

PERCEPTIONS OF HIGHWAY MAINTENANCE IN MONTANA IN 2012: THE RESULTS OF A TELEPHONE SURVEY

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Introduction

In 2012 the Montana Department of Transportation (MDT) contracted with the Center for Applied Economic Research (CAER) at Montana State University Billings to conduct a telephone survey of Montana residents concerning their views on Montana highway maintenance. This survey is conducted biannually and used in determining MDOT maintenance priorities. This project was directed by Dr. Scott Rickard, the Director of the Center, and Research Associate Jessica Ridgway, who worked with the MDT to develop the survey. The interviews were conducted August – October, 2012, by the professional telephone interviewers who work for the CAER. Dr. Rickard and Miss Ridgway analyzed the results and are the authors of this report.

Reading the Results

In order to make this report as readable as possible, we have placed the information on the results of statistical tests in footnotes and endnotes. When you read the phrase ‘statistical significance’, this means that the difference that we found among the individuals surveyed most likely exist in the overall population of households in the target area. We use a 95% confidence level in all tests, meaning that there is less than one chance in 20 that we could have seen this difference when in fact this difference did not exist in the overall population. We also occasionally report the statistically significant lack of any difference, which can be important when it is important to know if a sample value reflects that of the overall population.

When we are comparing the characteristics of those surveyed with the overall population, the comparison is the US Census results reported for Montana. Census figures come from American Factfinder at www.factfinder.census.gov.

Not all individuals answered every question. If the respondent answered the most important question, his or her level of support or opposition to the proposed facility, this survey was included in the totals. Some individuals would answer this question but refuse to answers. These refusals are the reason that there are different answer totals for some questions.

The Survey Process

The CATI Lab purchased two lists of telephone numbers from a private company which generates telephone samples for survey research purposes. The selection criteria for these telephone numbers were that they must be random samples of ‘land line’ and wireless telephone exchanges (respectively) in Montana, with filtering to remove non-residential listings. This represented the second time that the MDT survey was conducted using cell phone numbers in an attempt to reach those households that did not have a land-line telephone.

This list of telephone numbers was programmed into the CATI Lab computer network software. This software controls the telephone survey process. The software tells each CATI Lab interviewer the

number to dial and the questions to ask. If a call does not complete – such as non-working numbers – the software purges this number from the survey list. If a call completes but an interview does not take place – such as when reaching an answering machine – the telephone number is recycled for possible use at some point in the future. The software was programmed to allow a number to be attempted up to three times before it was dropped.

When a telephone call was answered, the interviewer immediately identified herself or himself and his or her affiliation (Montana State University Billings) and the purpose of the call (see the interview script for more details). Assuming the call did not end at that point, the interviewer asked to speak with the person in the household who was over age 18 and possibly an additional screening question (such as the person with the most recent birthday or a male resident). This was to reduce the possibility that one sex or age group would be more likely to answer the telephone and, if this was the person who answered the survey, possibly skew the results. If the person answering the telephone indicated that no one else was available, the interviewer conducted the survey with this person.

Survey Productivity

The timing of this survey corresponded with the 2012 US national elections, and in Montana the aggressive direct telephone outreach by candidates, parties, and special interest groups made it increasingly difficult to reach potential survey participants and convince them that we were not interested in influencing their vote. Also complicating the process was our goal of reaching approximately 30% of our interviews using cell phone numbers.

Overall, our interviewers' success rate, measured in the number of completed surveys per hour of calling, ranged from 1.3 to nearly 1.6 over the 10 weeks of interviewing. The number of telephone numbers called per completion also varied with the number of interviewers dedicated to cell phone numbers.

Demographics of Respondents

In order to evaluate how well the survey was capturing the views of a representative sample of MT's population a number of demographic questions were asked and these results compared to other data sources. These results are discussed in this section.

Observations by Gender

Sex	Frequency	Percent
Male	525	50%
Female	516	50%
Total	1041	100%

Fifty percent (50%) of those surveyed were male and 50% female. These are exactly the same percentages as were found in the most recent (2009) US Census survey of MT's population by gender for MT residents age 18 and over.

