usually say "slick", "blowing snow", "limited visibility", etc. This time the descriptions and photos did not indicate exactly how treacherous it was. Had the description said something along the lines of "very icy" and "slick" it would have been more meaningful. Perhaps mentioning recommended speeds. I and the other traffic were going about 25-30 mph on the summit.
- Recommend driving speed for trucks on signs. Driving home I experienced speeding trucks passing in the left lane and cars and pickup trucks sliding in front of me. I was driving about 25 - 40 mph depending on conditions, following a line of vehicles. It's just a matter of timing and chance that they did not happen to be in the same spot at the time. This is a recipe for collision.
- Difference between ground blizzards and snow blowing over the car.
- I think WYOROAD is great, easy to use.
- I'm satisfied
- Although most drivers were driving slow with flashers on a few idiots went speeding by on icy roads. For example, a tanker truck loaded with fuel - I presume. Often these are the drivers who slide off the road and/or cause wrecks. Ideas about how to slow these people down.
- They should close the road BEFORE there is an accident. I was traveling Monday evening and the road was a skating rink, it shouldn't have been open then.
- The sign could have said "slick roads from the Summit to Buford" would have been great for me but I doubt it would have meant anything to travelers.
- More updates.
- If the roads are that scary the road should be closed. I couldn't see any more than one post at a time on the side of the road. The semi trucks driving by made it so that all I could see was white. The road was so slick I could barely stay on the road. I don't know what type of conditions are required to close that road but it should have never been opened during that storm. It was dangerous. I only started the drive back because WYO ROAD was saying that the road was open. I would have turned back if I could have seen an exit to do it.
- Make the semi-trucks reduce their speed in poor conditions. They should not exceed 55 mph.

- There are so many web cameras along I-80 now that it helps, but more are needed between Wamsutter & Rock Springs.
- Make the trucks travel at much reduced speeds or keep them off the highway in these conditions.
- Timeliness of the site. Ease of navigation. It has become difficult to move through the site.
- Update the links to the web cameras on the map available on their web page. The 1610 radio station could have a stronger sign so it can be received in a larger radius from town.
- Maybe not so many repetitive texts.
- DMS signage could improve. Oftentimes the DMS does not specify the location of the poor visibility. It says, "Reduced visibility and there is no fog in sight. " But there may be fog 5 miles ahead. So the sign should read "Reduced visibility 5 miles ahead."

11. Indicate the factors that were important when choosing information sources to use BEFORE this trip.

Participants were given 8 factors and asked to rate the importance of each factor by choosing Extremely Important, Very Important, Somewhat Important, Not Important, or No Opinion. The results from the first four factors are shown in Figure 6, while the results from the last four factors are shown in Figure 7. It can be seen that most travelers feel that all the mentioned factors are Extremely important when deciding on an information source to utilize. The graphs do not show "No Opinion" results since no one gave that answer. Although no one put "Somewhat important" or "Not important", these results were shown to provide a sense that although these were given as options, no one chose them. Overall, Accuracy and Timeliness were given the "Extremely Important" ranking the most, each having 34 of 37 respondents indicating this.

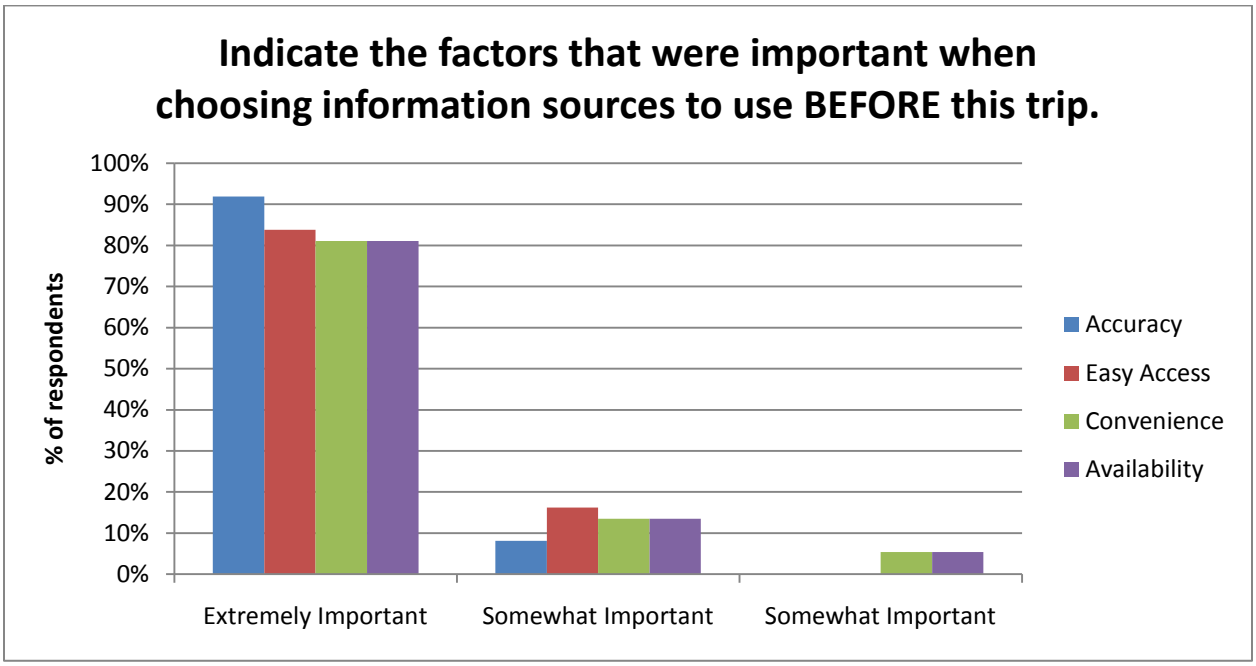


Figure 6. Importance of factors BEFORE trip.

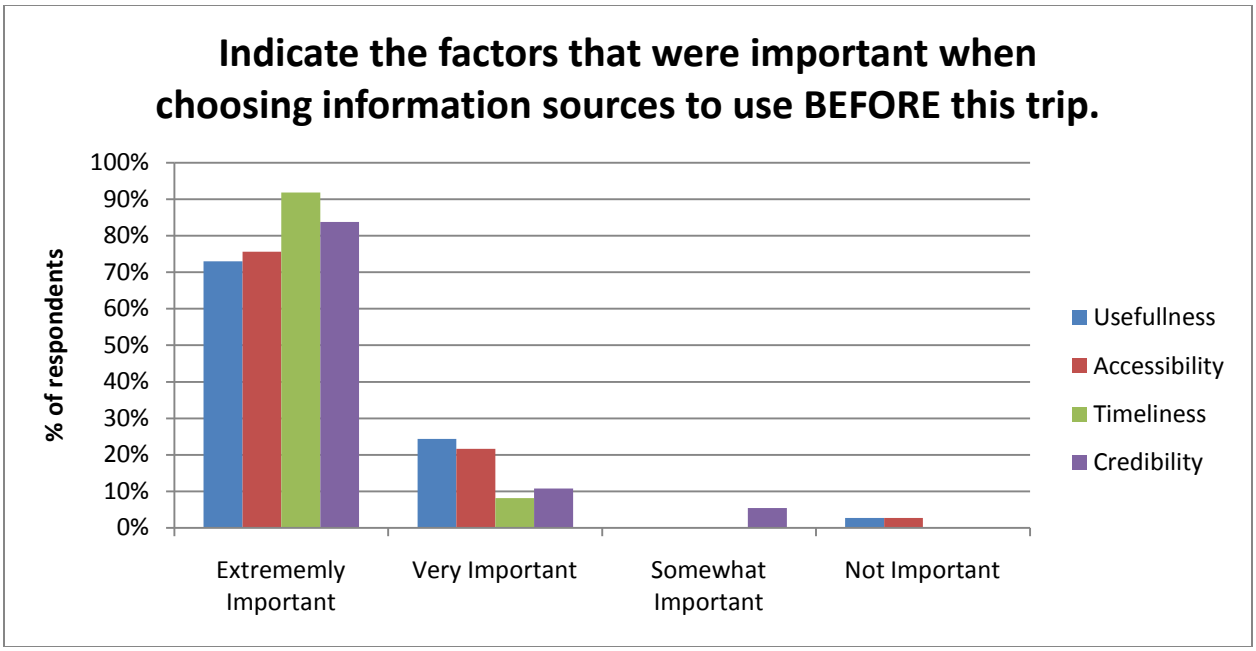


Figure 7. Importance of factors BEFORE trip.

12. Did you find out about the incident DURING your scheduled trip? *If no, skip to end of survey.*

Returning to the 37 completed surveys, 26 (70%) of respondents answered yes to this question. Those who replied no, skipped to the end of the survey and were not included in the DURING the trip analysis (which includes questions 13 through 21). Therefore, 11 participants stated that they had found out about the incident during their trip and were included in the DURING trip analysis.

13. How did you learn about the incident DURING your scheduled trip?

Participants were asked to mark all options that applied to them. They were given the options of the 511 telephone service, broadcast radio, encountered while driving, flashing caution signs, highway advisory radio (1610 AM), roadside dynamic message sign, and also other. For the 'other' category, respondents were asked to list what other sources they used. The breakdown of results is shown in Figure 8.

The participants that marked 'other' were asked to list these other sources of information. The responses were as follows:

- I was just checking out the roads

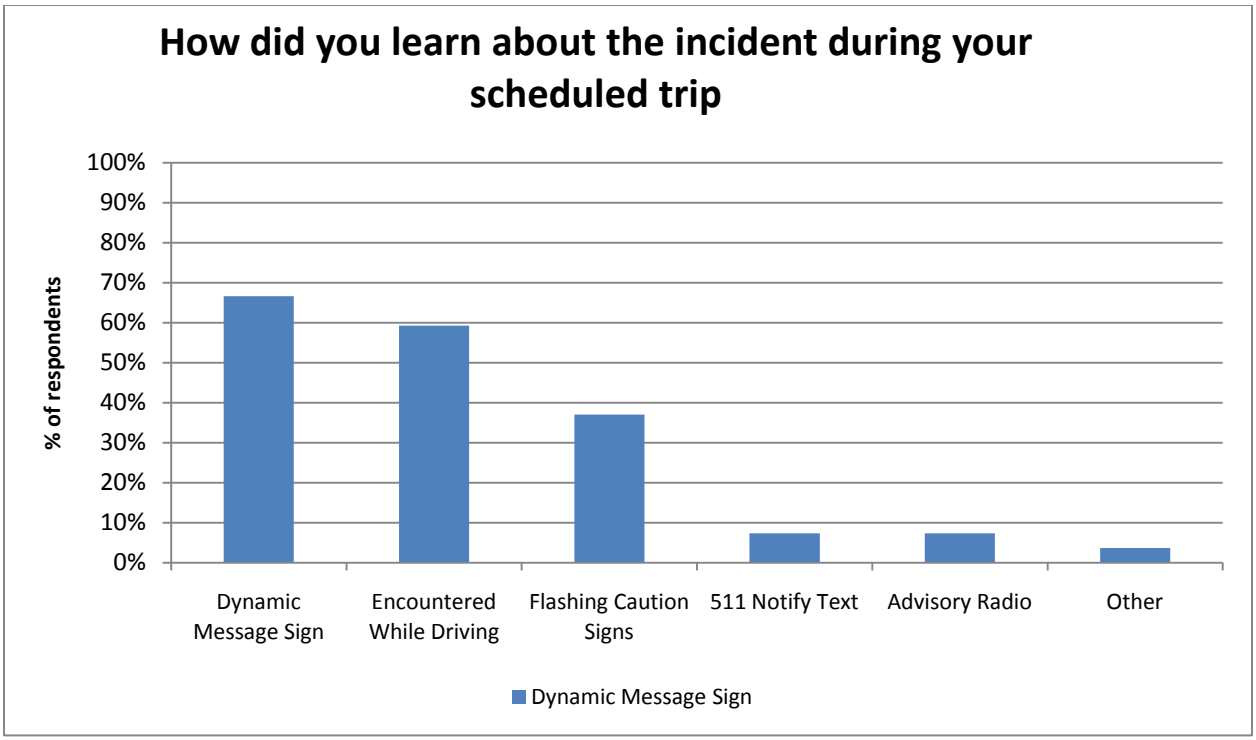


Figure 8. Sources of information DURING the trip.

14. How did the information about the incident affect your trip?

Respondents were given numerous choices to this question and asked to mark all that applied. The results are shown in Figure 9.

The participants that marked 'other' were asked to specify other ways in which the information affected their trip. The 'other' responses were as follows:

- The information made me change the way I drove

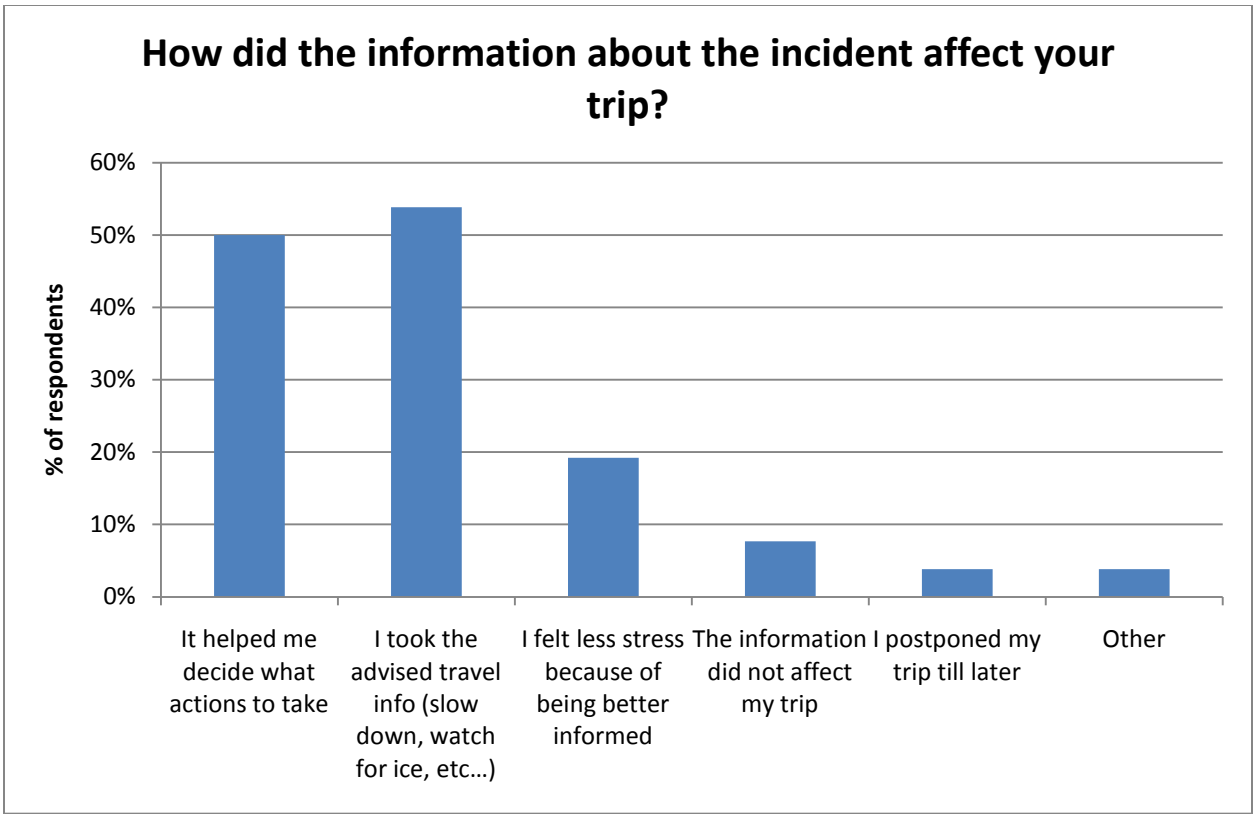


Figure 9. Effects of DURING trip information.

15. For the "DURING" trip information, please rate your agreement/disagreement for the following statements:

- The information was USEFUL for making travel decisions (e.g., go, no-go, delay trip).
- The information was EASY to understand.
- The information was ACCURATE.
- You were BETTER PREPARED to react to changing weather, road and traffic conditions because of the information.
- The information was TIMELY and gave you enough time to decide what action to take (e.g., turn back, slow down, etc.).
- You took the action advised by the travel information (e.g., slow down, watch for ice, etc.).
- You used the information to help have a safer trip.
- The roadside Dynamic Message Signs were effective for communicating with you.
- The information was CREDIBLE.

Participants were asked to rate each of the statements with Completely Agree, Somewhat Agree, Neutral, Somewhat Disagree, Completely Disagree, or Not Sure. The results from the first four statements are shown in Figure 10, while the results from the last five statements are shown in Figure 11.

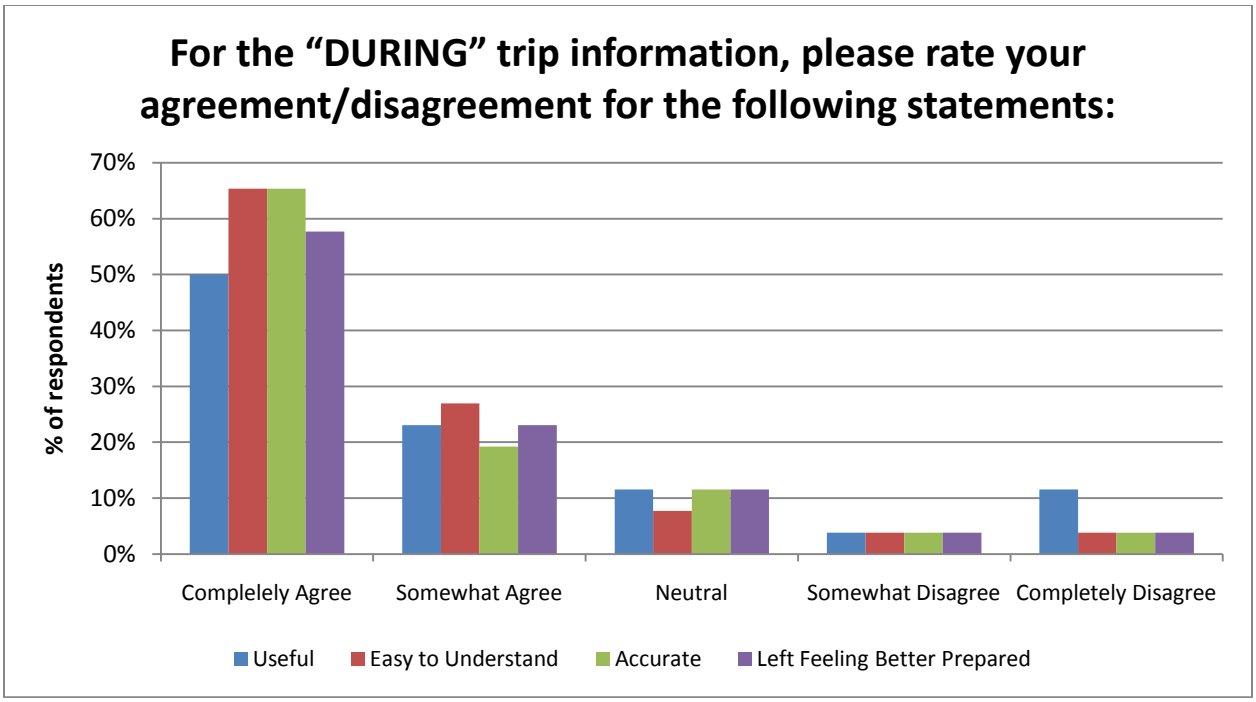


Figure 10. DURING trip information analysis

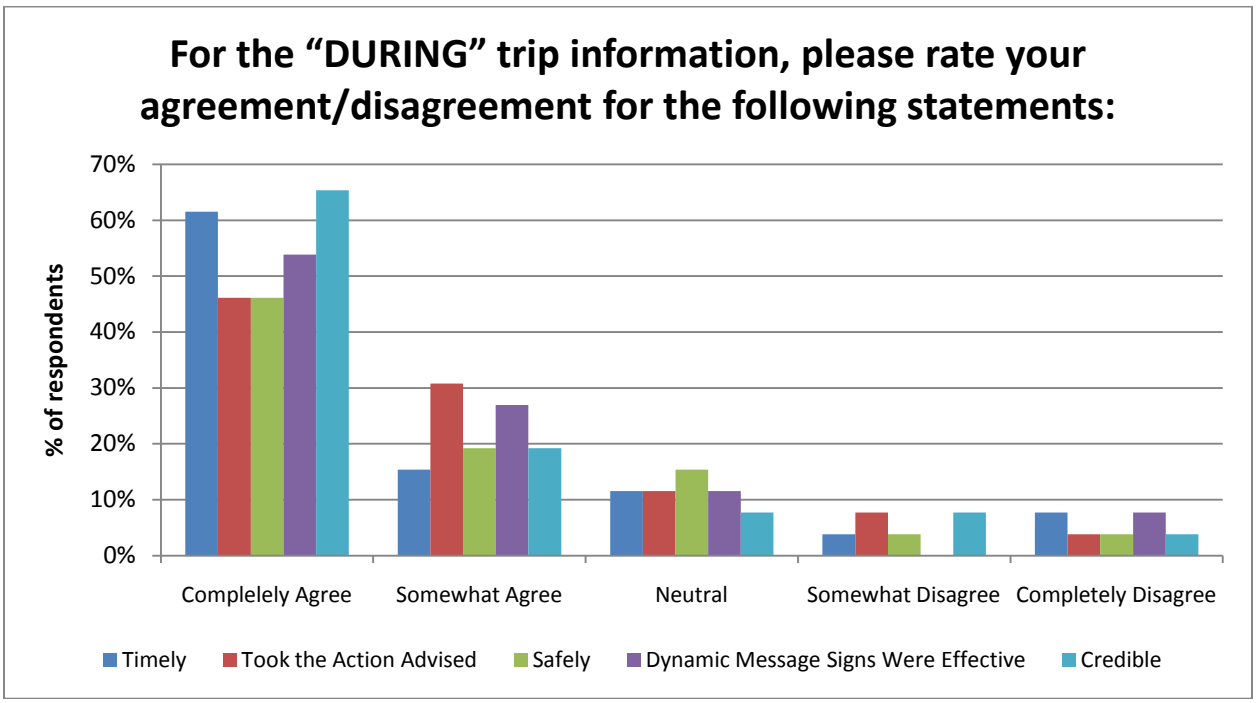


Figure 11. DURING trip information analysis

16 and 17. What travel information sources were most important to you DURING this trip?

Respondents were given several choices and asked to rank the most important source with a 1, the second most important source with a 2, all the way up to 5 for the fifth most important. Since some of the sources were ranked highly by some people but not ranked at all by others, an average ranking would overinflate the importance some of the sources. Therefore, the number of times each source was ranked #1 through #5 is shown in order to show how many times each source was ranked as well as how highly each was rated.

The participants that marked 'other' were asked to specify other sources of information that were important to them. Although the "Other" source had an average ranking of 2, it was picked by only three people, meaning that these sources probably aren't as significant as the graph would lead one to believe. The 'other' responses were as follows:

- Weather map and travel information on Sirius travel link in vehicle
- I found out when I was driving, my visibility was so low I never saw a sign
- I used another internet site

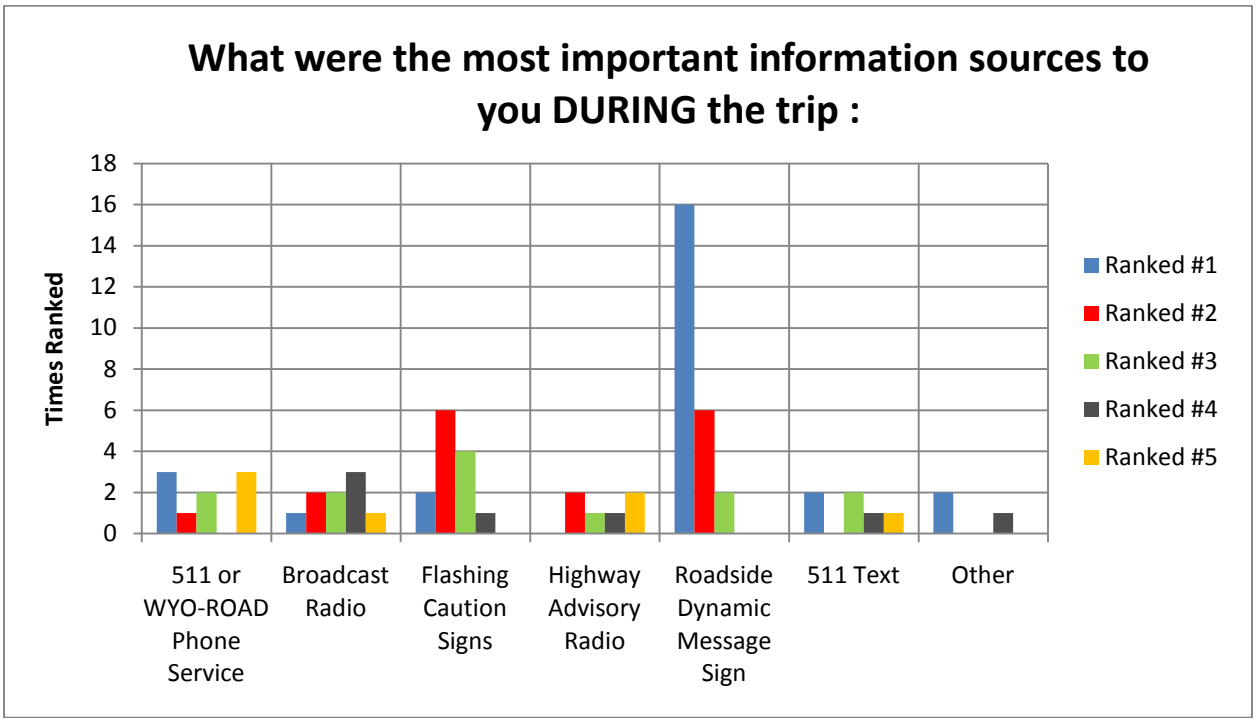


Figure 12. Importance of information sources for DURING trip

18. Referring to the information source you ranked first (i.e. most important) in question #16, why was it the most important information source to you?