Observations by Age Range

Age	Frequency	Percent
18-44	271	27%
45-64	443	43%
65+	308	30%
Total	1022	100%

Twenty-seven percent (27%) of those surveyed who reported their age said they were between 18 and 44, 43% reported being 45-64, and 30% reported ages of 65 or older. For MT's 18 and over population, this sample under-represents the youngest age cohort (44% of MT's population) and over-represents those in the oldest age category (19% according to 2011 US Census figures).

Observations by Education

	Frequency	Percent
Less than HS Degree	33	3%
High School Graduate	300	29%
Less than College Degree	282	28%
College Graduates	410	40%
Total	1025	100%

Twenty-nine percent (29%) of those taking the survey reported having completed high-school and another 28% said they had attended college but did not have a 4-year-degree. Forty percent (40%) of

those surveyed reported holding at least a 4-year college degree. This is consistent with the 2010 estimated percentage reported by the US Dept. of Education¹.

Observations by Length of Residency in Montana

Length of Residency	Frequency	Percent
0-9 years	124	12%
10-19 years	128	13%
20-29 years	140	14%
30+ years	631	62%
Total	1023	100%

Over sixty-percent of respondents said they have lived in MT for 30 years or longer, while only 12% reported living in the state for less than 10 years.

Observations by Administrative Region

Region	Frequency	Percent
Missoula	313	30%
Butte	187	18%
Great Falls	214	20%
Glendive	122	12%
Billings	209	20%
Total	1045	100%

The percentage of survey responses coming from counties in the five Administrative Districts is consistent with the populations for these areas.

Number and Percentage of Observations by County

County	Obs	Percentage	County	Obs	Percentage
Yellowstone	152	15%	Granite	9	< 1%
Missoula	114	11%	Madison	9	< 1%
Flathead	93	9%	Glacier	8	< 1%
Gallatin	77	7%	Powell	8	< 1%
Cascade	75	7%	Chouteau	7	< 1%
Lewis and Clark	69	7%	Phillips	7	< 1%
Silver Bow	38	4%	Mineral	6	< 1%
Ravalli	31	3%	Blaine	5	< 1%
Lincoln	30	3%	McCone	5	< 1%
Hill	27	3%	Pondera	5	< 1%
Lake	23	2%	Broadwater	4	< 1%
Park	18	2%	Daniels	4	< 1%
Custer	16	2%	Fallon	4	< 1%
Fergus	16	2%	Jefferson	4	< 1%
Valley	16	2%	Judith Basin	4	< 1%
Beaverhead	15	1%	Musselshell	4	< 1%
Rosebud	14	1%	Prairie	4	< 1%
Richland	12	1%	Carter	3	< 1%
Sheridan	12	1%	Garfield	3	< 1%
Deer Lodge	11	1%	Teton	3	< 1%
Roosevelt	11	1%	Meagher	2	< 1%
Sanders	11	1%	Powder River	2	< 1%
Toole	11	1%	Sweet Grass	2	< 1%
Stillwater	10	1%	Wheatland	2	< 1%
Big Horn	9	< 1%	Golden Valley	1	< 1%
Carbon	9	< 1%	Treasure	1	< 1%
Dawson	9	< 1%	Total	1,045	

The number of responses per county was reasonably representative of MT's overall population distribution. The seven most-populated counties represent 63% of population and 60% of this survey sample. The number of responses per county were in all cases within 2% of what would be expected based upon overall population. No observations were recorded from respondents living in Liberty, Petroleum, or Wibaux Counties, which represent 0.4% of MT's population.

Cell Phone vs. Landline Observations and Percentages by Urban vs. Rural County Resident

	Observations			Percentage		
	Rural	Urban	Total	Rural	Urban	Total
Landline	302	386	688	78%	60%	67%
Cell Phone	87	254	341	22%	40%	33%
Total	389	640	1029	100%	100%	100%

Cell Phone vs. Landline Observations by Age Range

Age	Landline		Cell	
	Frequency	Percent	Frequency	Percent
18-44	117	44%	149	56%
45-64	307	48%	135	52%
65+	235	84%	44	16%

Cell Phone vs. Landline Observations by Administrative Region

	Missoula	Butte	Great Falls	Glendive	Billings	Total
Landline	201	133	129	89	136	688
Cell Phone	106	52	82	31	70	341
Total	307	185	211	120	206	1029

Percentage Cell Phone vs. Landline Observations by Administrative Region

	Missoula	Butte	Great Falls	Glendive	Billings	Total
Landline	65%	72%	61%	74%	66%	67%
Cell Phone	35%	28%	39%	26%	34%	33%
Total	100%	100%	100%	100%	100%	100%

Overall, one-third (33%) of survey responses came from individuals using cell phones. Cell phone responses tended to come from residents of urban counties (44% compared to 22%). Over one-half of those surveyed age 18-44 were using cell phones, compared to just 16% of individuals age 65 and older. The percentage of Cell phone responses ranged from 26% for Glendive Administrative Region to 39% for Great Falls.

Discussion

The survey sample contains a larger percentage of older MT residents than census estimates would suggest, and the percentage of cell phone completions was three-times higher for younger respondents than for the oldest age group. These two factors were likely related. It required considerably more effort by interviewers to contact individuals at known cell phone numbers than it did to reach those whose numbers were associated with landline exchanges.

There are several factors that likely play some part in this difference. For example, since almost all cell phones display the number calling, it can be easier to screen (ignore) calls from unknown numbersⁱⁱ. Also, when calling landline numbers, if the household's telephone had the Caller ID feature, our telephone call presents as "MSUB", which may lend more credibility in the mind of the person deciding whether or not to answer.

If older individuals hold different views of MT road maintenance than do younger users, the summary/overall statistics may over-represent this demographic at the expense of younger residents. In order to test this possibility, a weighting technique was used to adjust for over- and under-representation and tests were rerun to verify un-weighted results.

Survey Results

This section details and describes the survey results for the road maintenance questions. The survey questions were grouped into the following categories:

- Overall Maintenance
- Winter Maintenance
- Surface Maintenance
- Roadside Maintenance
- Road Sign Maintenance
- Road Debris Maintenance
- Rest Area Maintenance
- Road Markers Maintenance
- Roadway Information
- Driving Habits
- Automobile Accident Beliefs and Attitudes

For each category, the following information is provided:

1. The survey questions
2. Tables presenting the results of the 2012 telephone survey
3. A discussion of the results, including statistically-significant difference for surveyed sub-groups

Following this, we compare the 2012 results to those from the 2006 through 2010 Transportation surveys. The end of this section presents suggested rankings of maintenance priorities using the 2012 survey results and based upon different ranking methodologies.

Overall Road System Maintenance

The Road Maintenance section of the survey starts with questions on the individual's views of overall MT highway maintenance.

Overall Maintenance Rating

Questions

- How important would you say interstate and state highway maintenance in Montana is to you?
- How would you rate overall interstate and state highway maintenance in Montana?
- How would you compare general roadway conditions of Montana's state maintained roadways with the general roadway conditions of state maintained roadways in other states?

Overall Rating – Number of Observations by Administrative District

	Missoula	Butte	Great Falls	Glendive	Billings	OVERALL
Poor	7	4	4	3	4	22
Fair	84	34	60	35	48	261
Good	188	120	117	77	129	631
Excellent	30	29	33	6	25	123
NR	0	0	0	1	0	1
Overall	310	189	217	125	211	1038

Overall Rating - Percentage of Observations by Administrative District

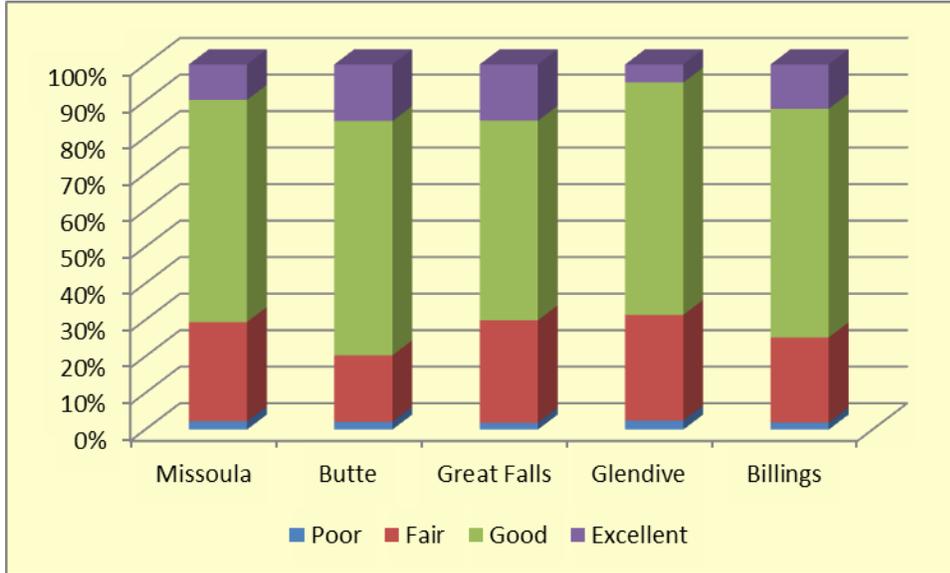
	Missoula	Butte	Great Falls	Glendive	Billings	Overall
Poor	2%	2%	2%	2%	2%	2%
Fair	27%	18%	28%	29%	23%	25%
Good	61%	64%	55%	64%	63%	61%
Excellent	10%	16%	15%	5%	12%	12%