This question asked participants to give reasons for the ranking they had given in the previous question. Respondents that ranked the Roadside Dynamic Message Signs as their first choice gave the following reasons for this ranking:

- Easy to use and trustworthy.
- It let you know in advance.
- It is right there on the side of the road
- It was available while I was driving down the treacherous highway

- The dynamic message signs assist in letting me know just how icy the road surface is, which is my biggest concern on this highway.
- Reminder of adverse conditions; confirmation of ice on the road.
- Was not aware of conditions before setting out.
- told me road conditions
- Let me know to stay slow due to continued icy roads
- I left Wal-Mart and it was snowing and the sign told me it was heavy fog & snow. I encountered the snow, but not the fog. My daughter told me that she & my wife had heavy fog when they went home about 1/2 hour before I did.
- Easy to read and understand and timely (during the trip)
- I was on the road early and I don't check travel information, I rely on the sign across the higway as I leave Laramie. Before the sign I just relied on the conditions that I could see.
- Convenience
- Informs me of any changes that may have happened since I checked before my trip
- It is impossible to miss these signs

Respondents that ranked the Flashing Caution Signs as their first choice gave the following reasons for this ranking:

- Flashing lights indicate caution and be prepared to stop - generally.
- Flashing caution signs are very neat

Two respondents that had ranked 511 or 1-888-WYO-ROAD Phone Service as their first choice gave the following reasons for this ranking:

- MOST CONVENIENT TO ACCESS
- Wyo Road was helpful. The roads were scary but I ended up stuck in Laramie until the afternoon.

One respondent that had ranked Highway Advisory Radio first gave the following reasons for this ranking:

- It was the easiest to get

One respondent that ranked "Other" first gave the following reason for this ranking:

- Well I found out about the situation because I was stuck in it. I had to drive 35 miles an hour in most places it was so unsafe to drive on. If I went any faster I couldn't stay on the road very well.

One respondent ranked the 511 Text Service first and gave the following reason for this ranking:

- I was already on the road when things started going south

19. What information was most useful to you?

Respondents were given a blank box question in which to answer this question. Nineteen participants of the 37 analyzed chose not to answer this question. All of the responses can be seen below. Duplicate responses are indicated with a number in parenthesis as to how many times it was repeated.

- Drive slow reminder; icy conditions reminder
- Advise 45 mph on Tuesday AM; helps to have clearer ideas of safer speeds as opposed to reduce speed.
- When trucks and cars are driving slowly with flashing lights it always means the road conditions are BAD. Second, the message signs and flashing lights are the second clue that it's going to be a BAD drive.

- Slick roads slow down From Vedawoo to Buford they were black ice and people were flying over that section.
- Condition of road surface (icy)
- That I should slow down and expect slower traffic on the road.
- None of it was useful. That was the worst planning I have ever seen.
- Flashing caution signs (2)
- Cautionary information
- Road side dynamic sign (3)
- The current road and weather conditions. (4)
- The wyo road service was helpful.

20. What do you think could be improved?

Respondents were again given a blank box question in which to answer this question. 20 of the 37 participants (54 %) chose not to answer this question, or gave the response of "N/A." All responses to this question are important to fully understand the feelings of the travelers and the wide range of concerns that they have. Therefore, they can all be seen below.

- The road side dynamic signs could display information about other routes.
- This time, it was accurate. However, in the past, I have encountered very inaccurate messages. Both cautions about hazards that were no longer there, or no cautions about hazards I came upon.
- I would have liked to know before I left that it was going to snow 5+ inches that day, and that the entire Cheyenne to Laramie corridor was a mess (before I left I thought it would be bad past Buford).
- Timeliness of warning when cars/trucks off the road. Recommend mph on icy roads. I think words like 10 vehicles off the road since 4 p.m. might make people slow down. I notice that when vehicles slide off the road people slow down. Relay that level of warning before it occurs.
- more highway patrol presence during adverse conditions to encourage travelers to slow down--high speeds in bad conditions seem to be a bigger danger than the lack of visibility, slick roads, etc. on their own. if there were visible patrol cars at various points on the road the message that the conditions require slowing down would seem more credible/serious, especially to those out-of-state drivers who do not understand how bad things can get up there.
- Something like slow down and live - 45 mph speed limit.
- snow plow on the road sooner in the storm
- Smarter Drivers. I really like the signs. If they could give just a bit more information they would be great. As it is they are a great improvement over what I experience when I began commuting 20 years ago.
- Those roads should have been closed. Whatever the process is for determining whether those roads should be closed needs to be fixed. I don't know if they are out there or if they do it by picture, but try driving in a normal car, not a big truck or a snowplow. Drive in what the people will be driving. Those roads were some of the worst I have driven on.
- Most accidents are caused by truckers driving too fast for the prevailing weather conditions. Weather conditions do not bother me having lived in Northern Alberta for many years - the driving habits of the truckers do bother me as they create unnecessary danger. The Highway Patrol should be watching the truckers carefully.
- It was good, no changes needed
- Getting the truckers to reduce sped on the highway. They always exceed safe speeds for the prevailing weather conditions.
- At the end of the information on the sign it could say last updated 0615. That way a driver would know that he wasn't driving in conditions that occurred at 0100.

- The Information on the dynamics boards
- Get the truckers to suffer higher penalties for speeding under any conditions
- Get the truckers to slow down and drive at the maximum allowable speeds in perfect weather and at slower speeds according to the weather conditions. in my experience, most (but not all) of the incidents are caused by truckers either (1) exceeding the official speed limit or driving at speeds that are dangerous under prevailing weather conditions.
- Some of the terms used on Wyo Road are a little off. The term favorable to means that roads are clear of ice, snow, wind, everything. I still don't know exactly what favorable means because every time I have heard it, the roads weren't exactly favorable to me.

21. Indicate the factors that were important when choosing information sources to use DURING this trip.

Participants were given 8 factors and asked to rate the importance of each factor by choosing Extremely Important, Very Important, Somewhat Important, Not Important, or No Opinion. The results from the first four factors are shown in Figure 13, while the results from the last four factors are shown in Figure 14. The category of Accuracy received the most votes for "Extremely Important" while Convenience received the least. However, it can be seen that most travelers feel that all the mentioned factors are extremely important when deciding on an information source to utilize.

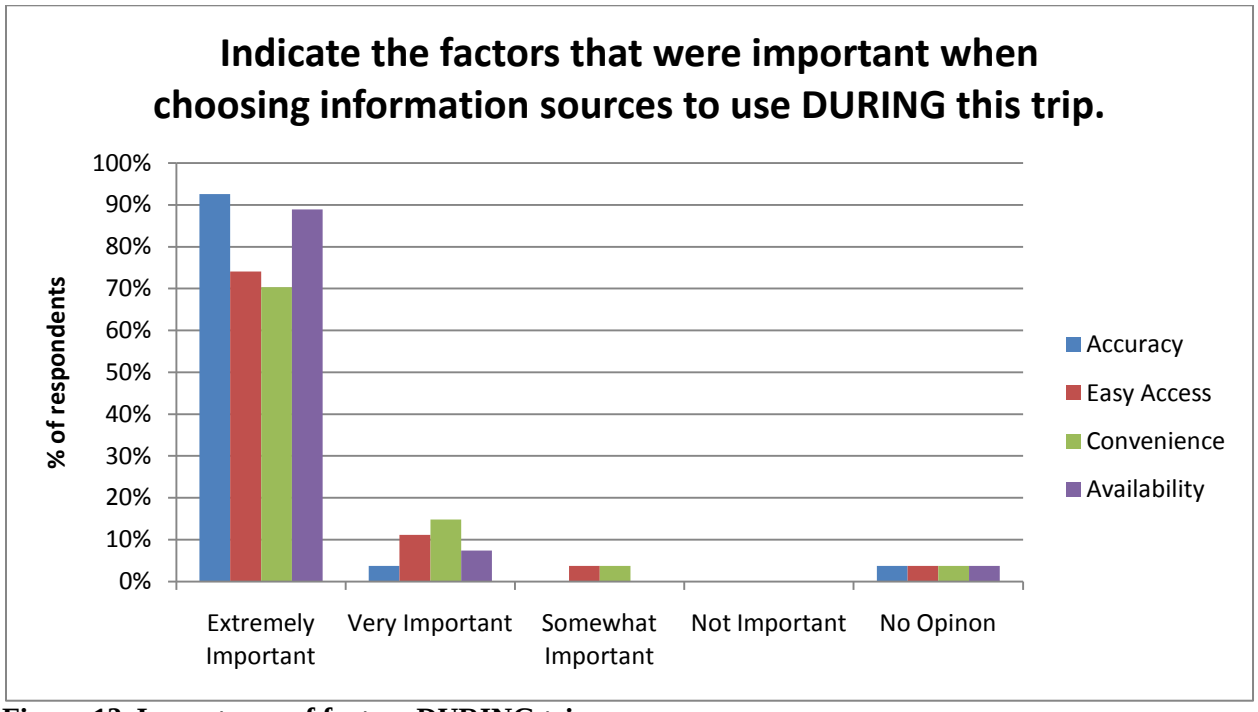


Figure 13. Importance of factors DURING trip

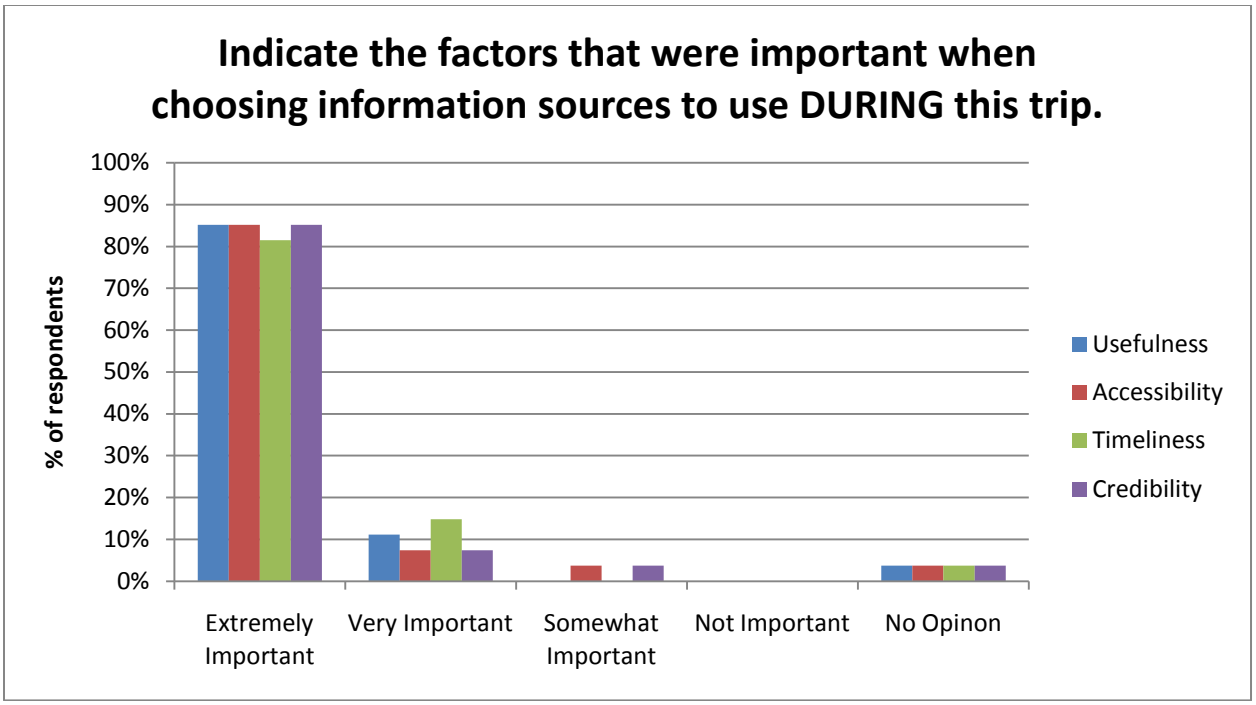


Figure 14. Importance of factors DURING trip

Frequent Traveler Panel Survey Results Spring 2010

Frequent traveler panel members were sent the survey via email when an incident occurred. An incident was defined as a road closure or inclement weather conditions. The survey was designed in two sections to analyze the information that travelers received BEFORE beginning their trip and the information received DURING their trip. Over the course of a four week period from March, 23 2010 to April 24, 2010, 5 incidents were defined and a total of 80 surveys were emailed out. Of the surveys sent out, 52 surveys were completed and returned. The following is a summary of the questions on the surveys:

1. Were you traveling or considering traveling on I-80 during the date/time of the incident? If no, skip to end of survey.

Of the respondents, 37 (71%) of them replied yes to this question.

2. Were you aware of this incident BEFORE leaving for your scheduled trip? *If No, please skip to #12.*

Now analyzing the 37 surveys who answered "Yes" to question #1, 35 (95 %) of those participants replied yes to this question. Those who replied no, skipped to question number 12 and were not included in the BEFORE trip analysis (which includes questions 3 through 11).

3. How did you learn about the incident BEFORE your scheduled trip?

Participants were asked to mark all options that applied to them. They were given the options of the 511 telephone service, broadcast radio, television, the WYDOT website, 511 Notify Text or E-mail service and also other. For the 'other' category, respondents were asked to list what other sources they used. The breakdown of results is shown in Figure 1.

Four participants who marked 'other' were asked to list these other sources of information. The responses were as follows:

- I can see I80 from my bedroom window. It was obviously closed.
- I can see the weather conditions in Cheyenne
- It was a difficult drive on Friday evening, taking me 11/2 hours from Cheyenne to Laramie.
- I was on I-80 all day, back and forth

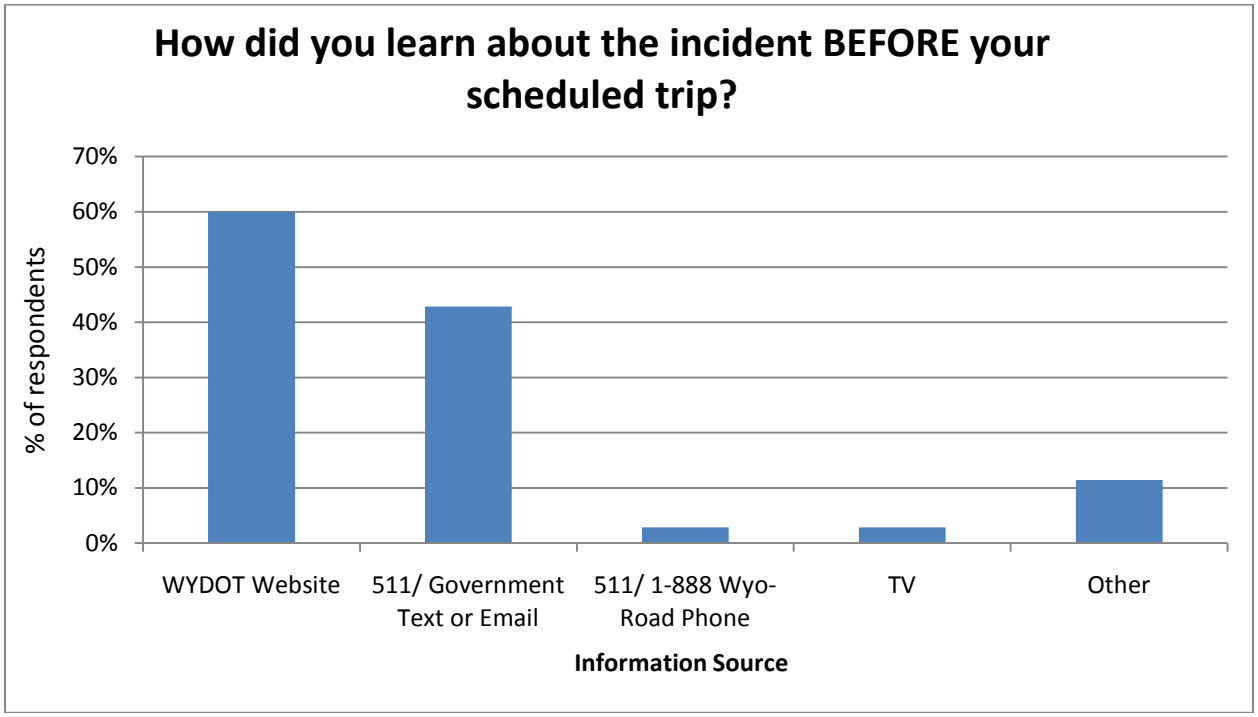


Figure 1. Sources of information BEFORE the trip

4. How did the information about the incident affect your scheduled trip?

Respondents were given numerous choices including "changed my route", "cancelled my trip", "delayed my trip" and "left earlier" for this question and were asked to mark all that applied. The results are shown in Figure 2.

The participants that marked 'other' were asked to specify other ways in which the information affected their trip. The 'other' responses were as follows:

- Took 287 from Laramie to Cheyenne
- Called HP and got permission to travel on road
- It was a difficult drive on Friday evening, taking me 11/2 hours from Cheyenne to Laramie.

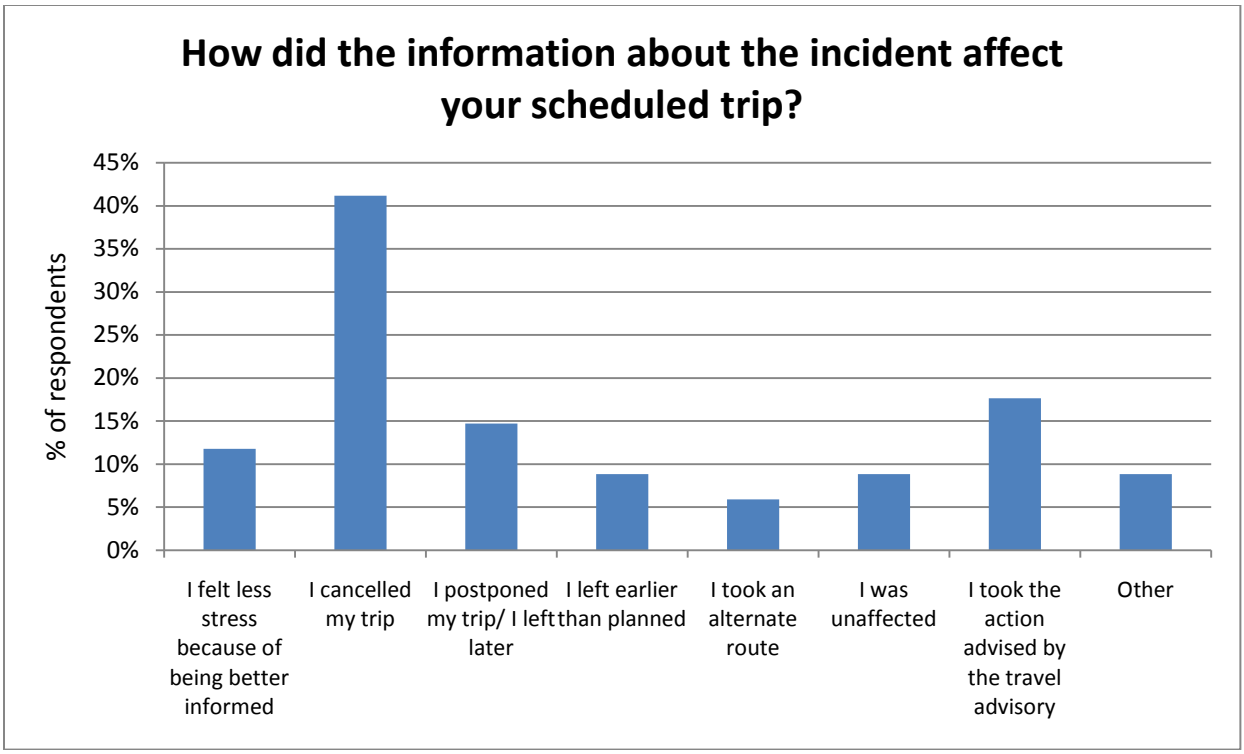


Figure 2. Effects of BEFORE trip information

5. For the "BEFORE" trip information, please rate your agreement/disagreement for the following statements:

- The information was USEFUL for making travel decisions (e.g., go, no-go, delay trip).
- The information was EASY to understand.
- The information was ACCURATE.
- The information was CREDIBLE.
- You were BETTER PREPARED to react to changing weather, road and traffic conditions because of the information.
- The information was TIMELY and gave you enough time to decide what action to take (e.g., turn back, slow down, etc.).
- You took the action advised by the travel information (e.g., slow down, watch for ice, etc.).
- You used the information to help have a safer trip.

Participants were asked to rate each of the statements with Completely Agree, Somewhat Agree, Neutral, Somewhat Disagree or Completely Disagree. The results from the first four statements are shown in Figure 3, while the results from the last four statements are shown in Figure 4.

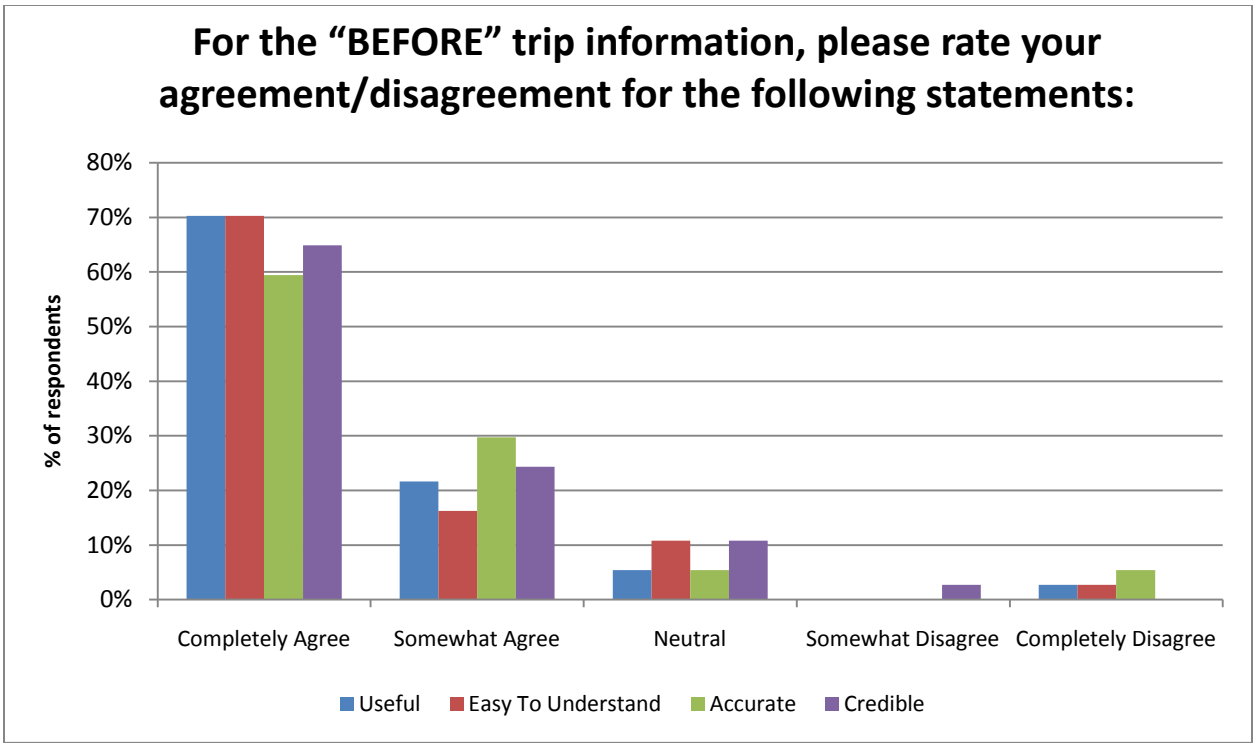


Figure 3. BEFORE trip information analysis.

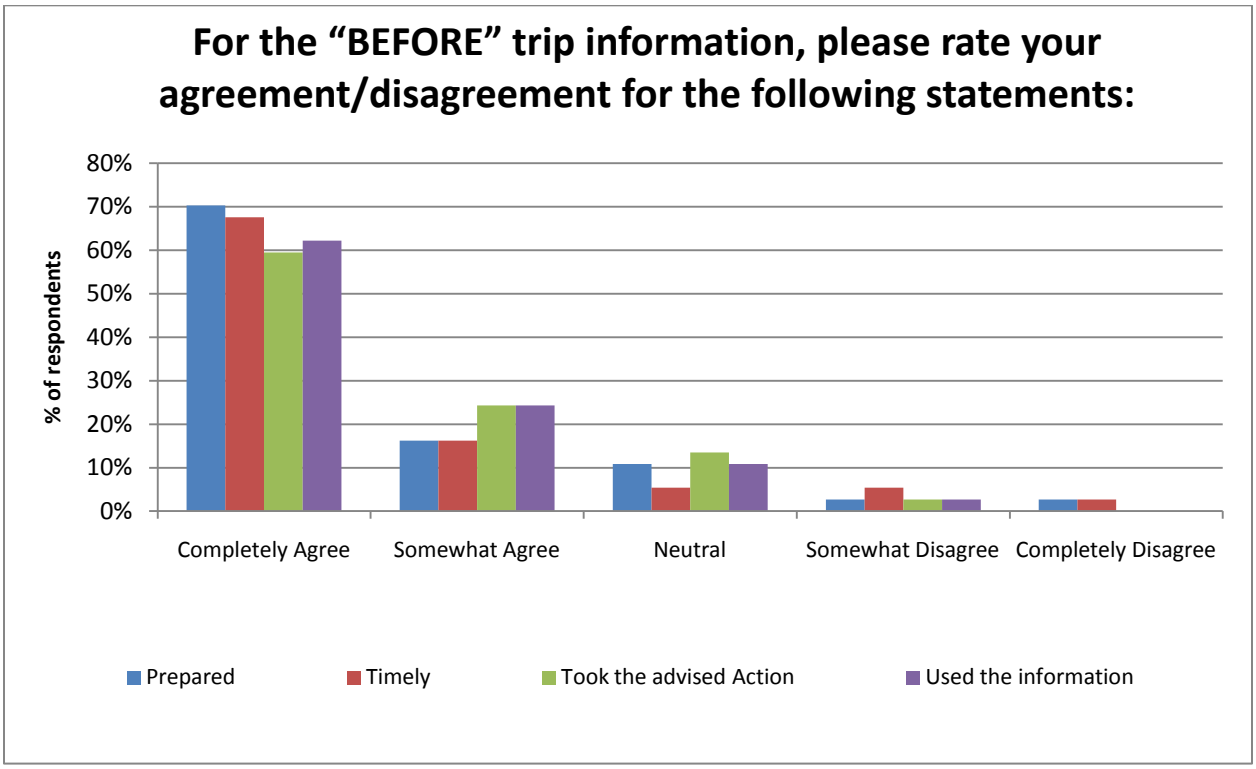


Figure 4. BEFORE trip information analysis.

6 and 7. What travel information sources were most important to you BEFORE this trip?

Respondents were given several choices and asked to rank the most important source with a 1, the second most important source with a 2, all the way up to 5 for the fifth most important. Since some of the sources were ranked highly by some people but not ranked at all by others, an average ranking would overinflate the importance some of the sources. Therefore, the number of times each source was ranked #1 through #5 is shown in order to show how many times each source was ranked as well as how highly each was rated.