Overall Rating - Other Significant Differences

Significant Differences	
Gender	
Rural/Urban	
Age	
Education	College Grads Rated Higher
Residents 10+ Yrs	

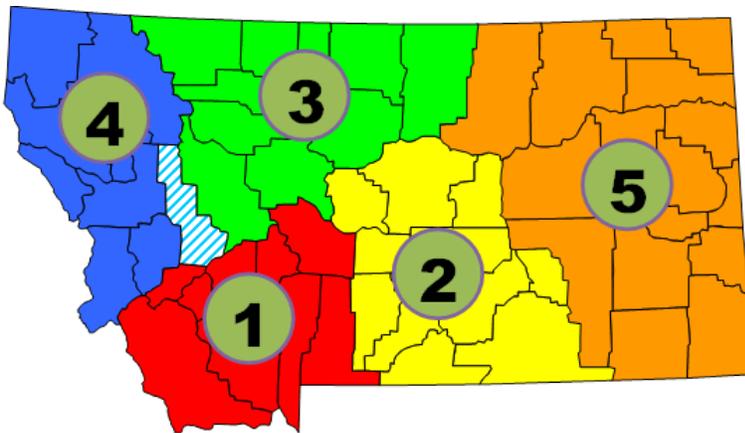
Discussion

Overall Rating - Percentage by District



Overall, 73% of respondents rating MT road maintenance as Good or Excellent while 27% gave an overall rating of Fair or Poor. There were also differences by administrative region. Overall Ratings of Good or Excellent ranged from 85% (Butte) to 69% (Glendive). College Graduates tended to rate Overall Maintenance higher than did those with less than a four-year college degree.

District Ranking by Overall Rating

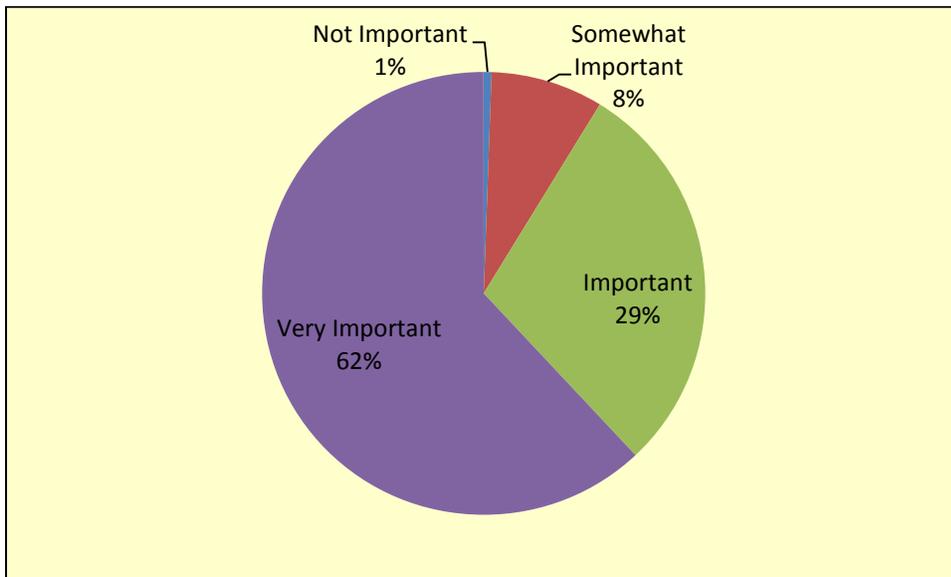


Ranking in order of average Overall Rating is as follows:

1. Butte
2. Billings
3. Great Falls
4. Missoula
5. Glendive

(Note: the blue and white striped area is Powell County and it is unclear which maintenance district it is in).