The participants that marked 'other' were asked to specify other sources of information that were important to them. The 'other' responses were as follows:

- My own observations of weather conditions, time of year, and experience told me what to expect.
- Emails from my wife in Laramie

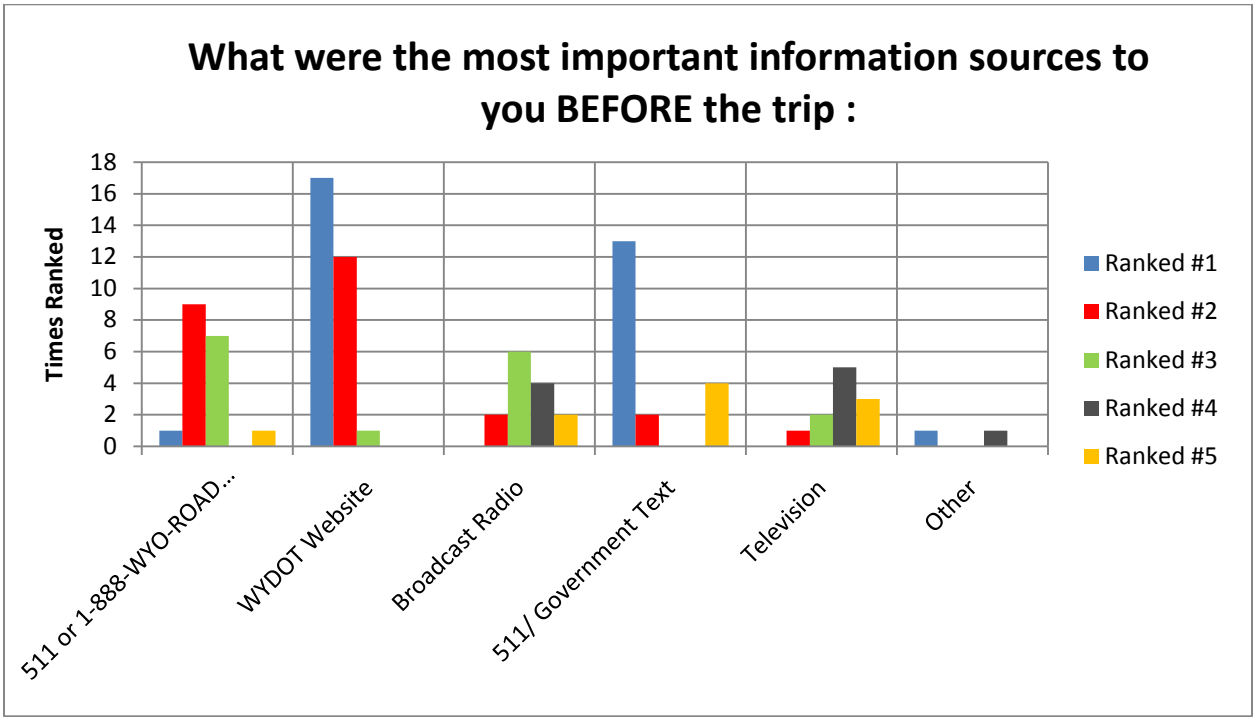


Figure 5. Importance of information sources for BEFORE trip.

8. Referring to the information source you ranked first (i.e. most important) in question #6, why was it the most important information source to you?

This question asked participants to give reasons for the ranking they had given in the previous question. Responses that were given multiple times are indicated by a number off the side in parenthesis as to how many times it was given.

Seventeen respondents ranked the WYDOT website as their number one choice. Some of these people gave the following reason for this ranking:

- The most information in the shortest time.
- The web cam pictures let me know how bad the road conditions are. When I see cars and trucks off the road I know it is serious.
- The easiest and most reliable to access. (3)

- The cameras and weather station (4)
- I COULD SEE WHAT THE ROADS LOOKED LIKE
- I like being able to see on the map the conditions and look at the web cameras so I can judge conditions myself.
- On weekends, or if I am near my computer, I am more apt to checking the website because I can see the cams.
- It is the only source I use prior to a trip (2)
- The web cams provided a visual of road conditions and where there might be problems.

One respondent ranked the 511/ 1-888-WYO-ROAD Phone service as the most important for the following reason:

- Because the information comes directly to my cell phone.

One respondent ranked their 'other' choice as the most important to them. They gave the following reasons.

- I've been traveling between Laramie and Cheyenne for 20 years and I know what to expect this time of year. Between March 1st and April 30th is when conditions can be the worst and change the quickest.

Thirteen respondents ranked Government text messages as the most important to them for the following reasons:

- Because it was available on my cell phone, which I can take with me anywhere.
- instantly got message on phone
- I was in my truck driving and this was the only information I had
- I always have my phone on me to check road updates
- It was the first information I received.
- Easy access and immediate (7)

9. What information was most useful to you?

Respondents were given a blank box question in which to answer this question. Four participants (of the 35 analyzed) chose not to answer this question. The majority of the responses fell into the categories of road conditions, openings and closures and web cameras. Each person was allowed to list as many pieces of information as they wanted to, the number of responses actually exceeded the number of people. The responses can be seen below, with a number in parenthesis on the side indicating how many time the answer was given if repeated by multiple respondents.

- Web cameras (6)
- Web cam pictures of road conditions. 511 narratives also reinforced the poor road conditions.
- Current road conditions. (4)
- Road closures and openings (9)
- I called highway patrol to get permission to travel
- That the road was closed and earlier that the visibility was low.
- slush on the road is the hardest to drive in. I thought the information sign said it well.
- After learning of the road closure via text message, it was useful to check the WYDOT website to see the general status of the roads in the area to know how widespread the issues were
- The travel signs on I-80
- Specific road conditions, especially between Buffort and the Summit where the wind impacts the road conditions.
- Pictures of the road

- limited visibility notice
- WYDOT information

10. What do you think could be improved?

Respondents were again given a blank box question in which to answer this question. 21 of the 35 participants (60%) chose not to answer this question, or gave the response of "N/A." All responses to this question are important to fully understand the feelings of the travelers and the wide range of concerns that they have. Therefore, they can all be seen below.

- Don't need both text and e-mail; just text. to get texting, I have to sign up for both.
- If known, how long the storm is expected to stay around. Then I can decide to stay overnight in Cheyenne rather than waiting for the road to open later in the evening.
- Letting people know in advance if a road might close or when it might re-open.
- Sometimes the email messages are a bit confusing--they aren't always sent out in order, or at least I don't receive them in order.
- More web cams
- Warmer Weather.
- Information about locations (milepost) where there are vehicles off the road and/or accidents.
- For this trip, nothing. The roads were closed and we stayed home.
- I thought the road should have been closed on Friday evening. The road conditions were worse than the texts/website reported.
- In the last year I have come to rely more on the I-80 signs rather than checking the WYDOT website because they have been more reliable as to what lies ahead on the highway. i.e. icy roads with decreased visibility next 20 miles
- List of accidents or barriers on the road by mile post such as trucks sideways, cars stuck, etc.
- Reduce the speed limit for the semi-trucks when the conditions are bad.
- Update written conditions in a more descriptive way. Slick in spots for example has meant anything from one tiny spot of snow to consistently terrible conditions. Rather than choose a few phrases, let us know REALY what is happening. That is why the web cams are so useful, but the descriptions could be as useful or more so if they did a better job of describing the actual conditions.
- Make sure information is up to date (within minutes)

11. Indicate the factors that were important when choosing information sources to use BEFORE this trip.

Participants were given 8 factors and asked to rate the importance of each factor by choosing Extremely Important, Very Important, Somewhat Important, Not Important, or No Opinion. The results from the first four factors are shown in Figure 6, while the results from the last four factors are shown in Figure 7. It can be seen that most travelers feel that all the mentioned factors are Extremely important when deciding on an information source to utilize. The graphs do not show "No Opinion" results since no one gave that answer. Although no one put "Somewhat important" or "Not important", these results were shown to provide a sense that although these were given as options, no one chose them. Overall, Accuracy and Timeliness were given the "Extremely Important" ranking the most, each having 34 of 37 respondents indicating this.

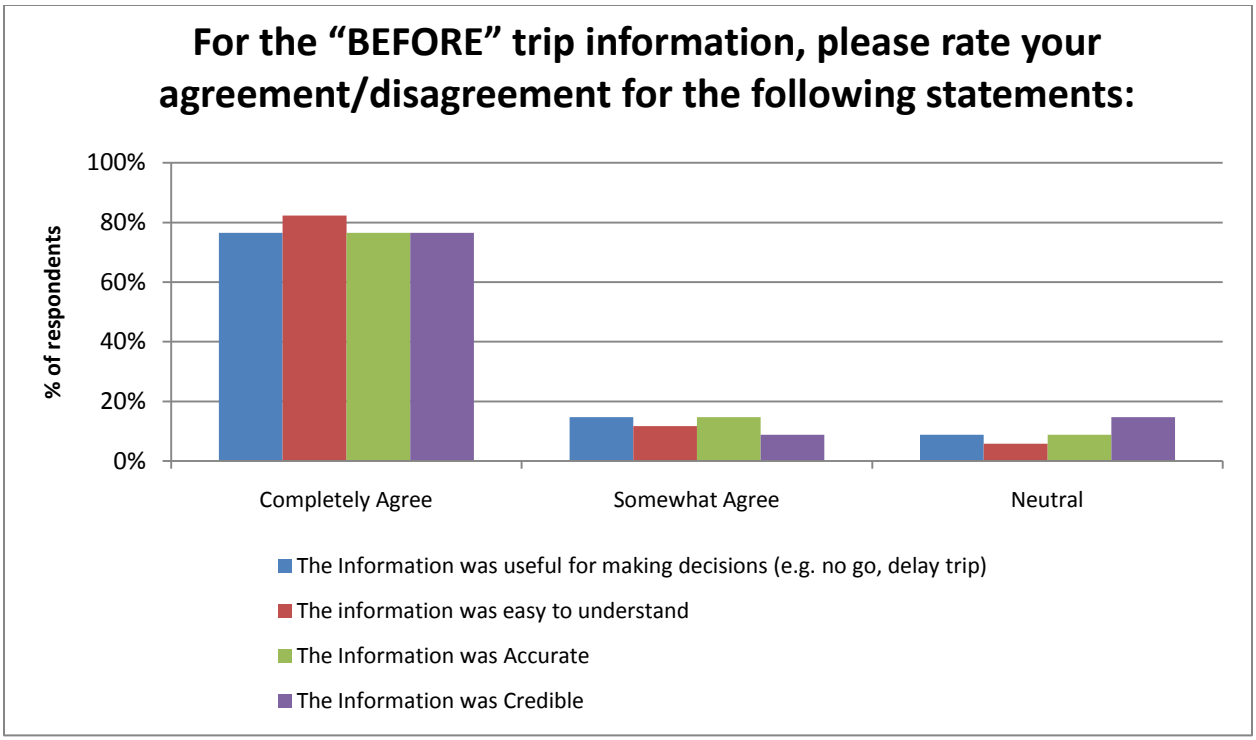


Figure 6. Importance of factors BEFORE trip.

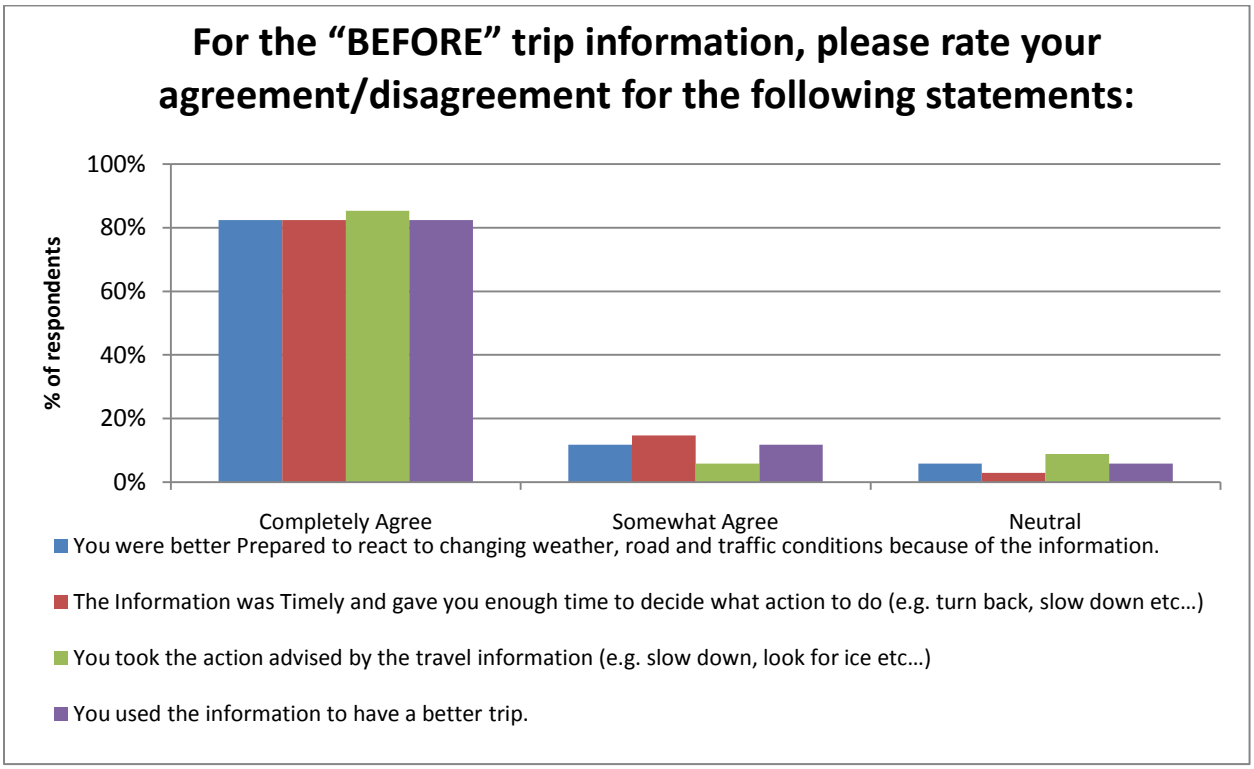


Figure 7. Importance of factors BEFORE trip.

12. Did you find out about the incident DURING your scheduled trip? If no, skip to end of survey.

Returning to the 35 completed surveys, 8 (23%) of respondents answered yes to this question. Those who replied no, skipped to the end of the survey and were not included in the DURING the trip analysis (which includes questions 13 through 21). Therefore, 8 participants stated that they had found out about the incident during their trip and were included in the DURING trip analysis.

13. How did you learn about the incident DURING your scheduled trip?

Participants were asked to mark all options that applied to them. They were given the options of the 511 telephone service, broadcast radio, encountered while driving, flashing caution signs, highway advisory radio (1610 AM), roadside dynamic message sign, and also other. The eight participants were allowed to choose as many options as they felt they used. No participants chose 'other'.

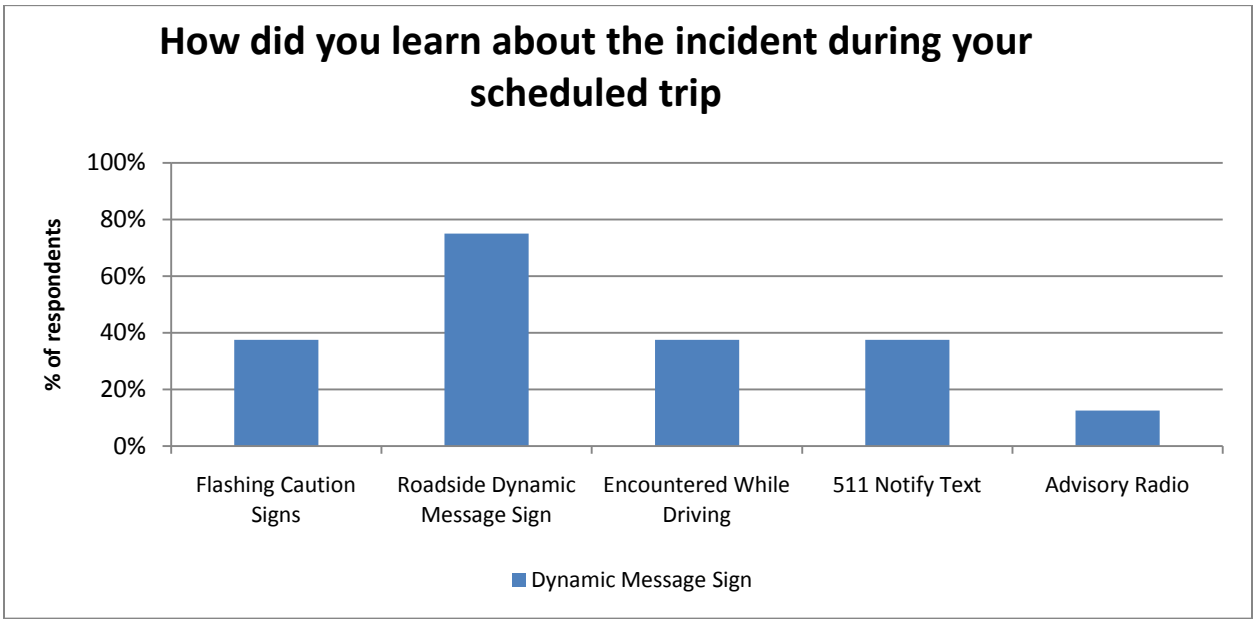


Figure 8. Sources of information DURING the trip.

14. How did the information about the incident affect your trip?

Respondents were given numerous choices to this question and asked to mark all that applied. Of the eight participants, 6 marked the option "I took the action advised by the travel information (e.g., slow down, watch for ice, etc.)" and 3 marked "Felt less stress because better informed of the situation. Helped decide what actions to take." (One person marked both of these options.)

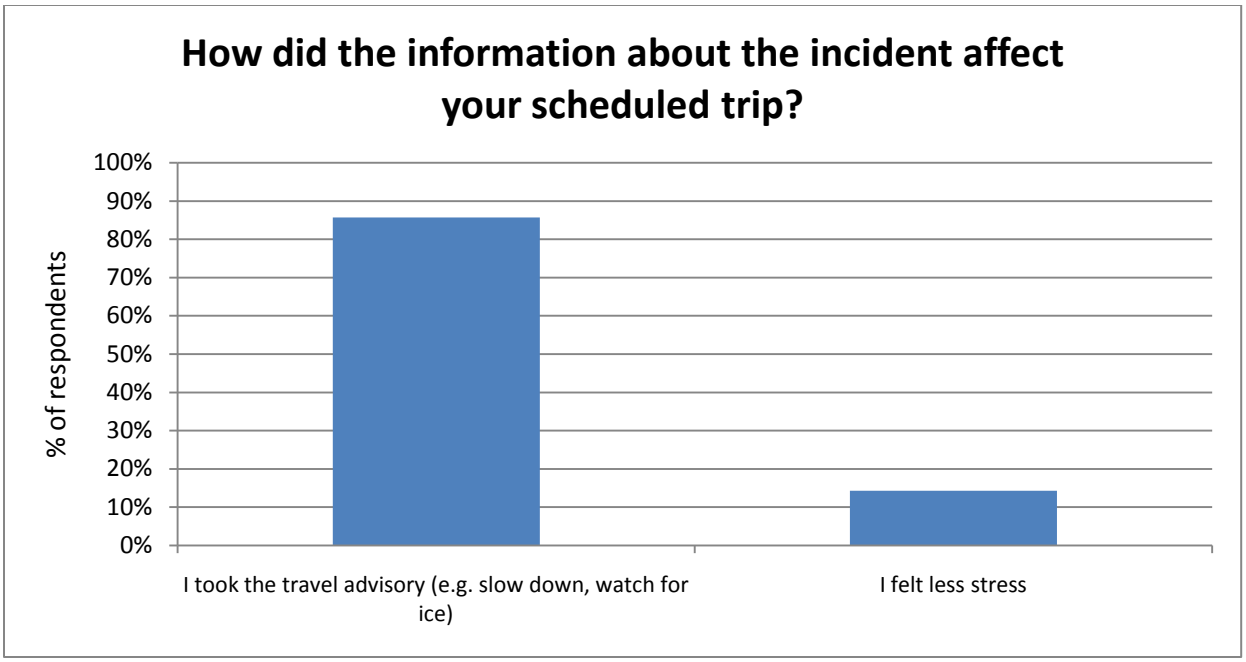


Figure 9. Effects of DURING trip information.

15. For the "DURING" trip information, please rate your agreement/disagreement for the following statements:

- The information was USEFUL for making travel decisions (e.g., go, no-go, delay trip).
- The information was EASY to understand.
- The information was ACCURATE.
- You were BETTER PREPARED to react to changing weather, road and traffic conditions because of the information.
- The information was TIMELY and gave you enough time to decide what action to take (e.g., turn back, slow down, etc.).
- You took the action advised by the travel information (e.g., slow down, watch for ice, etc.).
- You used the information to help have a safer trip.
- The roadside Dynamic Message Signs were effective for communicating with you.
- The information was CREDIBLE.

Participants were asked to rate each of the statements with Completely Agree, Somewhat Agree, Neutral, Somewhat Disagree, Completely Disagree, or Not Sure. The results from the first four statements are shown in Figure 10, while the results from the last five statements are shown in Figure 11.

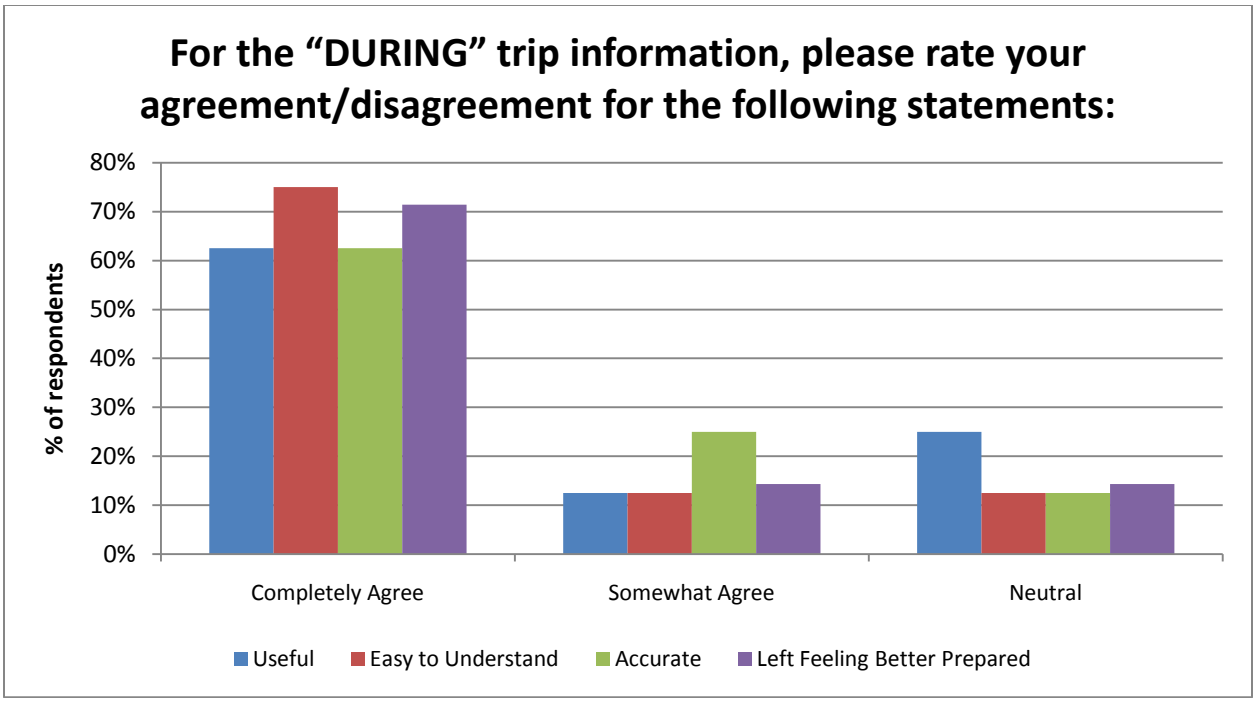


Figure 10. DURING trip information analysis

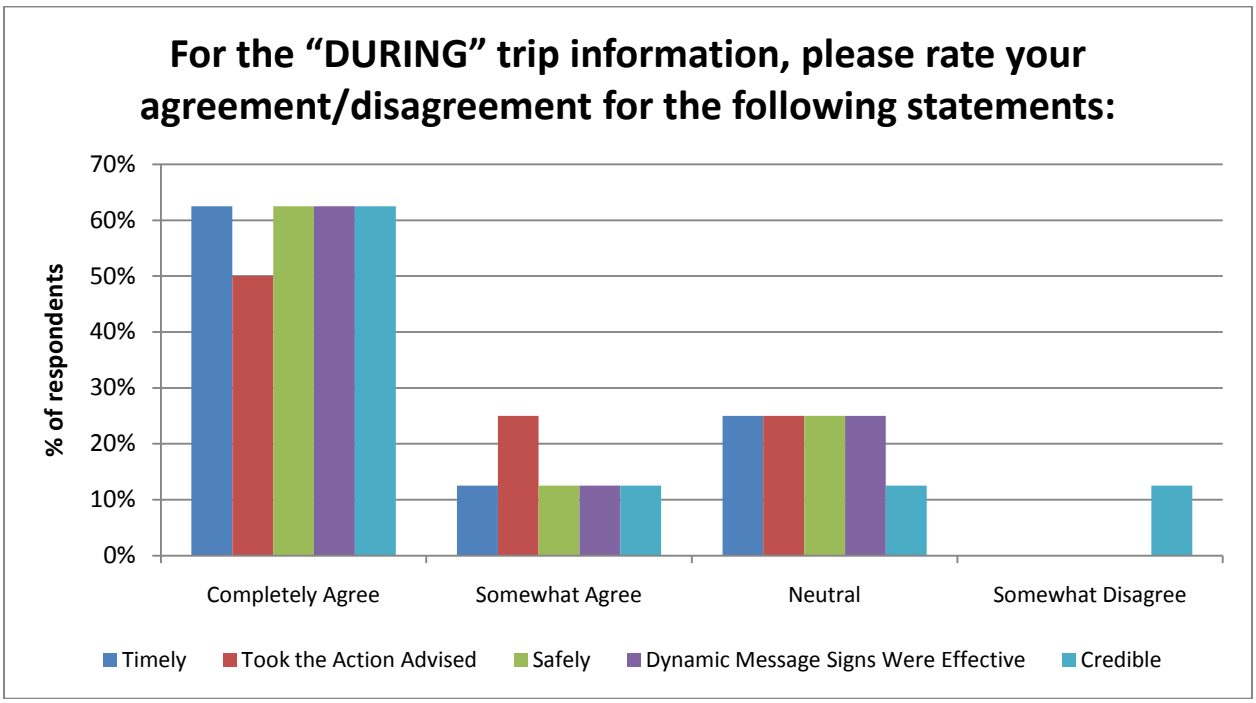


Figure 11. DURING trip information analysis

16 and 17. What travel information sources were most important to you DURING this trip?