Overall Importance of Road System Maintenance



Discussion

Sixty-two percent (62%) of those responding signified that the overall importance of road system maintenance was very important and another 29% felt it was important.

Winter Maintenance Rating

Winter Maintenance refers to snow plowing and road clearing activities. Note that these questions are asked in the Fall and thus refer to performance that previous winter.

Questions

- *How would you rate winter maintenance of interstates and state highways in Montana? By winter maintenance, I mean snow and ice control including plowing, sanding, de-icing, and preventing drifting.*
- *How important would you say interstate and state highway winter maintenance is to you?*
- *What resource priority should be placed on interstate and state highway winter maintenance in Montana?*
- *How would you compare winter maintenance of Montana's state maintained roadways with winter maintenance of state maintained highways in other states?*

Winter Maintenance Rating – Number of Observations by Administrative District

	Missoula	Butte	Great Falls	Glendive	Billings	OVERALL
Poor	19	5	10	12	8	54
Fair	67	36	45	21	49	218
Good	160	91	102	65	112	530
Excellent	55	51	54	21	34	215
NR	8	4	3	3	2	20
Total	302	185	214	123	208	1037

Winter Maintenance Rating - Percentage of Observations by Administrative District

	Missoula	Butte	Great Falls	Glendive	Billings	OVERALL
Poor	6%	3%	5%	10%	4%	5%
Fair	22%	20%	21%	18%	24%	21%
Good	53%	50%	48%	55%	55%	51%
Excellent	18%	28%	26%	18%	17%	21%
NR	2%	2%	1%	3%	2%	2%

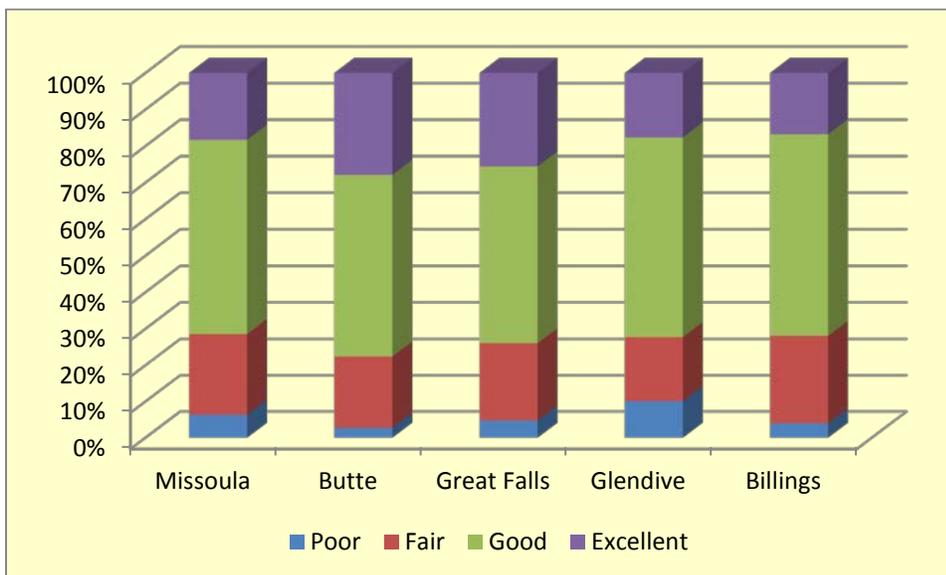
Winter Maintenance - Other Significant Differences

Significant Differences	
Gender	
Rural/Urban	
Age	Age 50+ Rated Higher
Education	
Residents 10+ Yrs	