Respondents were given several choices and asked to rank the most important source with a 1, the second most important source with a 2, all the way up to 5 for the fifth most important. Since some of the sources were ranked highly by some people but not ranked at all by others, an average ranking would overinflate the importance some of the sources. Therefore, the number of times each source was ranked #1 through #5 is shown in order to show how many times each source was ranked as well as how highly each was rated. The average ranking given to each choice is shown in Figure 11.

The participants that marked 'other' were asked to specify other sources of information that were important to them. The 'other' responses were as follows:

- My experience
- My own knowledge of the weather and time of year

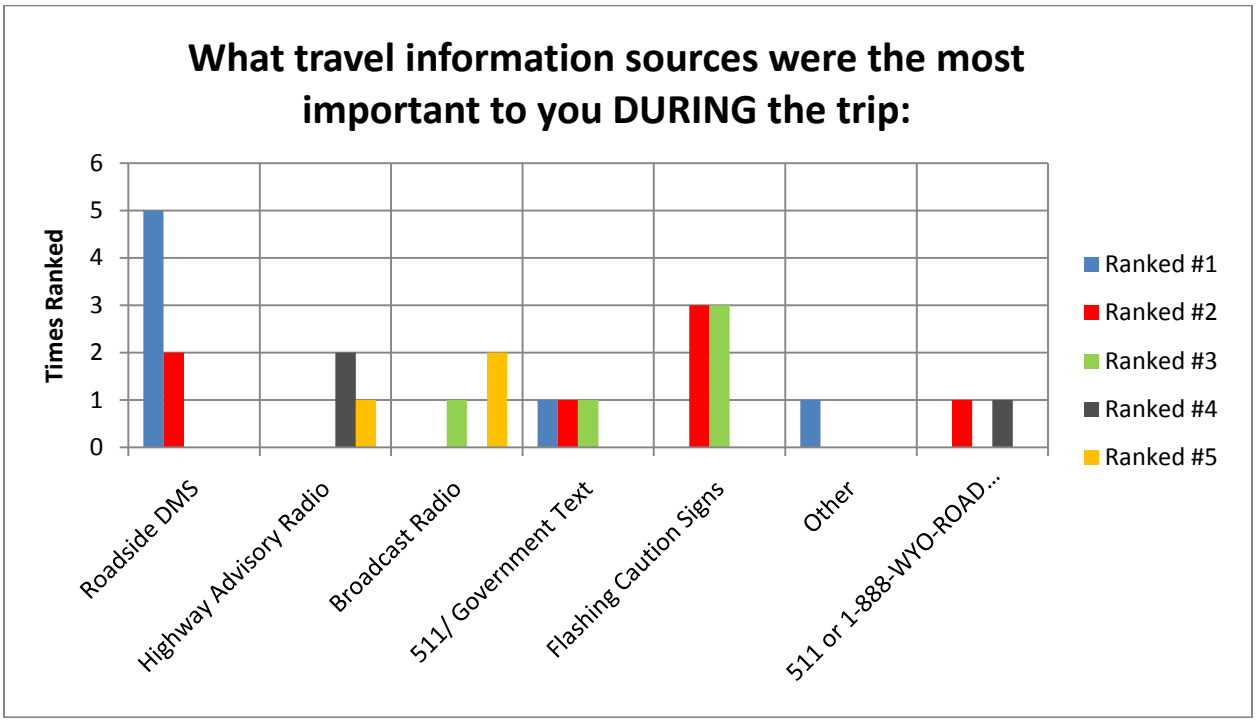


Figure 12. Importance of information sources for DURING trip

18. Referring to the information source you ranked first (i.e. most important) in question #16, why was it the most important information source to you?

This question asked participants to give reasons for the ranking they had given in the previous question. Respondents that ranked the Roadside Dynamic Message Signs as their first choice gave the following reasons for this ranking:

- Current, credible, and easily accessible.
- IT LET YOU KNOW WHAT WAS NEXT
- Due to changing conditions the signs prepare the driver for upcoming situations
- The speed and accuracy of the information.
- I've driven the road enough that I am pretty sure of what the conditions are going to be like but the Message signs really help to give more information.

One respondent that ranked "Other" first gave the following reason for this ranking:

- No substitute for experience.

19. What information was most useful to you?

Respondents were given a blank box question in which to answer this question. Only three participants of the 8 analyzed chose to answer this question. All of the responses can be seen below.

- Message signs are really useful, better than driving blind.
- Due to changing conditions the signs prepare the driver for upcoming situations
- Decreased visibility information

20. What do you think could be improved?

Respondents were again given a blank box question in which to answer this question. 4 of the 8 participants (50 %) chose not to answer this question, or gave the response of "N/A." All responses to this question are important to fully understand the feelings of the travelers and the wide range of concerns that they have. Therefore, they can all be seen below.

- WYDOT in Laramie County could plow the roads a little more often.
- When visibility is poor it is helpful to have a sign that tells where vehicles are off the road and accidents are locate ahead.
- When I-80 closed at 10:30 PM all of the dynamic signs between Laramie and Cheyenne posted that it was closed and you must exit. All the exits were drifted in and people were getting stuck on the off ramps. So the dynamic signs were more of a problem than a help.
- I think that the sign should say No unnecessary travel for those people that have never driven in blizzard conditions. I know you probably can't say that, but it is people, in cars, that cause problems for the truckers and some of them are not the brightest in the world either. I would say that the truckers in this last storm were very careful but some cars should not have been out there.

21. Indicate the factors that were important when choosing information sources to use DURING this trip.

Participants were given 8 factors and asked to rate the importance of each factor by choosing Extremely Important, Very Important, Somewhat Important, Not Important, or No Opinion. The results from the first four factors are shown in Figure 13, while the results from the last four factors are shown in Figure 14.

The categories of Convenience and Availability received the most votes for "Extremely Important". However, it can be seen that most travelers feel that all the mentioned factors are extremely important when deciding on an information source to utilize.

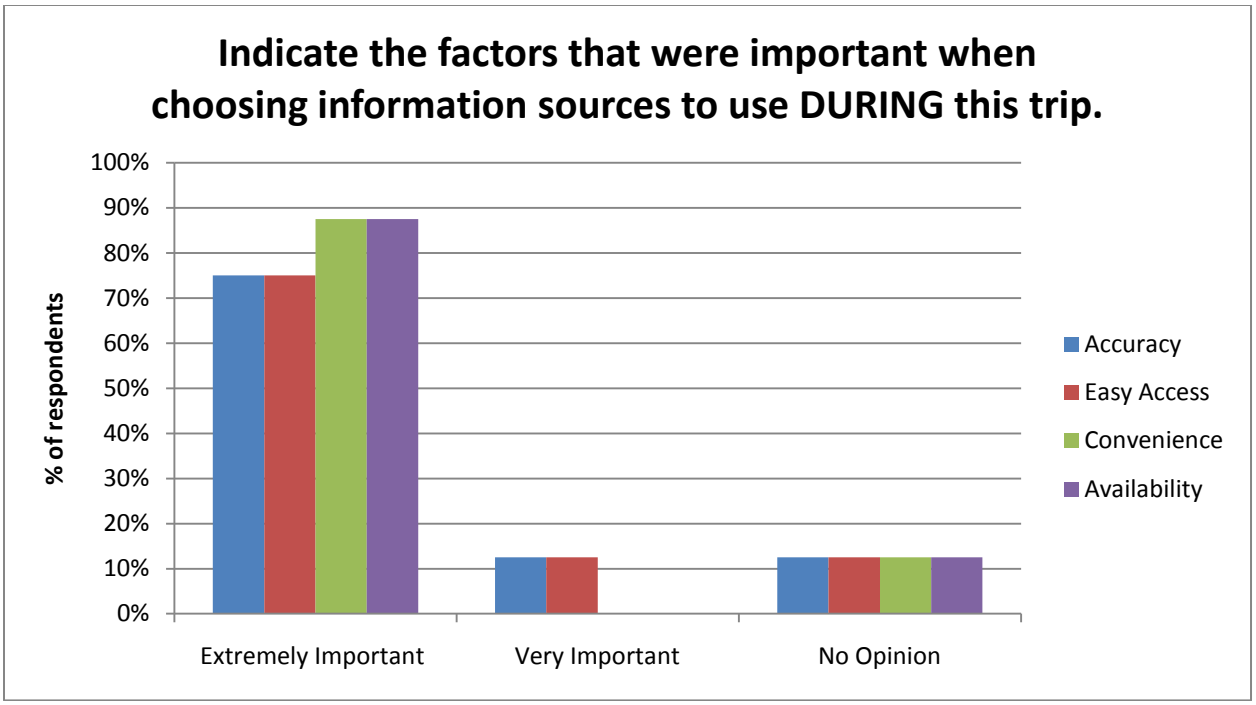


Figure 13. Importance of factors DURING trip

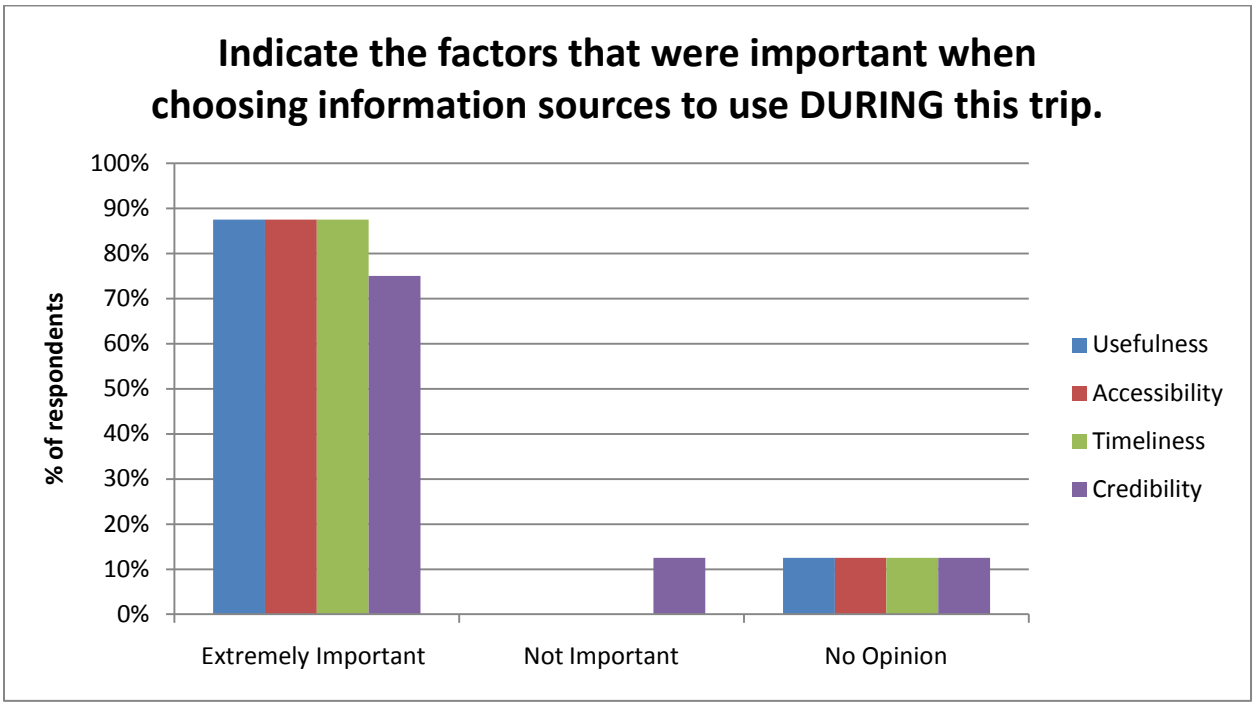


Figure 14. Importance of factors DURING trip

APPENDIX D: RANDOM TRAVELER FULL SURVEY RESULTS

Random Traveler Survey Results

Travel Plaza Surveys

When an incident occurred, an advisory sent out by the WYDOT TMC staff to the 511 Notify Messaging Service. An incident was defined as a road advisory as determined by the District 1 Dispatch Office or if the Dynamic Message Signs were reporting numerous conditions on the roadway. These surveys were completed during the time period from the beginning of November 2009 to the end of February 2010. During this period, 13 surveys were completed. When members of the survey team were sent to the travel plaza, they were located in one of two spots. One entrance to the travel plaza was located near the commercial truck parking and the other entrance was located near the parking for cars and RVs. Therefore, there were responses from both truck drivers and non-truck drivers. The following is a summary of the questions on the surveys. Figures 1 shows the percentage of how the group fell into the given age brackets.

Please identify your age group:

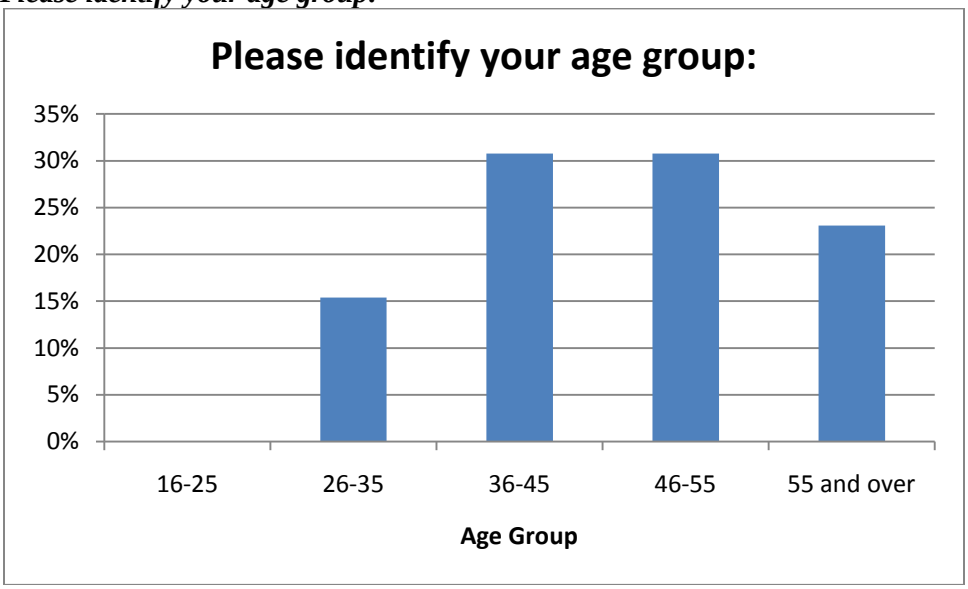


Figure 1. Age breakdown of all Respondents.

What direction are you traveling on I-80 today?

Of the 13 drivers who took this survey, 9 were heading east.

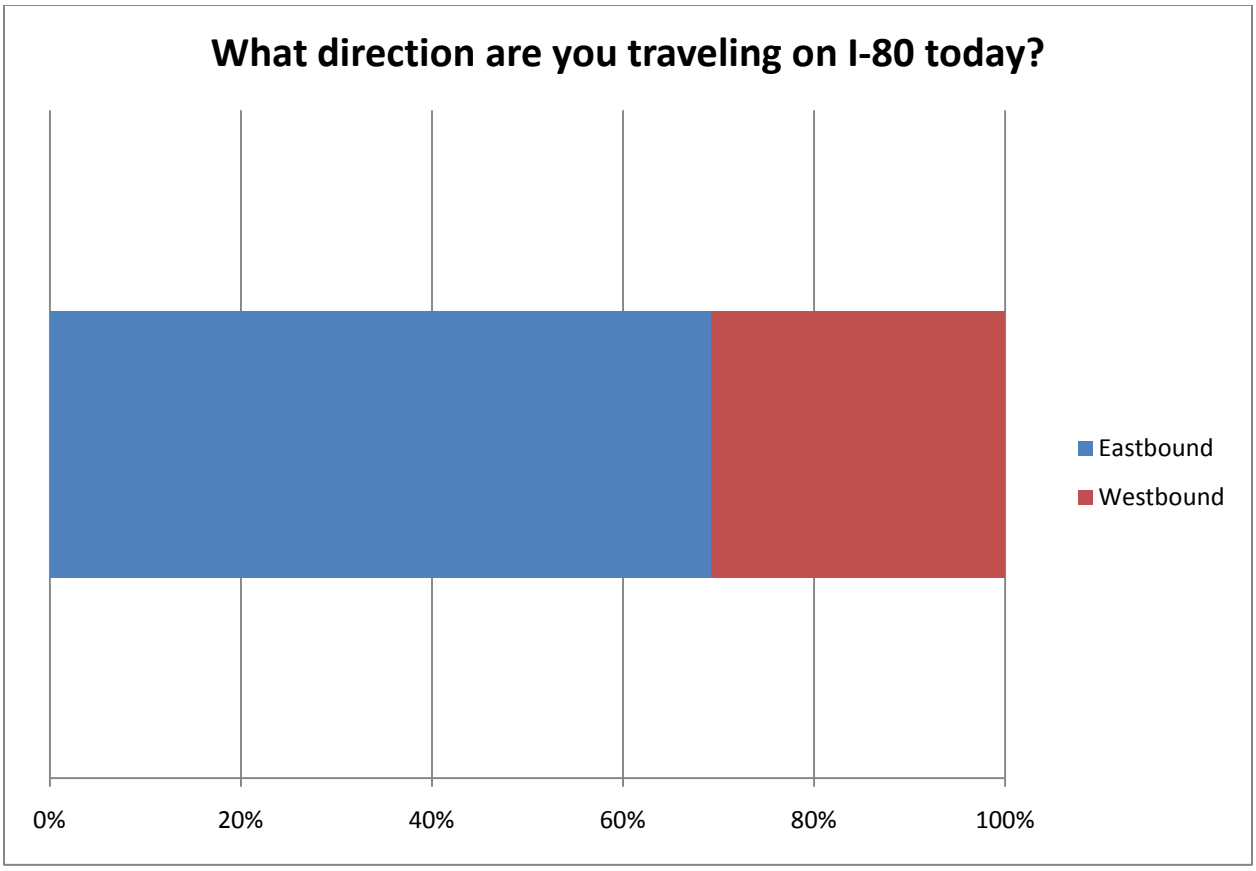


Figure 2. Direction of travel.

What type of vehicle are you driving?

Of the the 13 drivers in this survey, 11 were driving a commercial vehicles and 2 were driving a personal car. Since there was such a low number of personal vehicles, it was decided to place all data into one bracket and not to include analysis of truck vs. non truck trends.

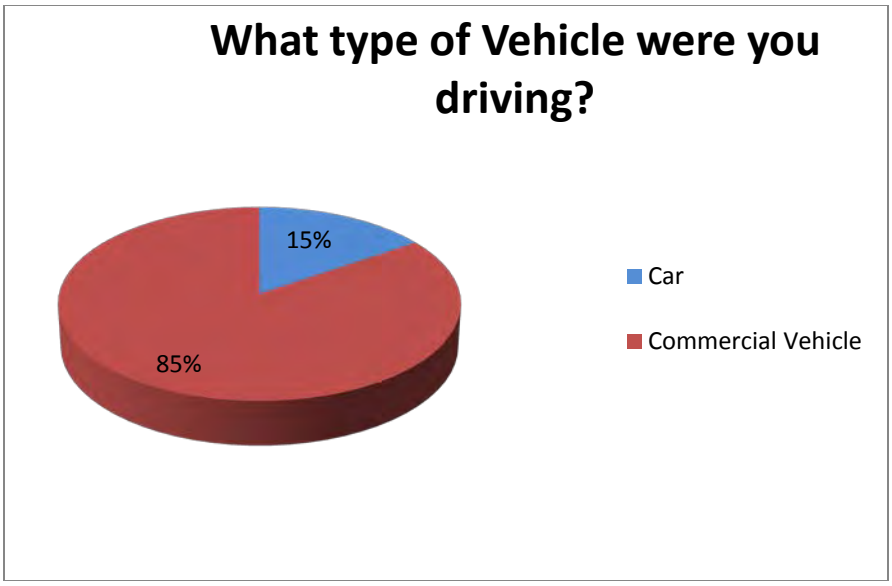


Figure 3. Vehicle Type.

HOW OFTEN do you travel this section of I-80?

The responses for trucks and non-trucks can be seen in Figure 4. It can be seen that none of the respondents chose the options "Almost every day" or "A Few Times a Month" as their response to this question.

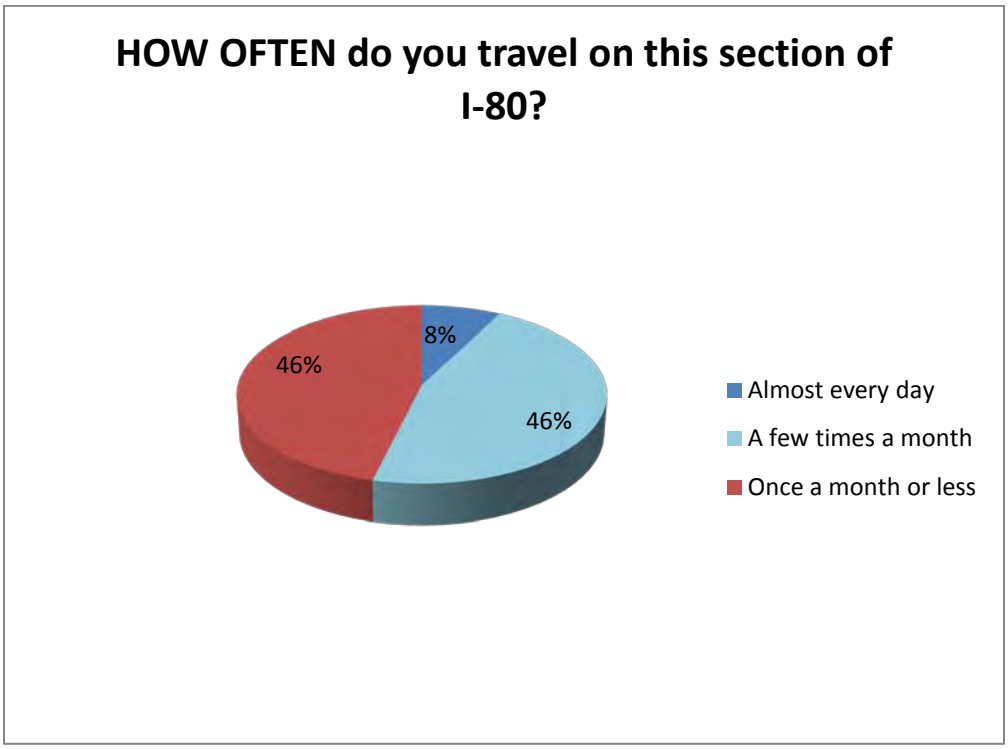


Figure 4. Traveler frequency.

For WHICH REASON do you <u>most often</u> travel this section of I-80?

The responses for trucks and non-trucks can be seen in Figure 5. It can be seen that none of the respondents chose "Errands" or "Traveling through on vacation" or "Other" as their response to this question, though each of these categories was given as an option. When asked to specify what the underlying reason for this was, they responded with "Just driving through."

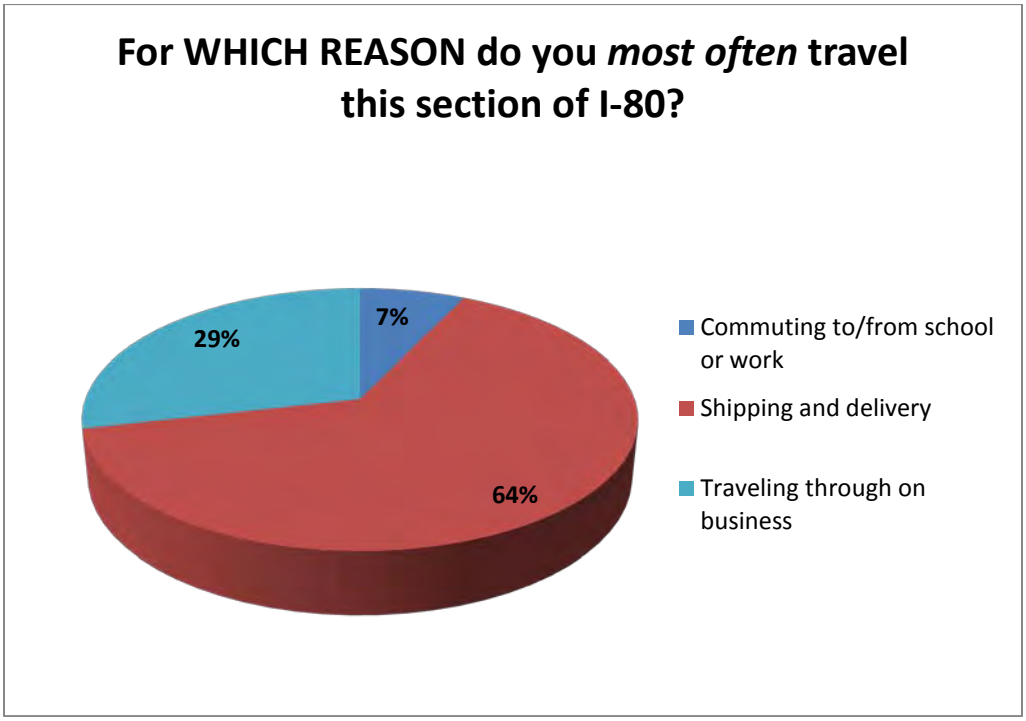


Figure 5. Reason for travel.

From which of the following did you get your travel information today? (Choose all that apply)

Participants were given this question with the following response choices: 511 Phone Service, Broadcast radio, Dynamic Message Signs, Flashing Caution Signs, Highway Advisory Radio (530 or 1610 AM Radio), Television, WYDOT website, 511 Notify and Other. As can be seen in Figure 6, DMS, HAR, AM Radio and the WYDOT Website all had an average ranking of 2. Nobody listed 'Other' as their reason.