Discussion

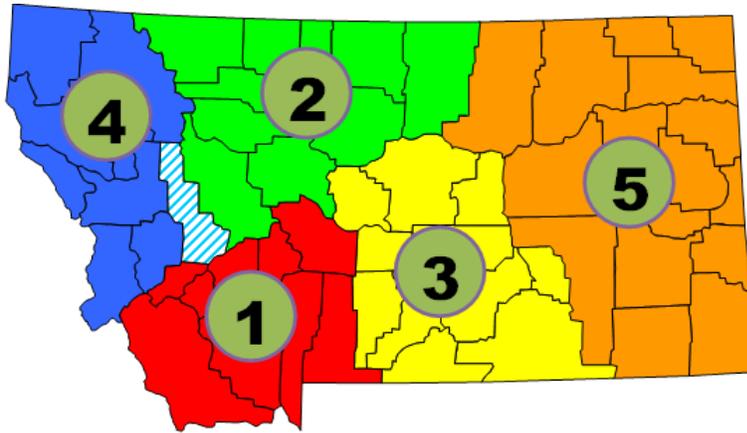
Overall, 72% of respondents rated Winter Maintenance as Good or Excellent and 27% rated it as Poor or Fair. Those interviewed age 50 or greater tended to rate Winter Maintenance at a higher level than did those age 18-49.

Winter Maintenance Rating - Percentage by District



Winter Maintenance Ratings differed by Administrative District. The percentage of respondents rating Winter Maintenance as excellent ranged from 17% (Billings) to 28% (Butte) and the percentage rating Winter Maintenance as poor ranged from 10% (Glendive) to 3% (Butte).

District Ranking of Winter Maintenance Rating



Ranking in order of highest average Winter Maintenance Rating is as follows:

1. Butte
2. Great Falls
3. Billings
4. Missoula
5. Glendive

Winter Maintenance Importance

Winter Maintenance Importance – Number and Percentage of Observations

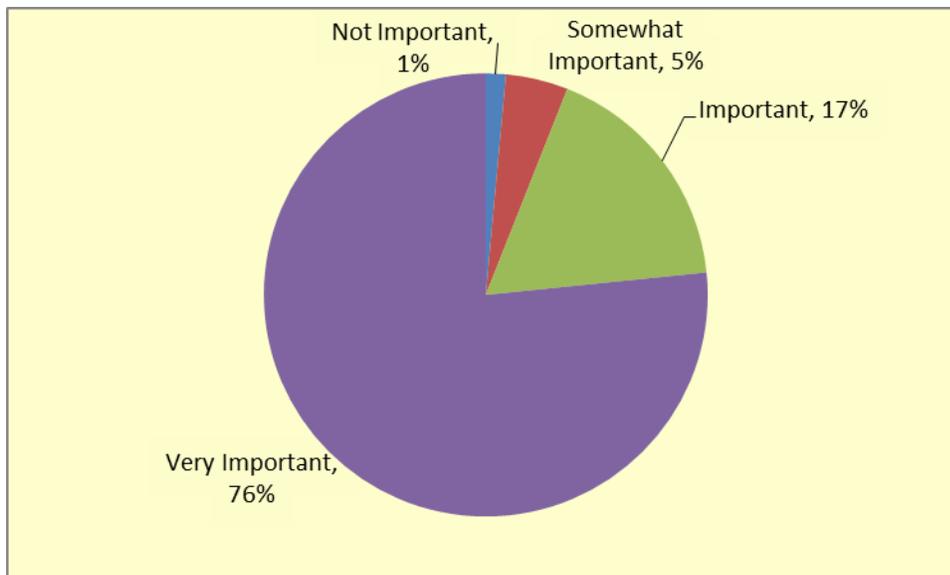
	Observations	Percentage
Not Important	15	1%
Somewhat Important	47	5%
Important	180	17%
Very Important	793	76%
NR	8	1%
Total	1043	100%

Winter Maintenance Importance - Other Significant Differences

Significant Differences	
Gender	Females Rated More Important
Rural/Urban	
Age	Age 50+ Rated Less Important
Education	
Residents 10+ Yrs	

Discussion

Winter Maintenance Importance - Percentage of Observations



Over three-quarters (76%) of respondents said Winter Maintenance was Very Important. Females tended to give a higher importance rating while those ages 50 and older tended to give Winter Maintenance lower importance ratings.

Due to the small number of Not Important or Somewhat Important observations in several of the Administrative Districts, the statistical tests used in this analysis could not produce reliable results when we looked for performance differences by Administrative Districtⁱⁱⁱ.