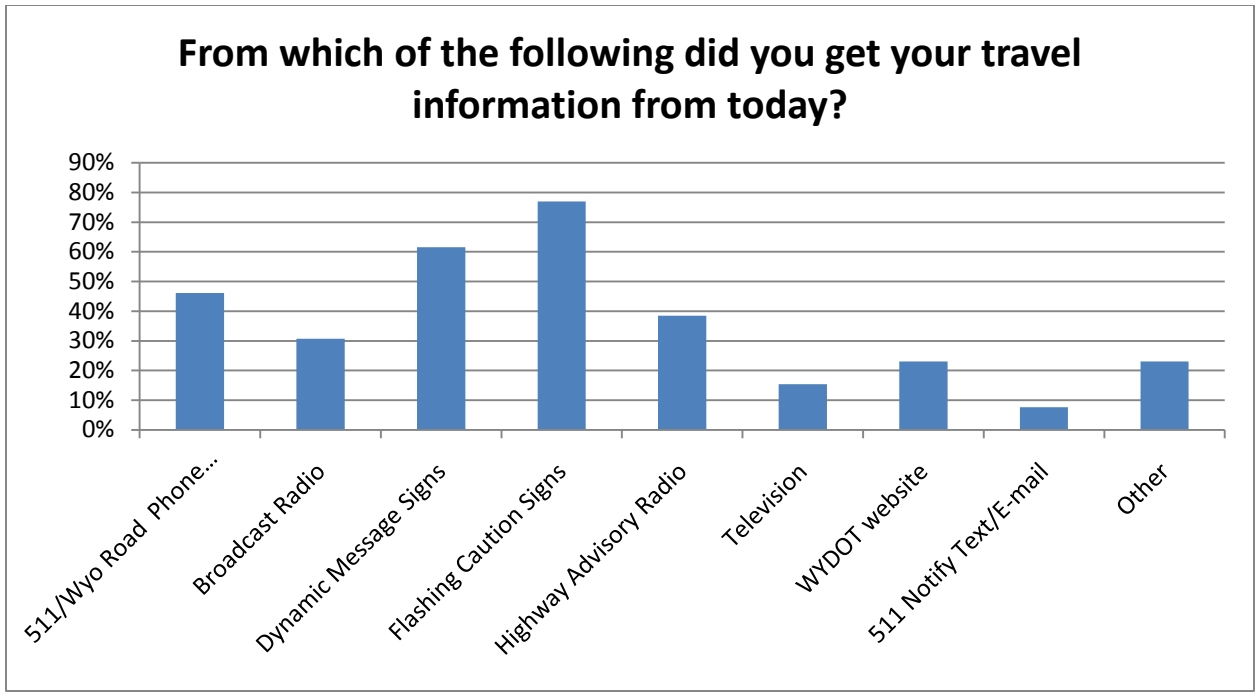


Figure 6. Sources of information.

For each source of information you used, please rank the top 3 according to: Accuracy, Timeliness, and Credibility (Place a "1" for the highest, a "2" for the next highest, and so on.)

For reference, Figure 7 shows how the question was placed on the survey. Each information source is shown with the number of times it was ranked #1 to 3. This was done because a simple average of the ratings would not have taken into account the number of people who used it, so that even information sources that were not used very often could receive high rankings. The results of this question for both trucks and non-trucks are shown in Figures 8-11, revealing the average ranking of each information source.

9. For each source of information you used, please rank the top 3 according to: *Accuracy, Timeliness,* and *Credibility* (Place a "1" for the most, a "2" for the next most, and so on.)

	Accurate	Timely	Credible
511 Phone Service			
Broadcast Radio			
Dynamic Message Signs			
Flashing Caution Signs			
Highway Advisory Radio (530 or 1610 AM Radio)			
Television			
WYDOT website			
Other: _____			

Figure 7. Survey question.

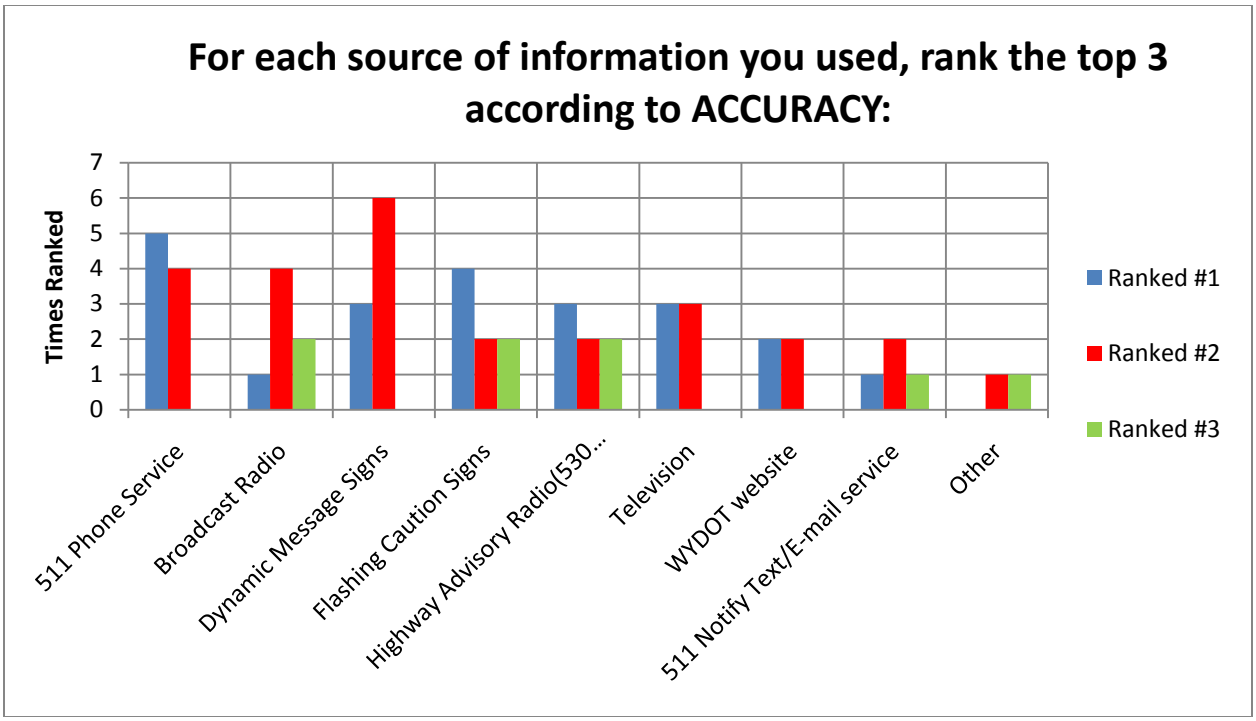


Figure 8. Average Ranking of information source based on accuracy.

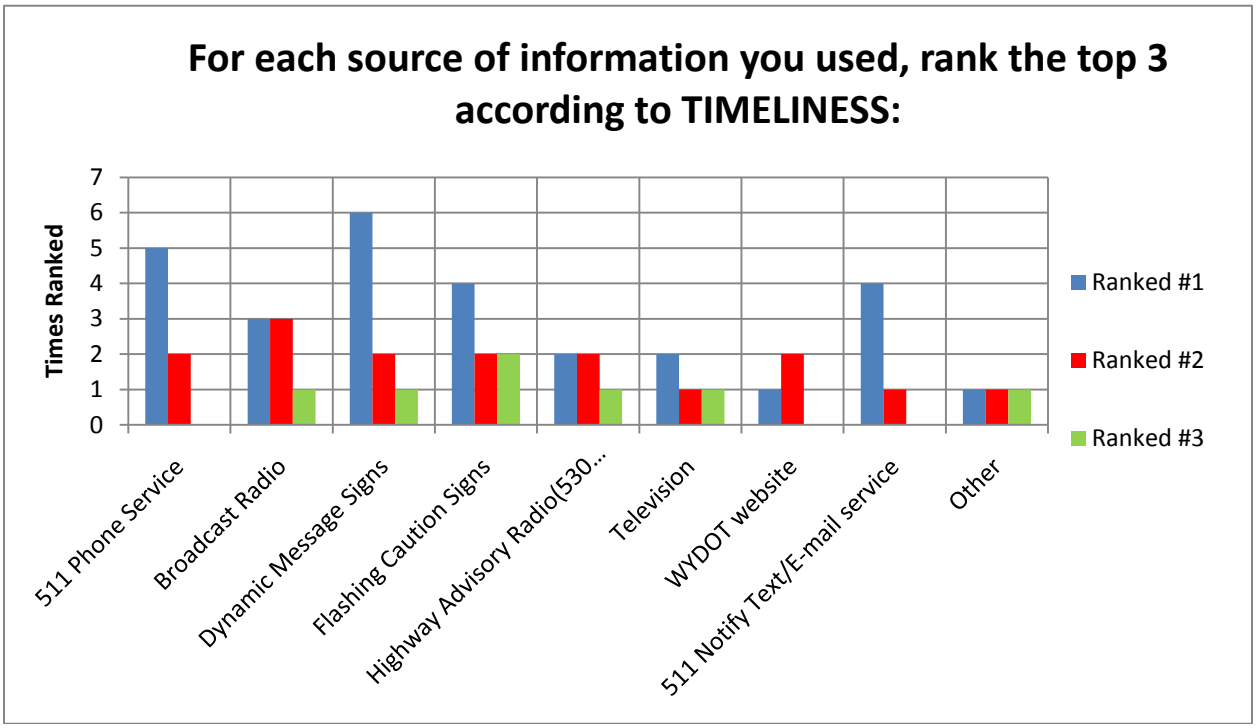


Figure 9. Average Ranking of information source based on timeliness.

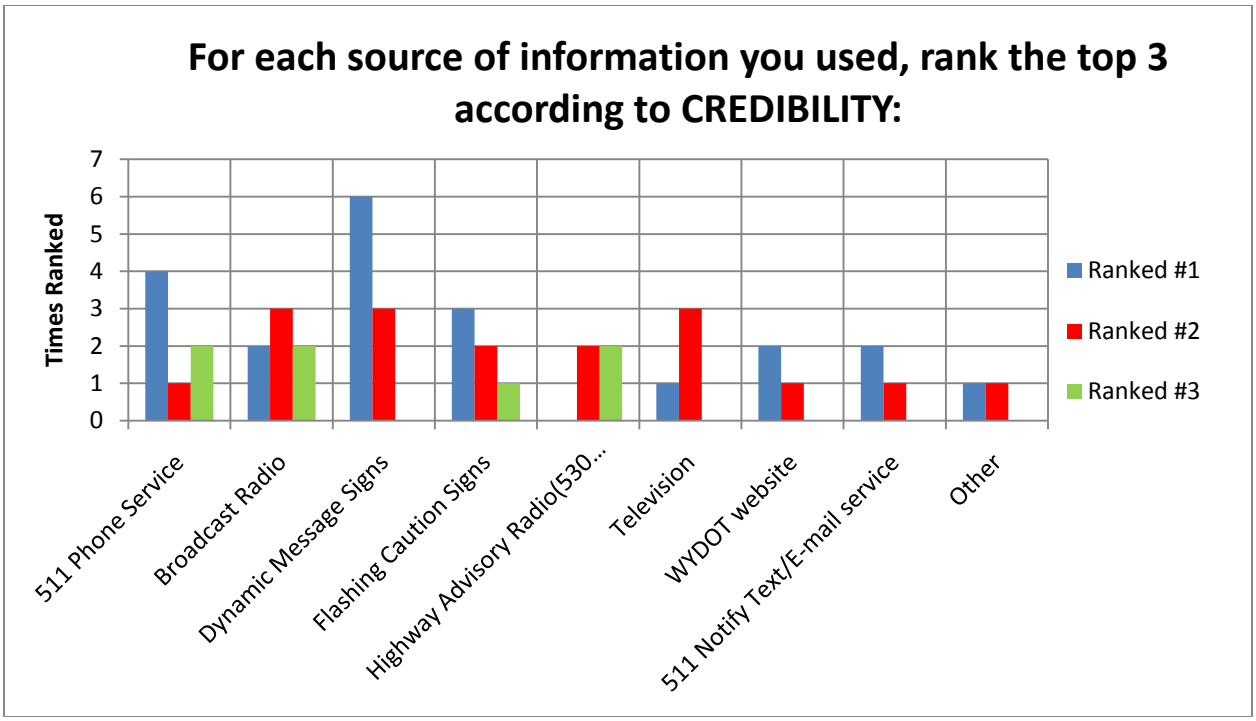


Figure 10. Average Ranking of information source based on credibility.

Did you READ the advisory on the <u>Dynamic Message Signs</u> (DMS) in this section of I-80? If yes, please rate your level of agreement/disagreement with the following statements.

Of the 13 drivers responding to this question, 9 (69%) answered yes to reading the DMS messages. The 4 respondents who answered "no" did not answer anything in the second part of this survey.

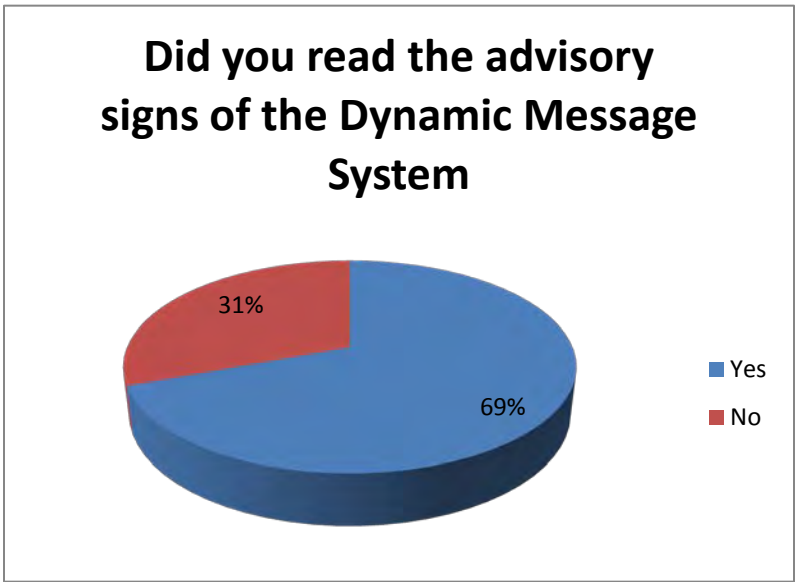


Figure 11. Survey of sign recognition.

The second part of this question included the following eight statements for the 7 people who answered these questions in which the participants gave their level of agreement:

- The DMS signs were clearly VISIBLE.
- The DMS messages were EASY to understand.
- The DMS messages were USEFUL.
- The DMS messages were ACCURATE.
- The DMS messages were SPECIFIC/DETAILED enough to help make decisions about your trip.
- The DMS messages BETTER PREPARED you for changing travel conditions.
- The DMS signs were appropriately spaced to keep you informed about travel conditions.
- Because of the DMS messages, you took the action advised by slowing down, watching for ice, etc.

The results of this part for both trucks and non-trucks can be found in Figures 12-19. The Results are shown as a percentage of the total number of people who answered this portion of the survey.

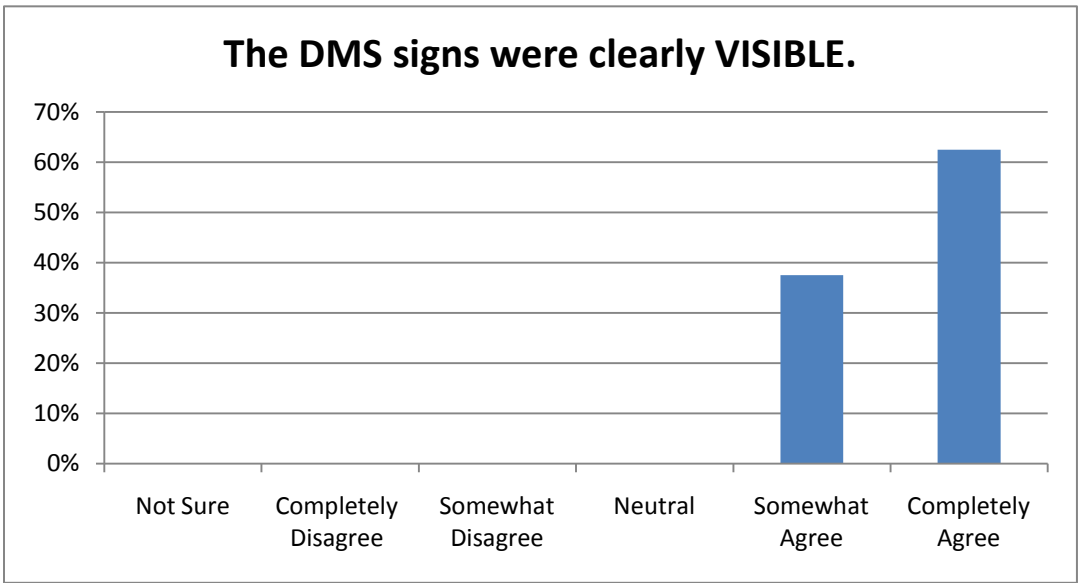


Figure 12. Agreement of visibility statement.

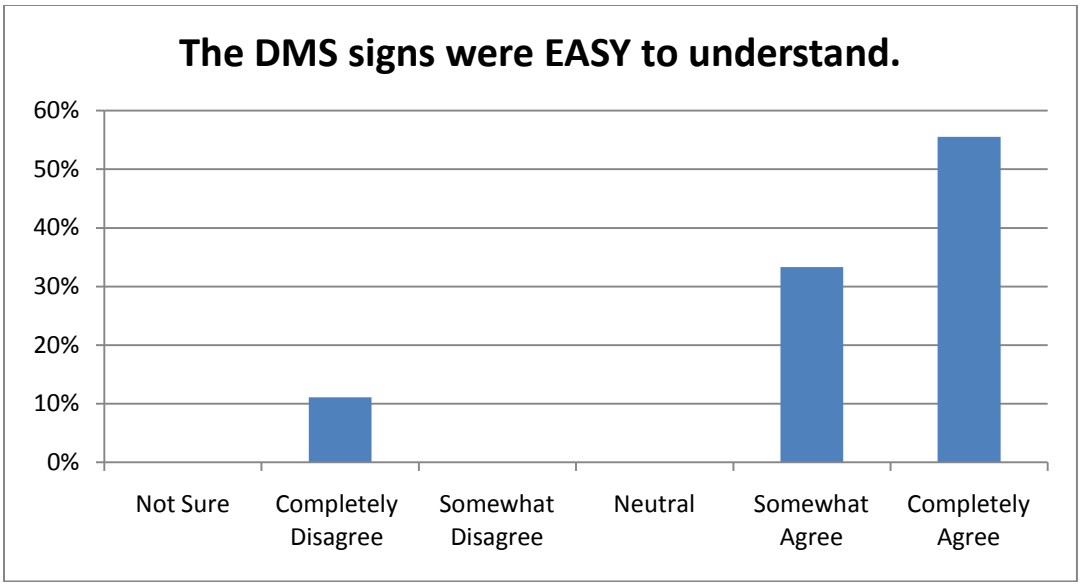


Figure 13. Agreement of understandable statement.

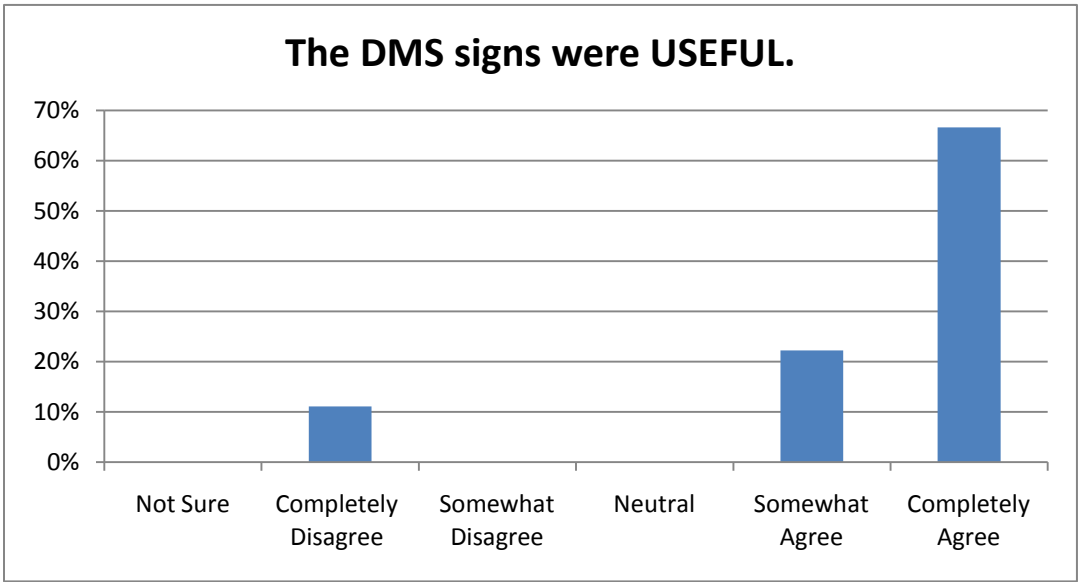


Figure 14. Agreement of usefulness statement.

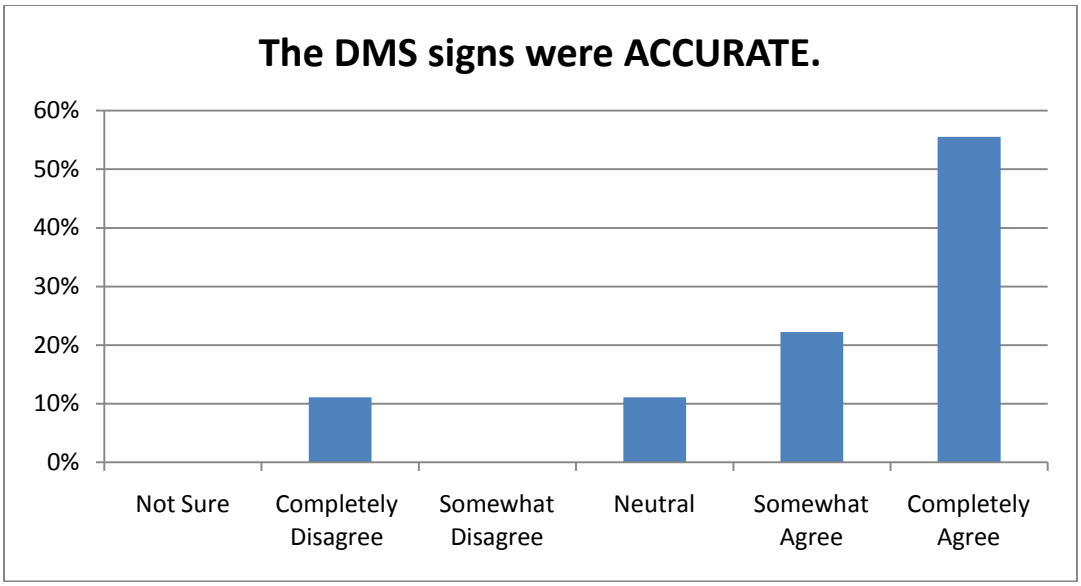


Figure 15. Agreement of accuracy statement.

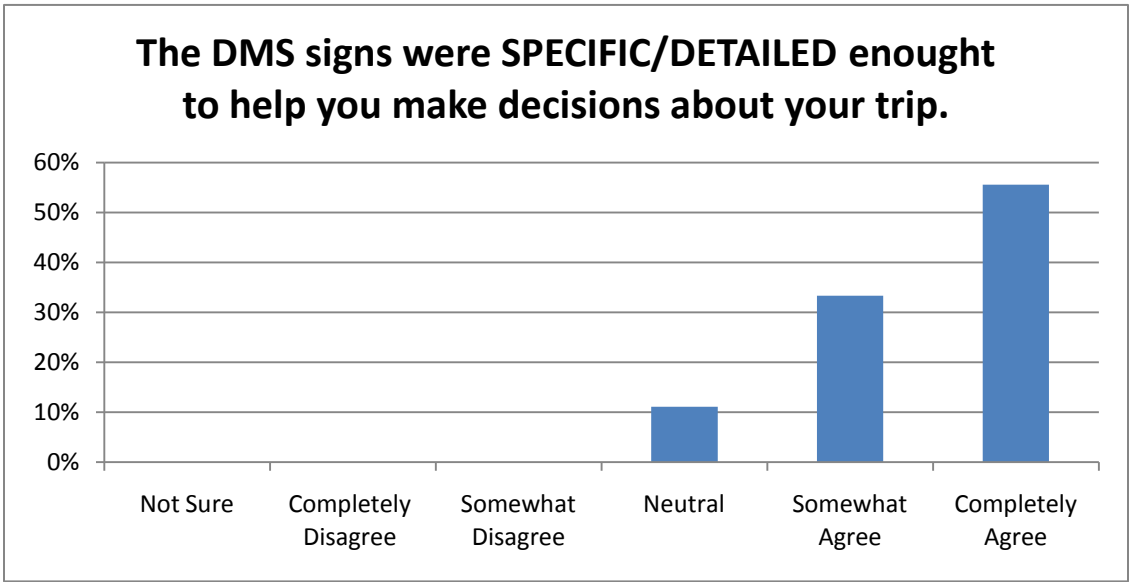


Figure 16. Agreement of detailed statement.

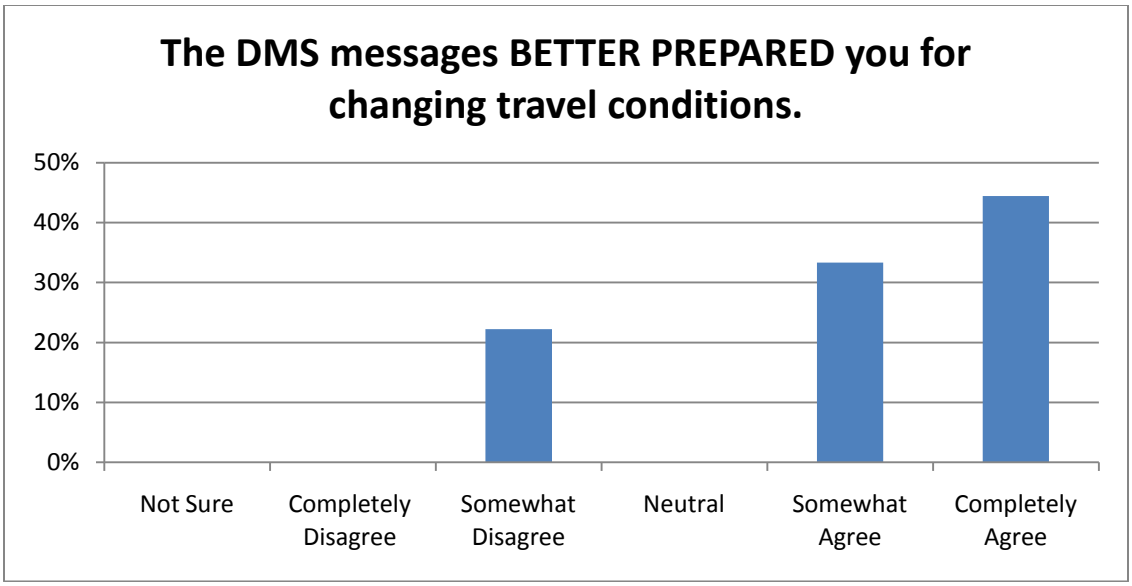


Figure 17. Agreement of prepared statement.

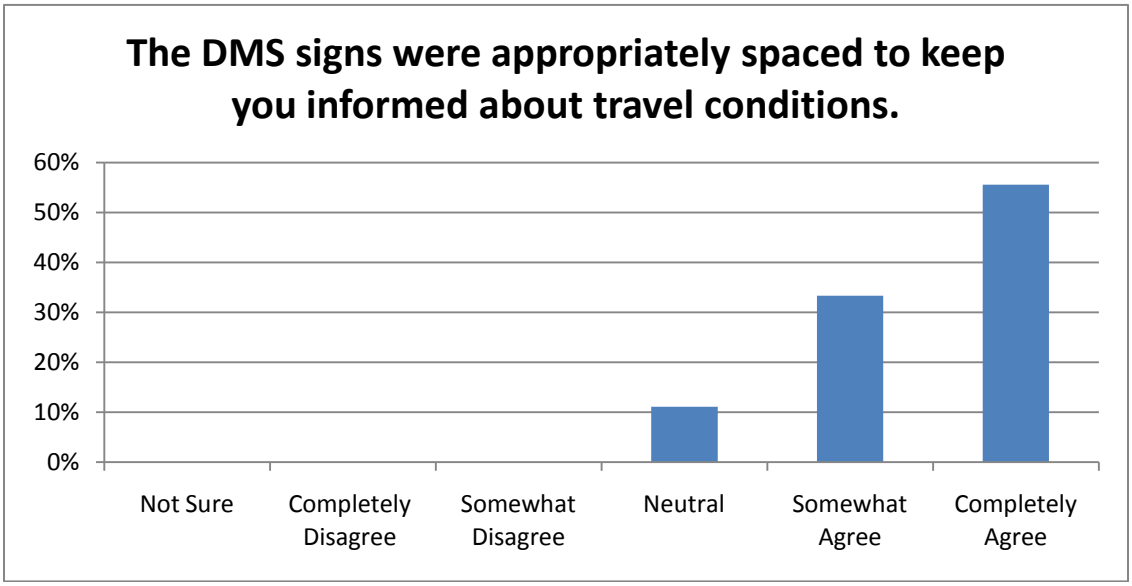


Figure 18. Agreement of spacing statement.

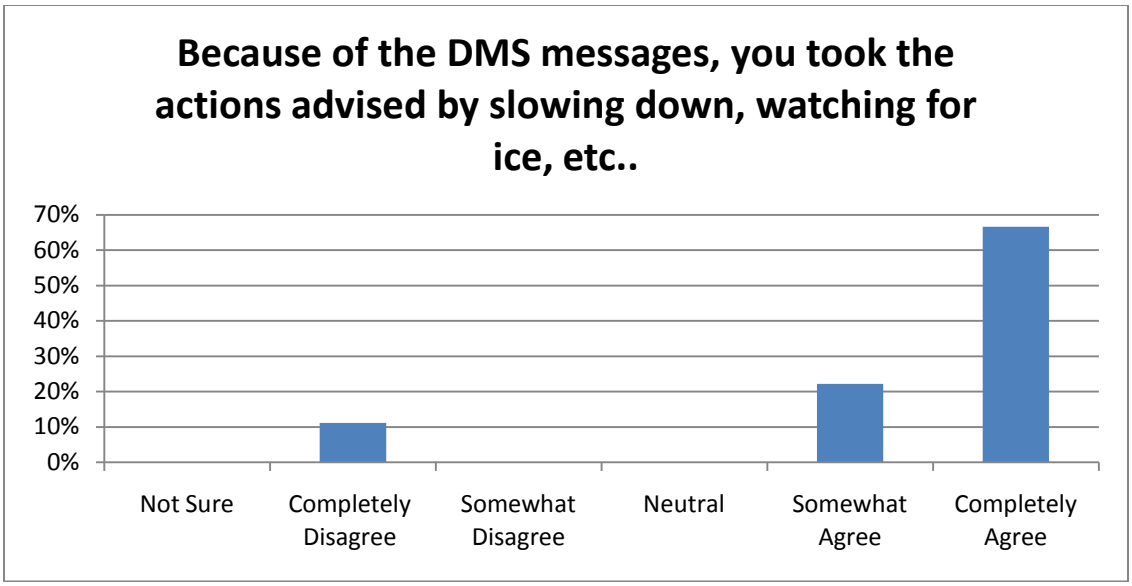


Figure 19. Agreement of action statement.

Has the information on the Dynamic Message Signs ever caused you to: (Please mark all that apply)

- Cancel or not take the trip.
- Turn back and wait until conditions change.
- Drive more carefully.
- Drive slower.
- None of the above, you ignore the Dynamic Message Signs.
- Other (please specify)

For the following question, drivers were allowed to mark each category that had ever been true, so up to 5 people could have been in each category.

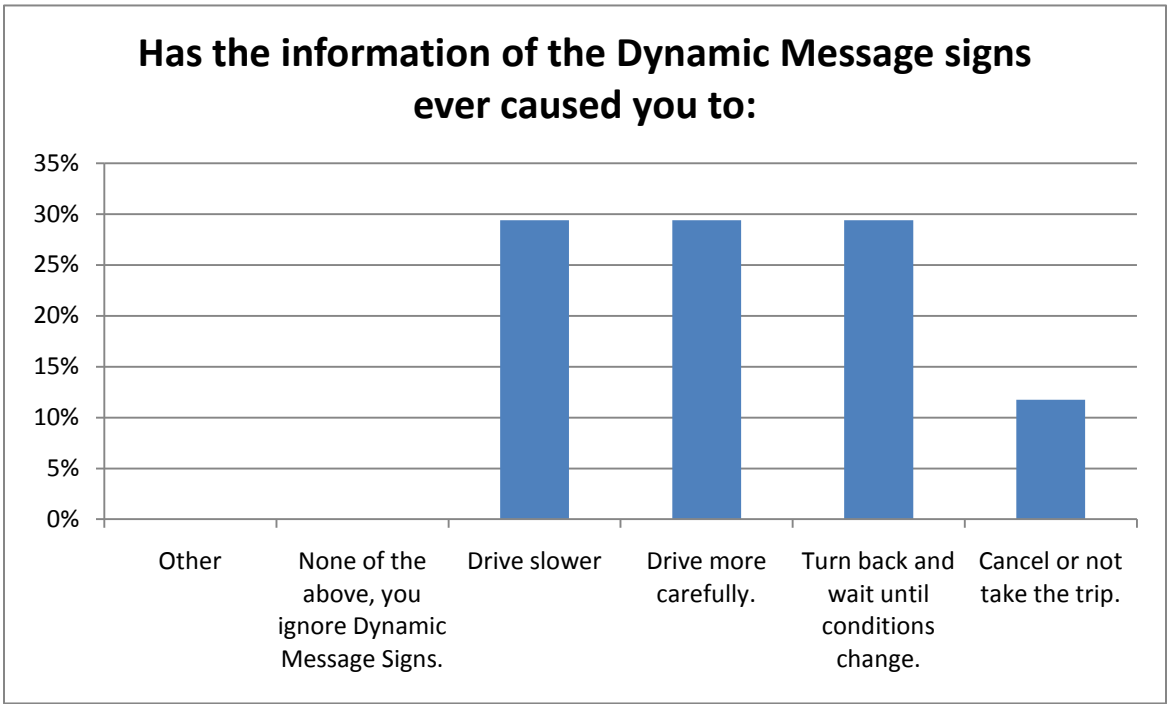


Figure 20. Effects of DMS's.

Do you think other driver's respond appropriately to the travel advisories?

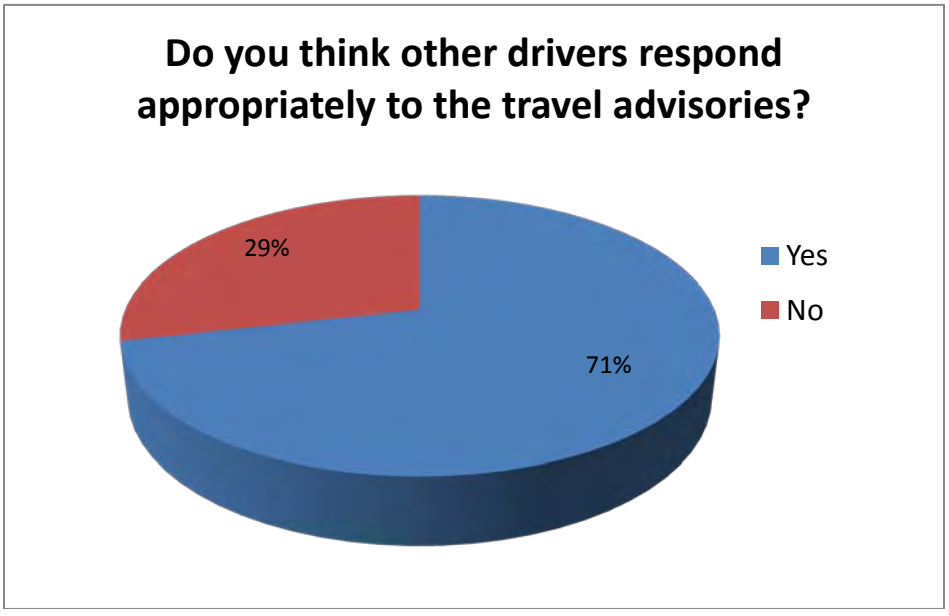


Figure 21. View of other drivers.

Is there any additional information that should be displayed on the signs?

Respondents were given this open question to share their opinions on the needs of the DMS signs. The answers are listed below.

- If road is closed West of Laramie
- Wind speeds help
- where roads are blocked, 1610 radio sign
- Light trucks may have trouble climbing
- Speed limit sign visibility
- MP for road closure
- ETA on opening
- Keep I-80 open and don't make as a toll way
- Have traffic turn around at an exit and not on the interstate
- Somewhat Hard to trust signs; do they open and close high for 15 minutes?

Rest Area Surveys

An envelope of blank surveys were distributed at the Summit Rest Area from mid-November 2009 through April 2010. These surveys included some of the same questions as the surveys that were used at the travel plaza with the addition of three questions concerning road closures. However, in this case, participants were filling out the surveys on their own without the assistance of a survey team member. This must be noted when looking at the results because there were a number of surveys that were completed in their entirety. During the aforementioned time period, 49 surveys were filled out at the rest area. Of the 46 participants, 38 (83%) were non-commercial vehicles and 8 (17%) were commercial truck drivers. 32 of the 49 participants were men.

Please identify your age group:

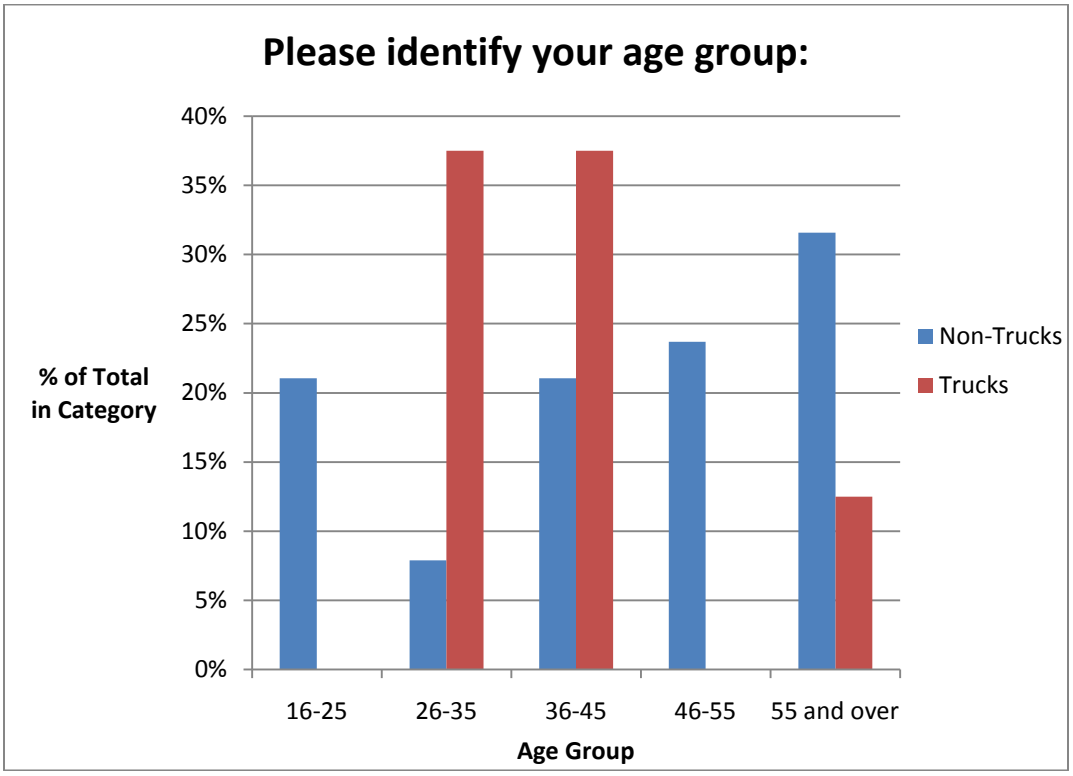


Figure 22. Age group breakdown of participants.

What direction are you traveling on I-80?

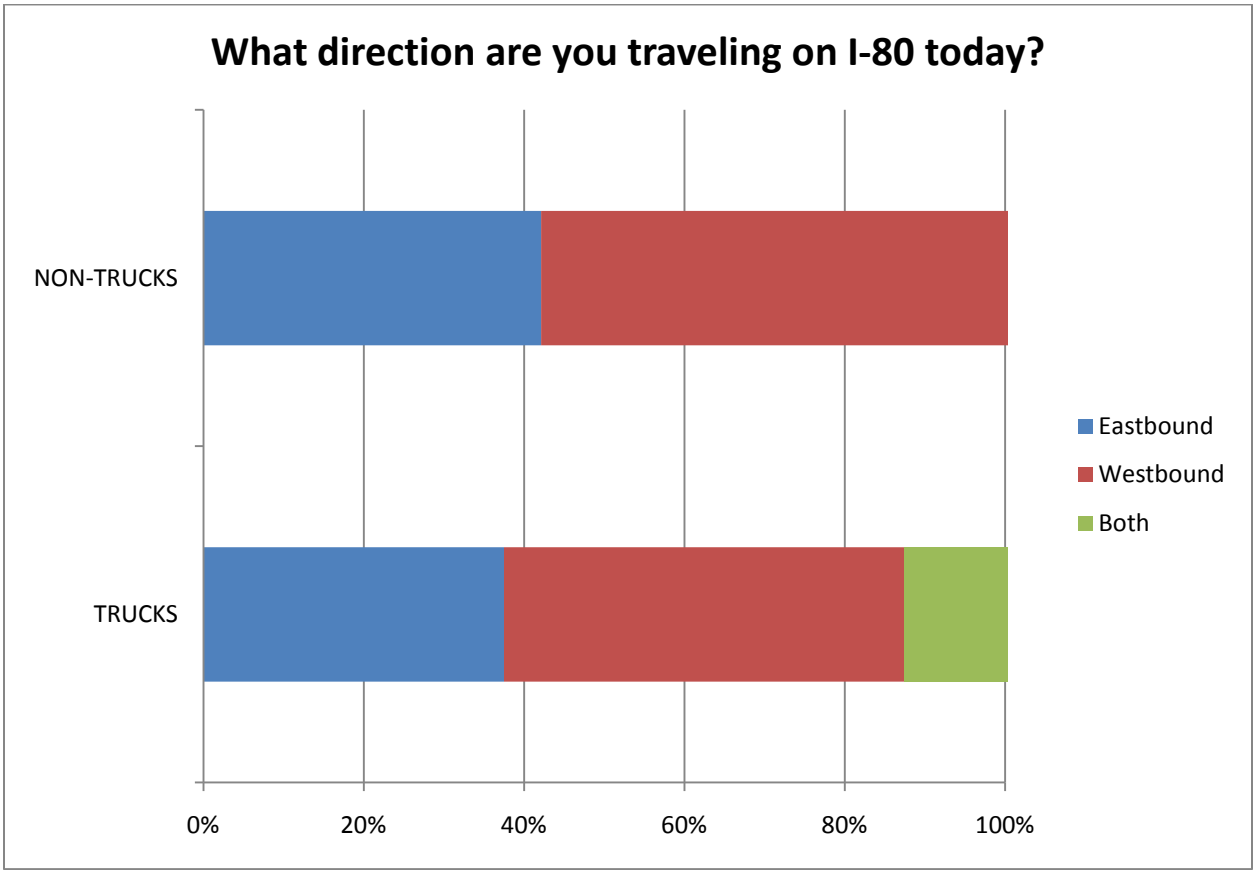


Figure 23. Direction of travel.

Was Interstate 80 Closed between Laramie and Cheyenne during the time you wished to travel?
Of the 46 survey participants, 6 (13%) replied that the Interstate was closed. These people went on the answer the following question.

How did you hear about the I-80 road closure?
Answers were as follows :

- Saw other vehicles turning around, followed them
- A sign off the road
- Sirius Radio
- Another Truck Driver
- 1-800 Wyo-Road

What information source(s) will you use to find out when the roads are open?

Some participants who did not indicate that the Interstate was closed answered this question anyways. All responses are included in the list below, showing the sources that would be utilized had the road been closed for their trip. Duplicate responses are indicated by a number in parenthesis to the right.

- CB Radio
- 511 Phone Service
- Palm Pilot

- WyoRoad (3)
- WYDOT website (2)
- Radio Signs
- Trucks Driver
- RMDS

HOW OFTEN do you travel this section of I-80?

The responses for trucks and non-trucks can be seen in Figures 24 and 25. It can be seen that none of the truck drivers chose "Almost every day" as their response to this question. For this section, the 46 vehicles were broken down into truck and non-trucks categories, where 38 of the vehicles were non-trucks and 8 were commercial trucks.

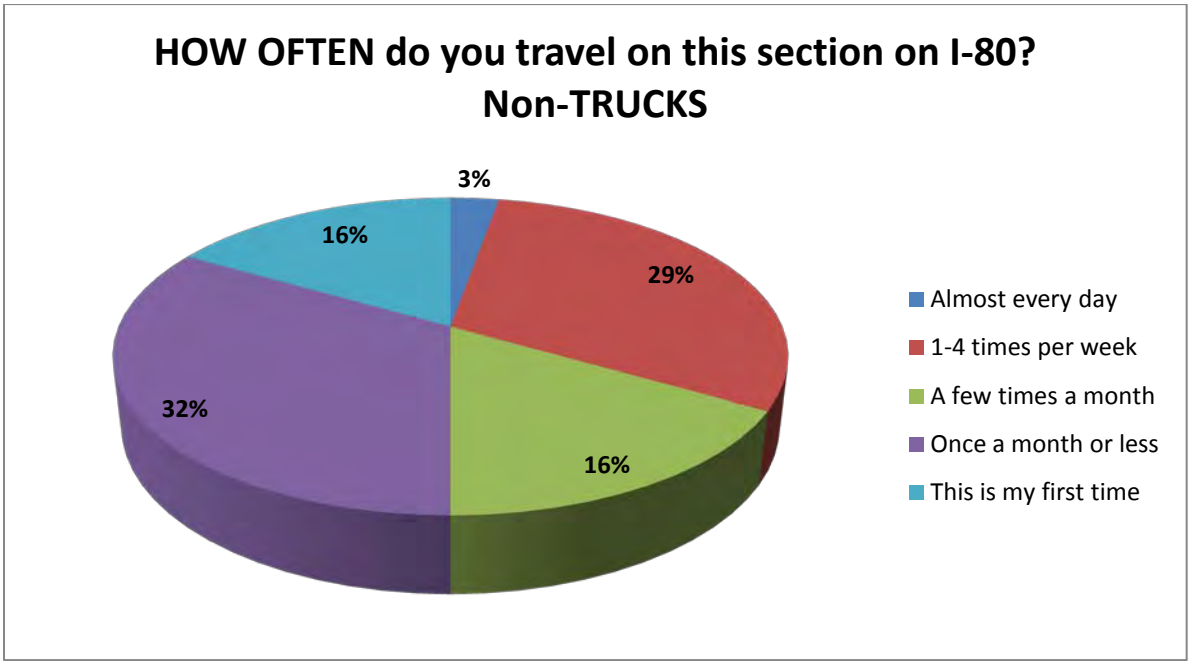


Figure 24. Travel frequency of non- trucks.

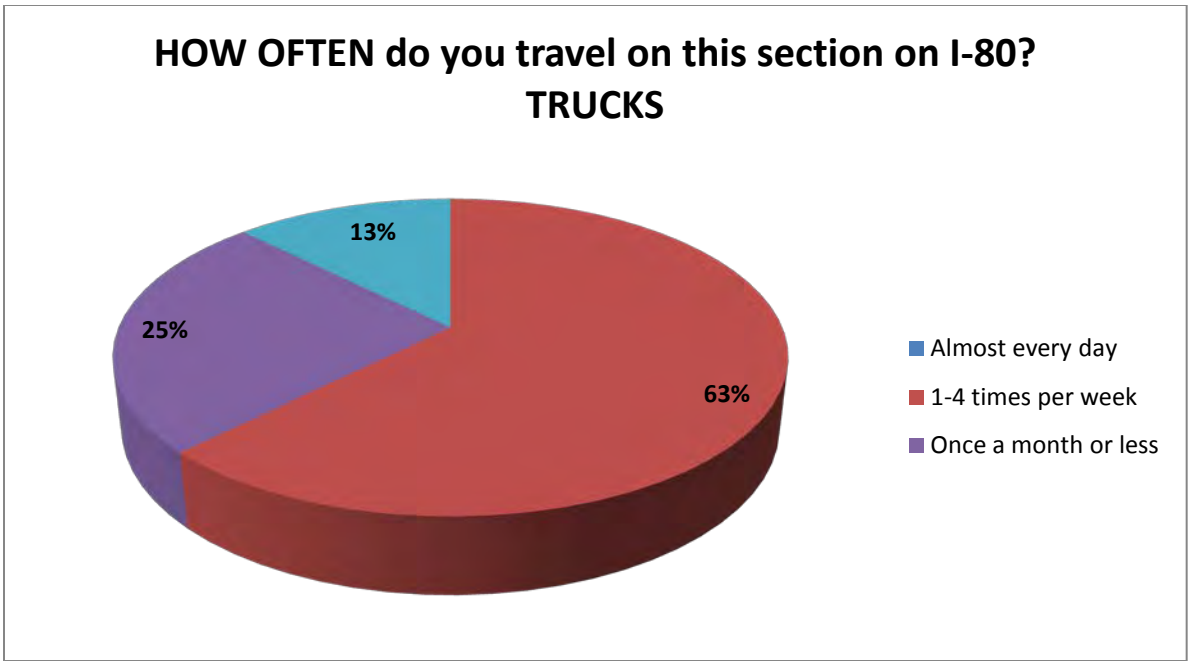


Figure 25. Travel frequency of trucks.

For WHICH REASON do you <u>most often</u> travel this section of I-80?

The responses for all drivers can be seen in Figure 26. Some driver respondents chose "Other." These responses include:

- Moving from Michigan to Idaho
- Job Search
- Sales

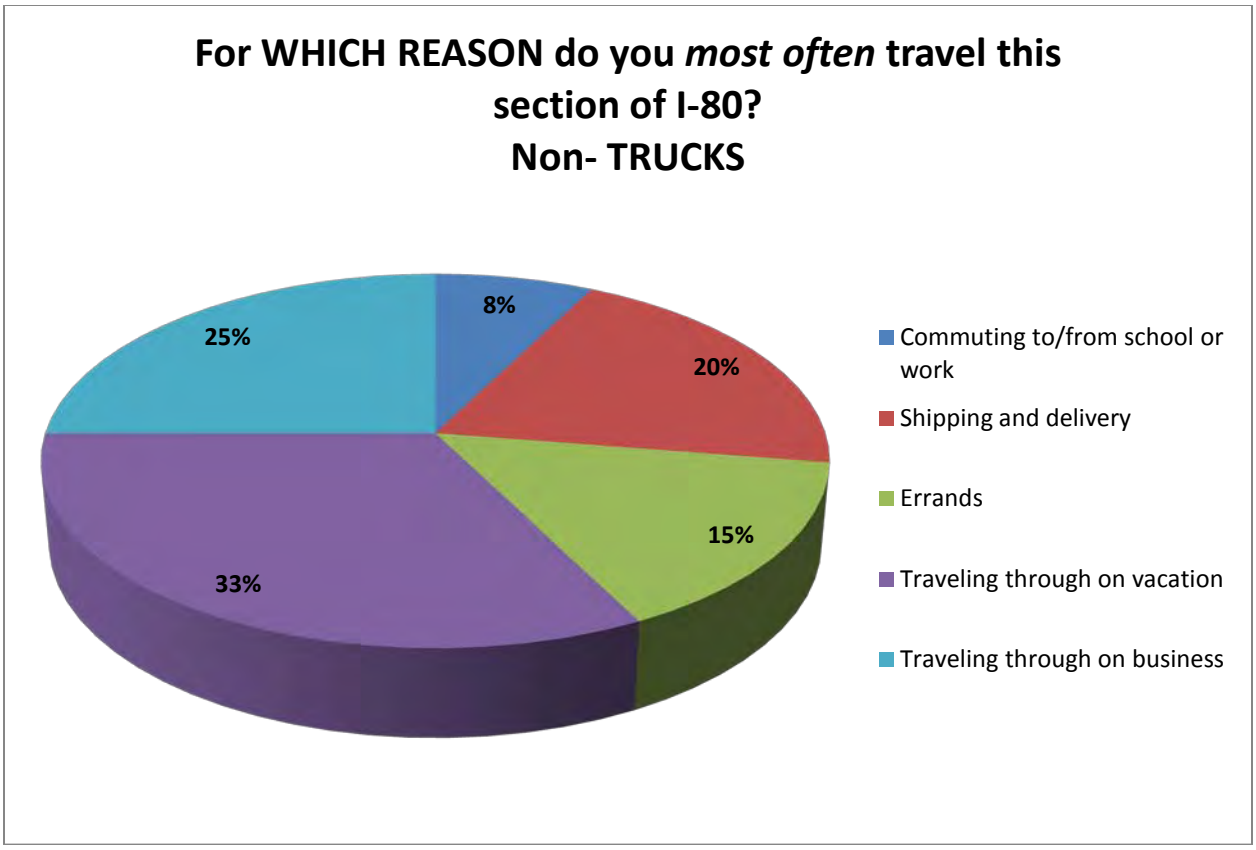


Figure 26. Non- Trucks Reason for Travel.

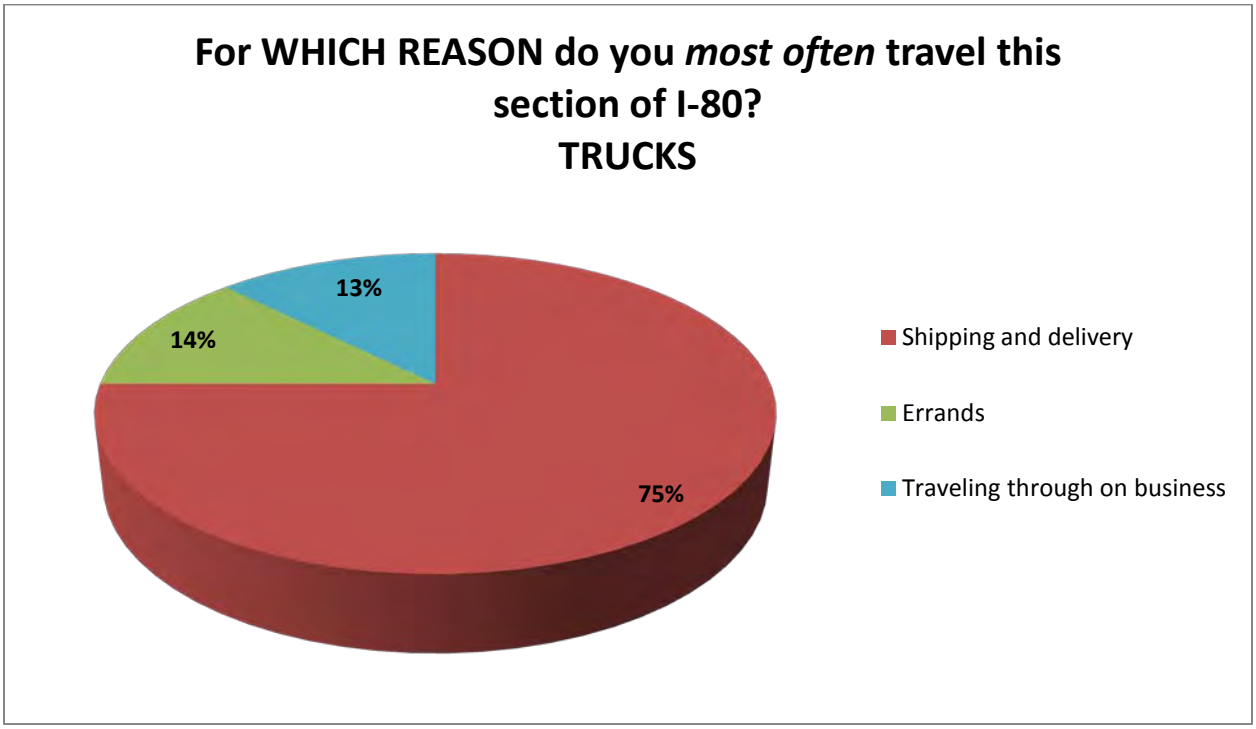


Figure 27. Trucks Reason for Travel.

Did you see or use any travel information today? (Travel information can be in the form of a radio broadcast, phone message, roadside dynamic message signs, flashing caution signs, television, or the WYDOT travel website.)

Of the 46 completed surveys by drivers, 11 (24%) responded no to this question and did not finish the rest of the survey. Of the 35 who answered yes to this question, only 1 (3%) did not finish the rest of the survey and was subsequently not considered in the analysis. Of those who did respond, 8 were truck drivers and 26 were non-truck drivers.

Did you use any traveler information today?

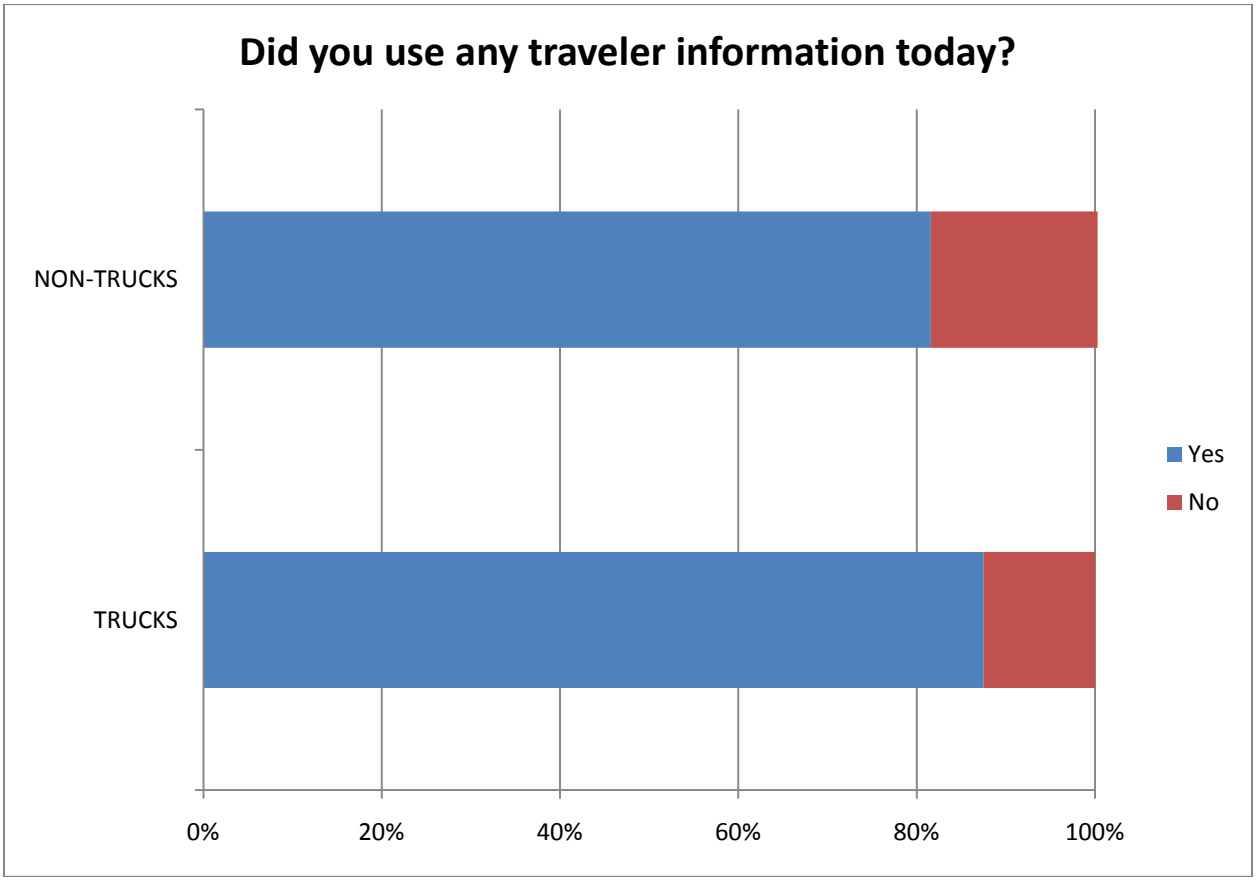


Figure 28. Breakdown of percentage of traveler information users.

From which of the following did you get your travel information today? (Choose all that apply)

Participants were given this question with the following response choices: 511 Phone Service, Broadcast radio, Dynamic Message Signs, Flashing Caution Signs, Highway Advisory Radio (530 or 1610 AM Radio), Television, WYDOT website, and Other. Figures 29 and 30 show the percentage of total listed responses of the participants, where each person was allowed to list as many sources as they used. The reasons listed as 'Other' are as follows (with duplicate responses omitted from this list):

- Followed Traffic
- Weather Channel
- I've been here so much, I don't need much info

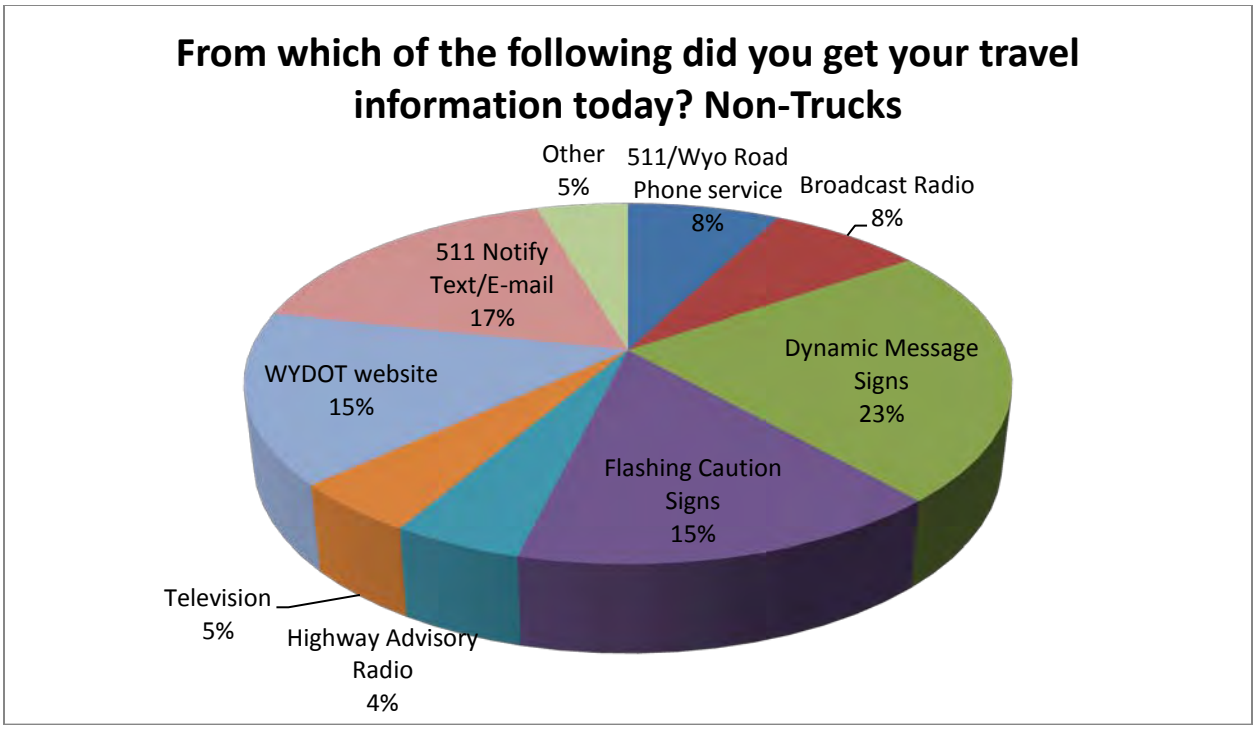


Figure 29. Sources of information for non-trucks.

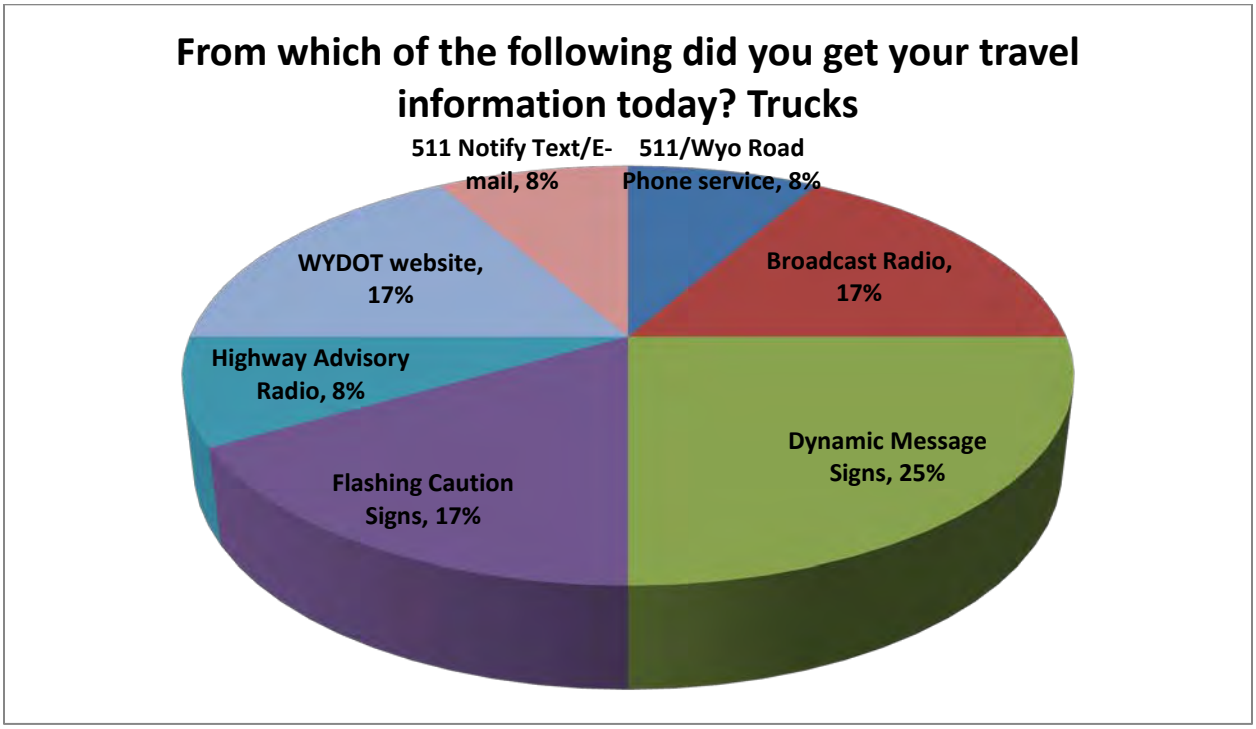


Figure 30. Sources of information for Trucks.

For each source of information you used, please rank the top 3 according to: <u>Accuracy</u>, <u>Timeliness</u>, and <u>Credibility</u> (Place a "1" for the most, a "2" for the next most, and so on.)

Using the same questions as the Travel Plaza Survey did, participants were asked to rank each information source. Just as before, each information source is shown with the number of times it was ranked #1 to 3. 30 people gave at least 1 rating. The results of these questions for both commercial trucks and non-trucks are shown in Figures 31, 32, and 33 revealing the average ranking of each information source.

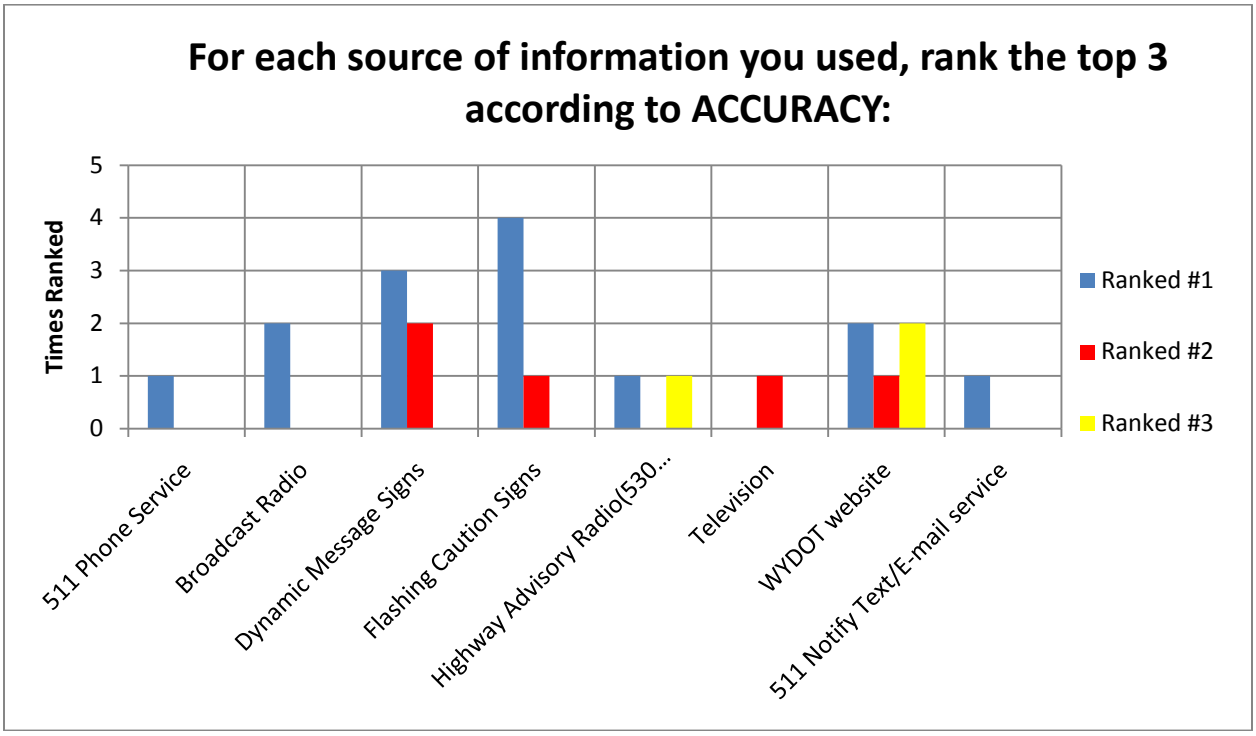


Figure 31. Ranking of information source based on accuracy.

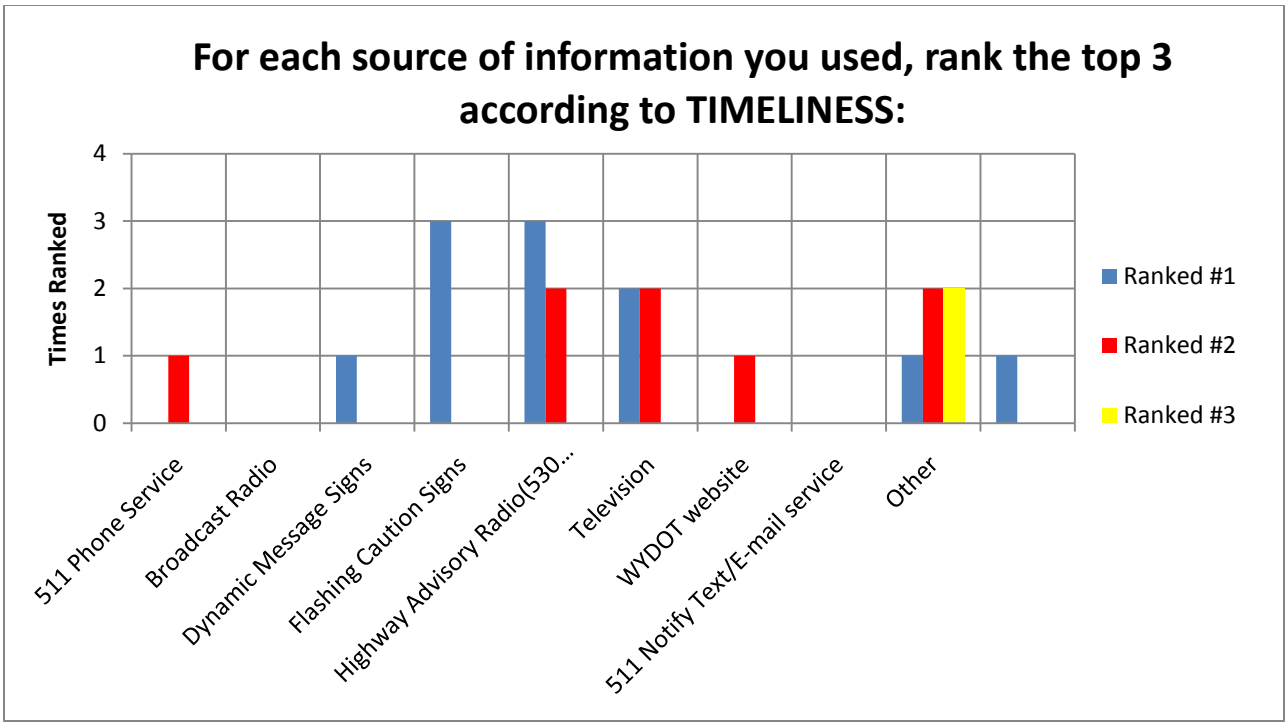


Figure 32. Ranking of information source based on timeliness.

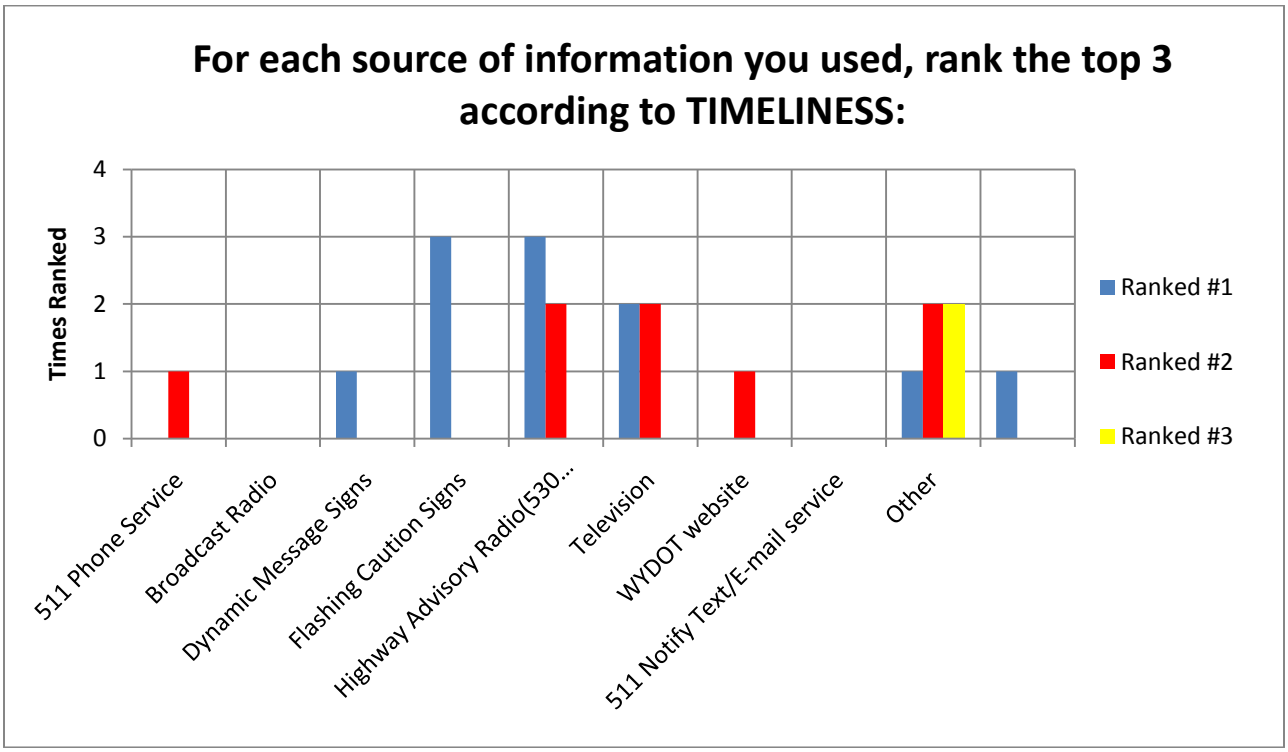


Figure 33. Ranking of information source based on credibility.

Did you READ the advisory on the <u>Dynamic Message Signs</u> (DMS) in this section of I-80? If yes, please rate your level of agreement/disagreement with the following statements.

There were 36 people who filled out this portion of the survey, as 6 people who did not give any rankings "jumped" back in on this portion of the survey. Of these 36 participants, 13 (36%) were truck drivers and 23 (64%) were non-truck drivers. All 7 truck drivers who answered this portion said they read the advisory dynamic message signs and 20 of the 29 non-truck drivers answered yes. Only the answers from the participants who answered yes to this question were considered for the subsequent second part of this section. The second part of this question included the following eight statements in which the participants gave their level of agreement:

- The DMS signs were clearly VISIBLE.
- The DMS messages were EASY to understand.
- The DMS messages were USEFUL.
- The DMS messages were ACCURATE.
- The DMS messages were SPECIFIC/DETAILED enough to help make decisions about your trip.
- The DMS signs were appropriately spaced to keep you informed about travel conditions.
- Because of the DMS messages, you took the action advised by slowing down, watching for ice, etc.

The results of this part for both trucks and non-trucks can be found in Figures 34-41.

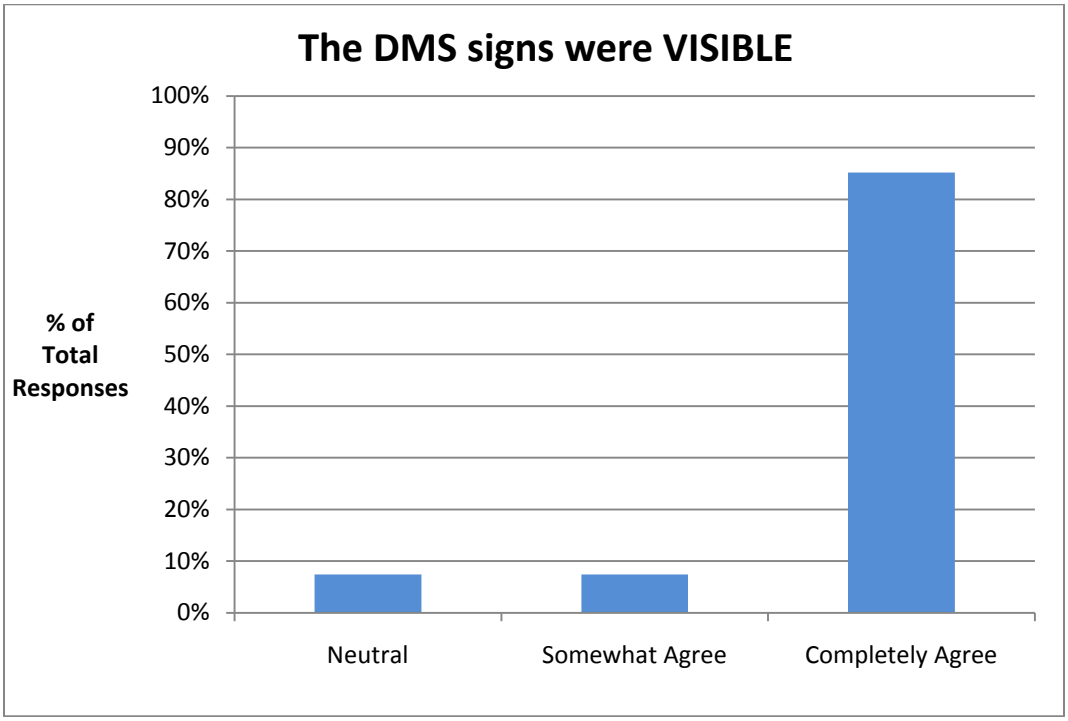


Figure 34. Agreement of visibility statement for trucks and non-trucks.

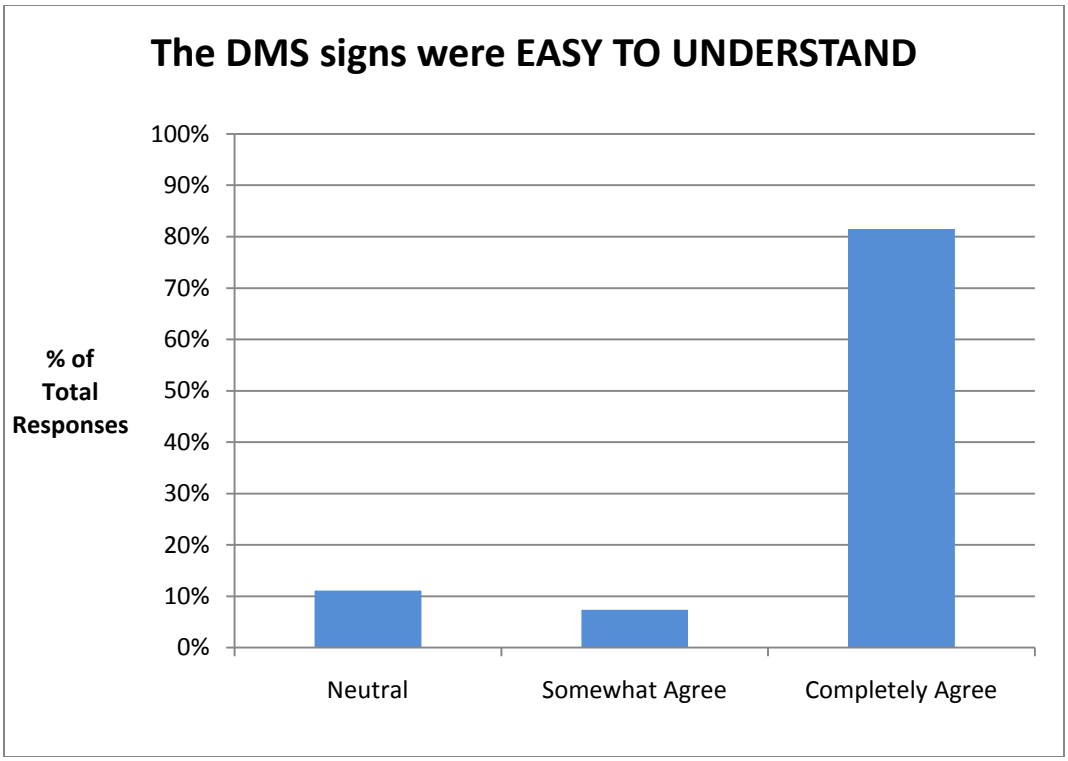


Figure 35. Agreement of understandable statement for trucks and non-trucks.

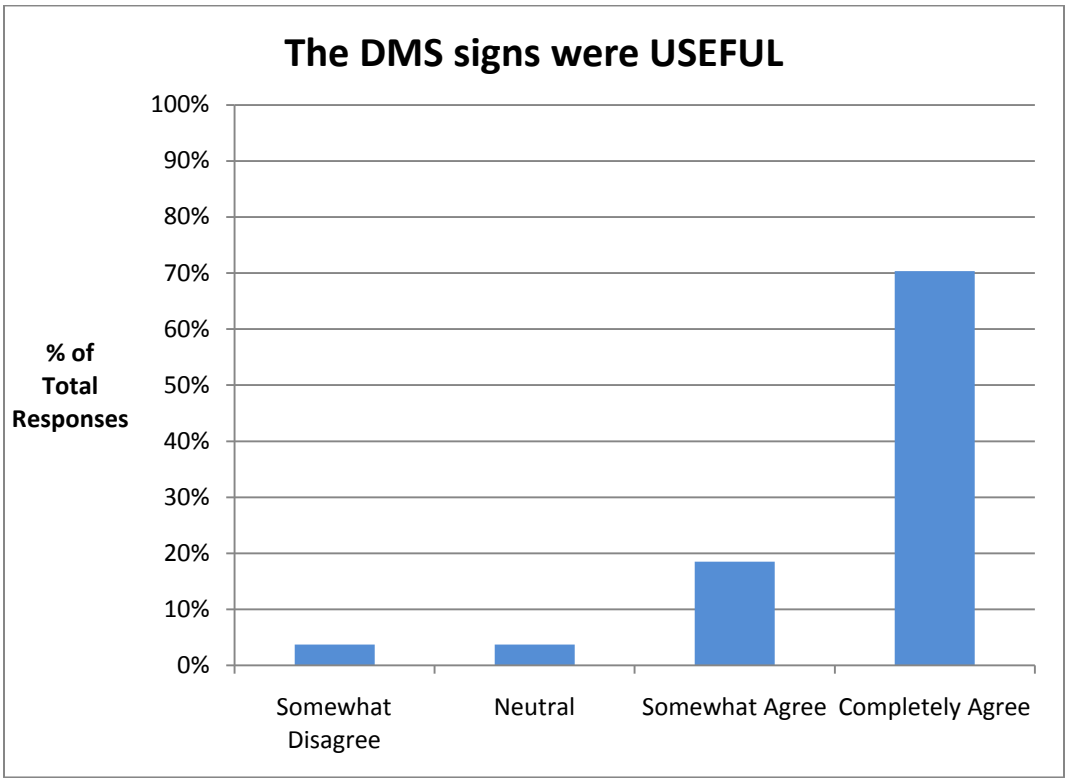


Figure36 . Agreement of usefulness statement for trucks and non-trucks.

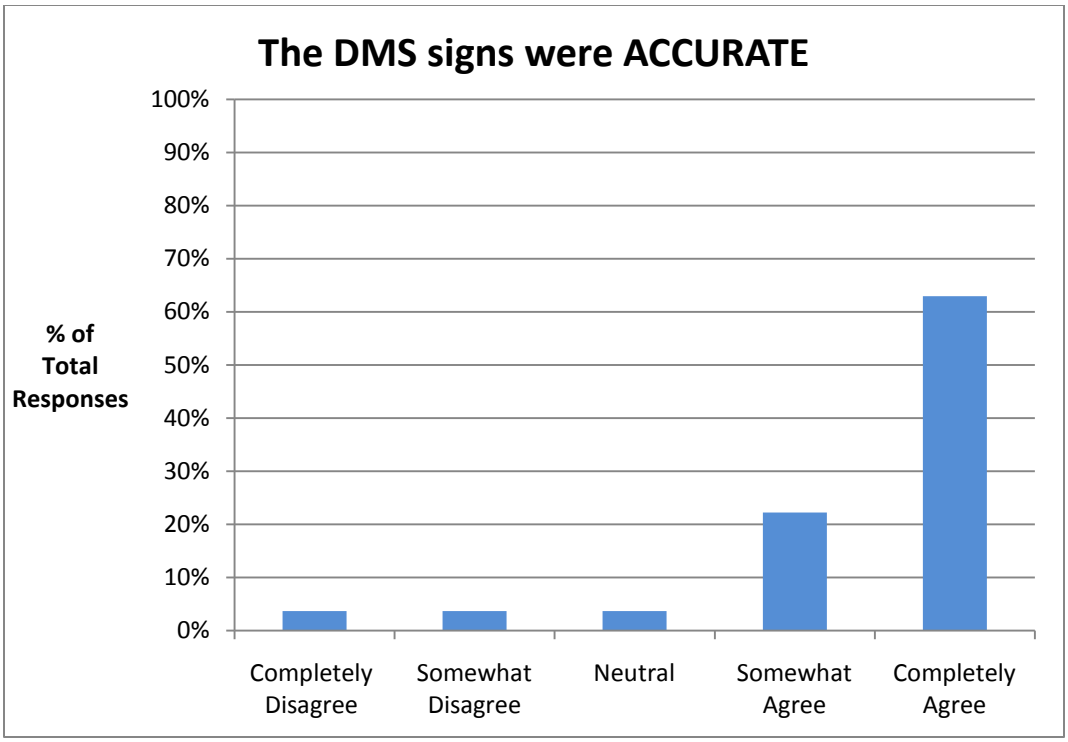


Figure 37. Agreement of accuracy statement for trucks and non-trucks.

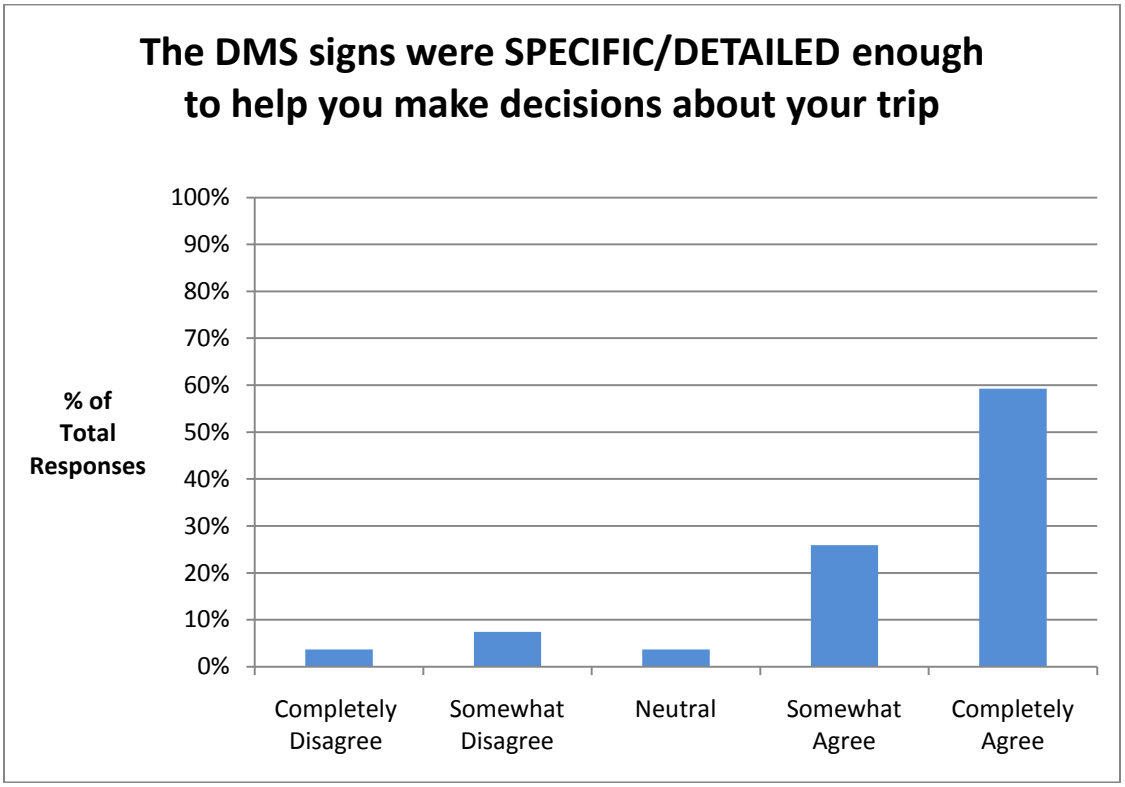


Figure 38. Agreement of detailed statement for trucks and non-trucks.

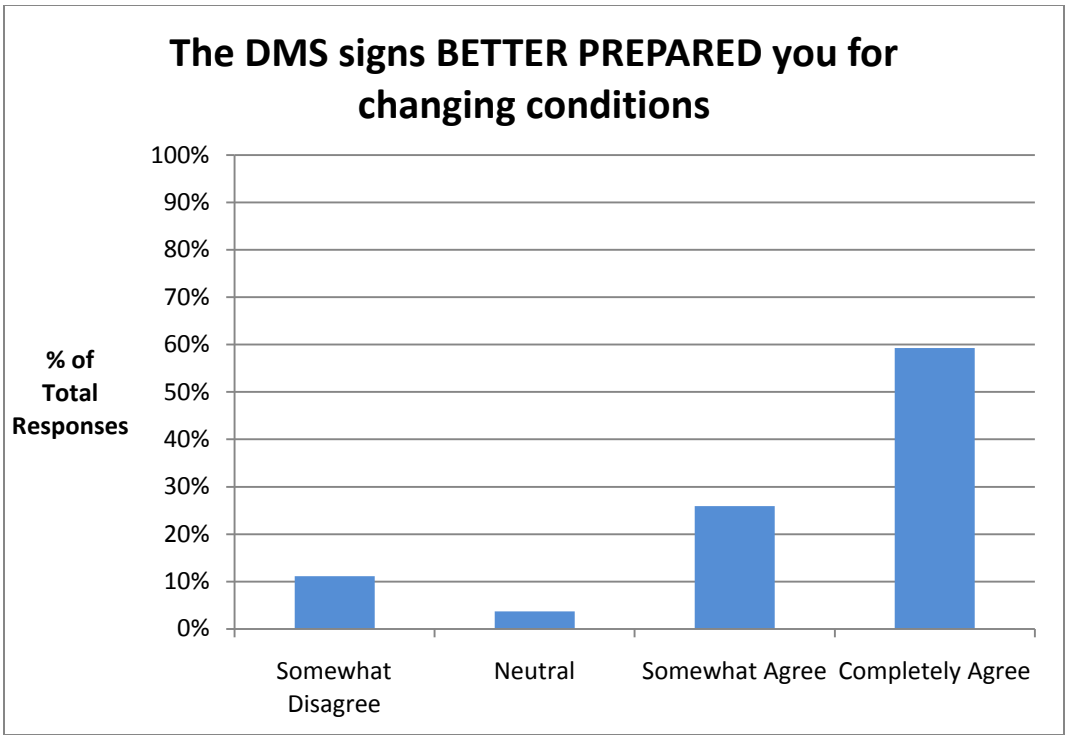


Figure 39. Agreement of Preparation for trucks and non-trucks.

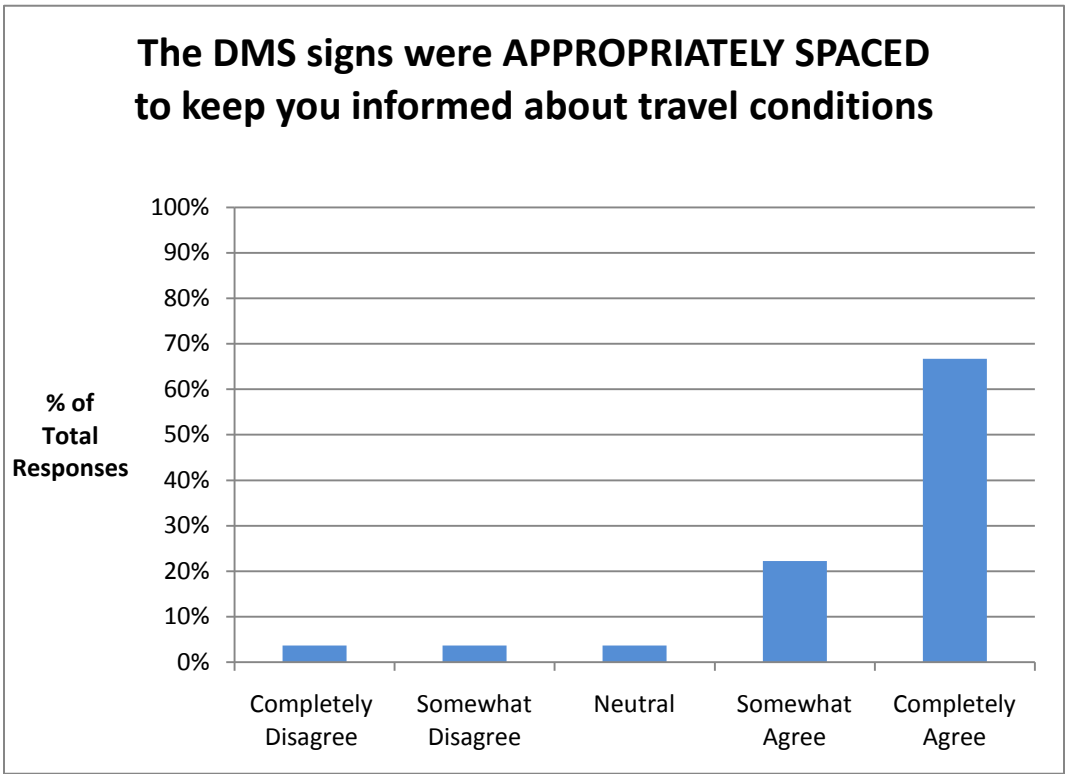


Figure40 . Agreement of spacing statement for trucks and non-trucks.

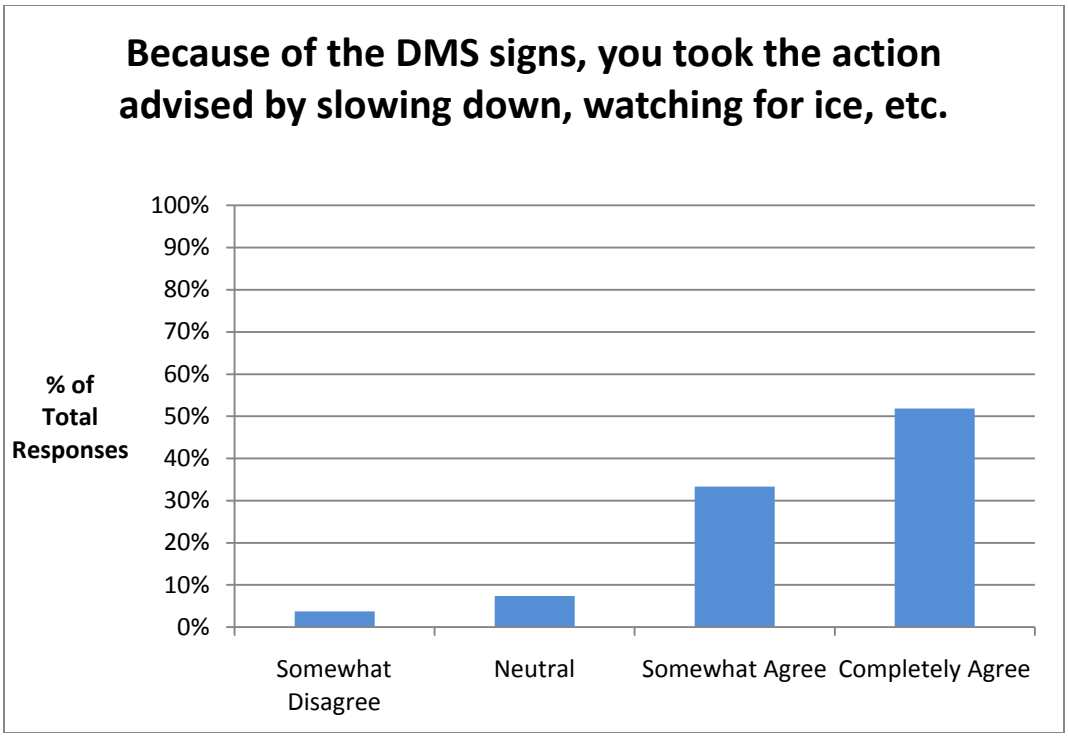


Figure 41. Agreement of action statement for trucks and non-trucks.

Has the information on the Dynamic Message Signs ever caused you to: (Please mark all that apply)

- Cancel or not take the trip.
- Turn back and wait until conditions change.
- Drive more carefully.
- Drive slower.
- None of the above, you ignore the Dynamic Message Signs.
- Other (please specify)

Twenty-seven respondents answered this question. Seven of these respondents drove a truck and 20 drove non-trucks. The full results for this question can be found in Figure 42.

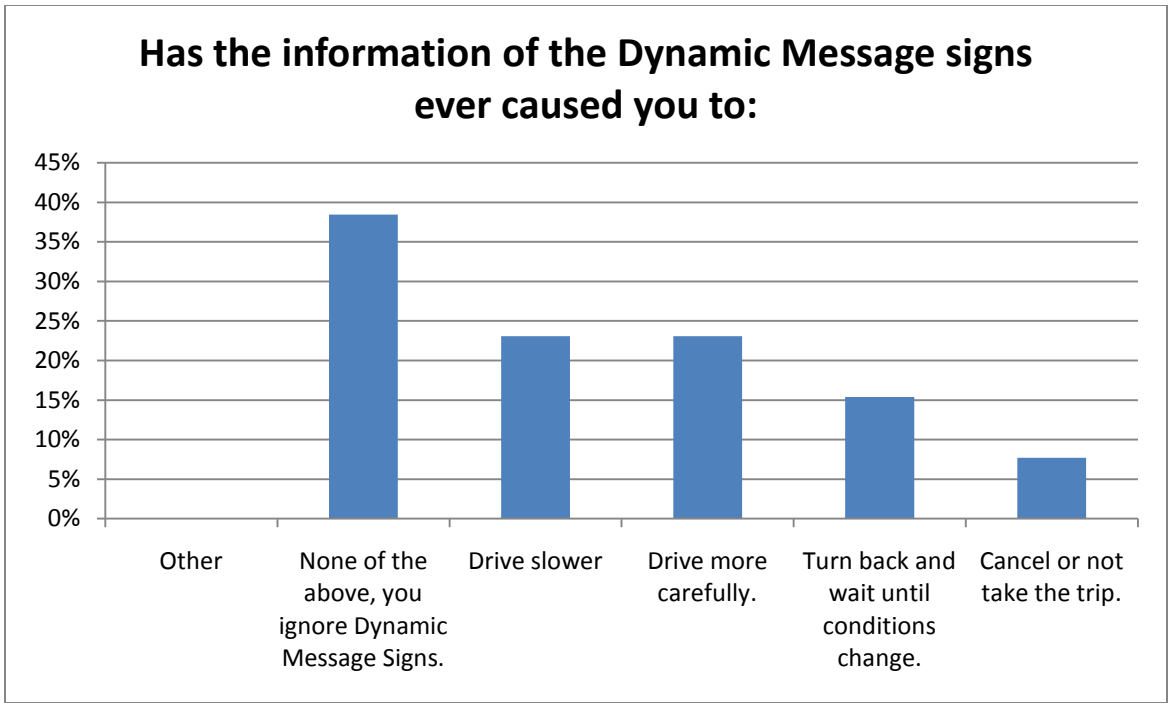


Figure 42. Effects of DMSs for trucks and non-trucks.

Do you think other driver's respond appropriately to the travel advisories?

There were 35 participants that responded to this question (29 non-trucks and 6 trucks). The results are shown in Figure 43. Two non-truck participants noted that they felt that other drivers respond appropriately sometimes and were given a category of "sometimes".

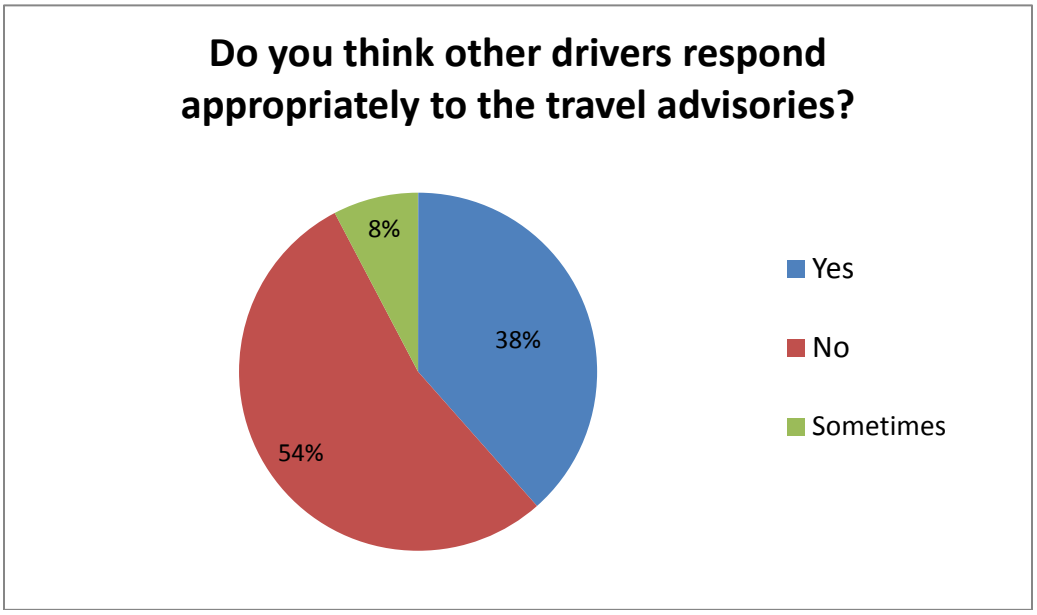


Figure 43. View of other drivers by trucks and non-trucks.

Is there any additional information that should be displayed on the signs?

Respondents were given this open question to share their opinions on the needs of the DMS signs. The answers are listed below. Each of the following responses was given by truck drivers except for the very last answer listed. Some duplicate responses were eliminated from this list.

- Signs West of Laramie & East of Cheyenne need to be updated frequently to warn approaching motorists about conditions and closures. The signs west of Laramie had no useful info.
- Current temp and wind velocity
- Outside temp, wind chill, and time
- Somewhat hard to trust signs, do they open and close highway for 15 minutes?
- Light Trucks may also have trouble climbing
- Is there an accident ahead? If known
- Take better care of I-80 it sucks
- Drivers all drive too fast they need to use caution, we need better service
- I've traveled all over the U.S.- drove in winter in N.Y. and Michigan and CANADA & northern AZ and NM- but the worst I've ever encountered was the I-80 in WYOMING. The weather wasn't even that bad, but the crap they put on the road, thrown up by trucks is like driving blind. NEVER AGAIN! I'd rather drive in a snowstorm- and I have. This is terrible!
- Divers sometimes respond well usually not truckers
- Cars respond appropriately, Trucks don't
- When the Road is closed, please give some indication when it will open.
- Roads are clear
- Now that there are variable signs in the Elk Mountain area I don't understand why speed is limited to 65 mph. All winter, many times I cross this highway when it is completely dry all the way across. WyDot should consider leaving the max speed alone in winter months& use the variable signs when necessary. This will increase respect for the variable sign. Thank You.

APPENDIX E: FORWARD SAS ANALYSIS

Summary of Forward Selection							
Step	**Variable Entered**	**Number Vars In**	**Partial R-Square**	**Model R-Square**	**C(p)**	**F Value**	**Pr > F**
1	Cat3	1	0.1766	0.1766	56190.3	37621.1	<.0001
2	Cat1	2	0.0977	0.2743	28703.2	23623.6	<.0001
3	Cat2	3	0.0481	0.3225	15165.2	12462.7	<.0001
4	Day_Night	4	0.0169	0.3394	10402.6	4497.95	<.0001
5	RH	5	0.0102	0.3496	7543.99	2742.76	<.0001
6	Distance	6	0.0076	0.3572	5418.60	2063.72	<.0001
7	wd2	7	0.0032	0.3603	4528.56	869.62	<.0001
8	wd1	8	0.0013	0.3617	4156.72	365.21	<.0001
9	SfStatus	9	0.0009	0.3626	3898.93	254.15	<.0001
10	wd6	10	0.0010	0.3636	3617.96	277.27	<.0001
11	wd7	11	0.0024	0.3660	2945.23	663.63	<.0001
12	GustWindSpeed	12	0.0013	0.3673	2579.18	362.74	<.0001
13	wd3	13	0.0014	0.3687	2177.96	398.31	<.0001
14	wd5	14	0.0020	0.3707	1627.56	547.36	<.0001
15	wd4	15	0.0028	0.3735	828.146	797.72	<.0001
16	Dewpoint	16	0.0009	0.3744	575.124	254.21	<.0001
17	SubTemp	17	0.0017	0.3761	111.429	465.45	<.0001
18	SfTemp	18	0.0002	0.3763	69.6397	43.78	<.0001
19	AirTemp	19	0.0001	0.3764	44.0022	27.63	<.0001
20	d1	20	0.0001	0.3764	21.7149	24.29	<.0001
21	AvgWindSpeed	21	0.0000	0.3765	22.0000	1.71	0.1904