Winter Maintenance Priority

Winter Maintenance Priority - Number of Observations

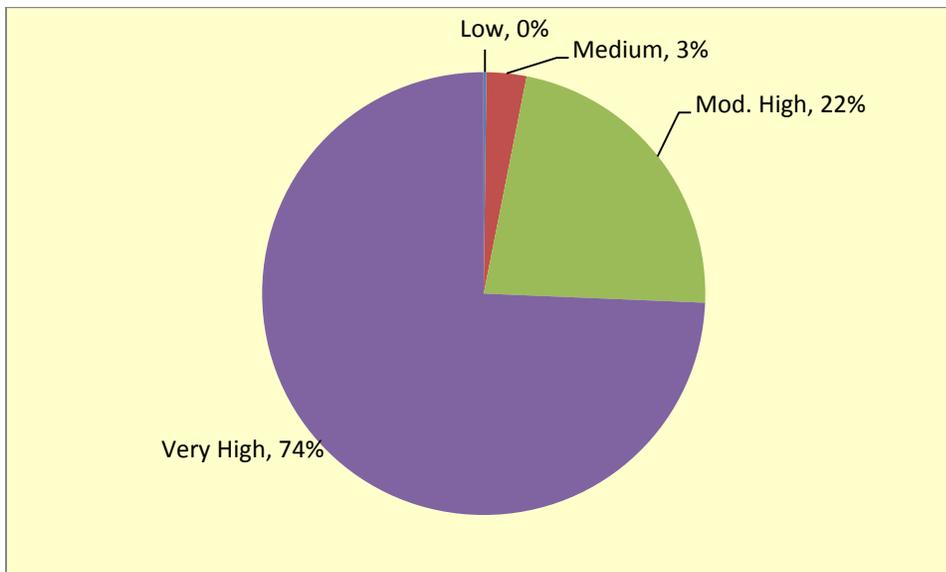
	Observations	Percentage
Low	2	< 1%
Medium	30	3%
Mod. High	233	22%
Very High	768	74%
NR	11	1%
Total	1044	100%

Winter Maintenance Priority - Other Significant Differences

Significant Differences	
Gender	Females Rated Higher Priority
Rural/Urban	
Age	
Education	
Residents 10+ Yrs	

Discussion

Winter Maintenance Priority - Percentage of Observations

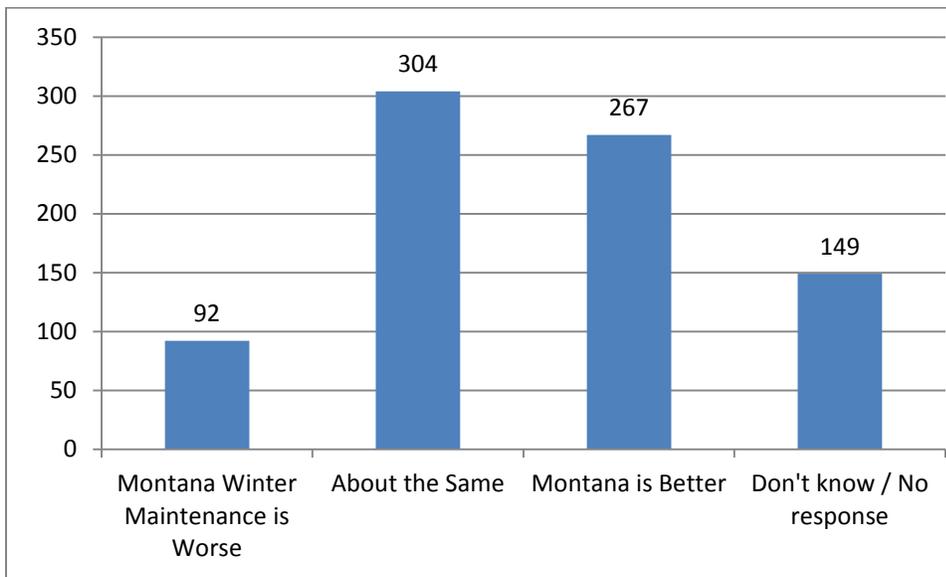


Just under three-quarters (74%) of those surveyed have Winter Maintenance a Very High Priority. Females tended to give higher priorities to Winter Maintenance than did males.

Due to the small number of Not Important or Somewhat Important observations in several of the Administrative Districts, the statistical tests used in this analysis could not produce reliable results when we looked for performance differences by Administrative District.

Winter Maintenance Comparison

Comparison of MT's Winter Road Maintenance to Other States



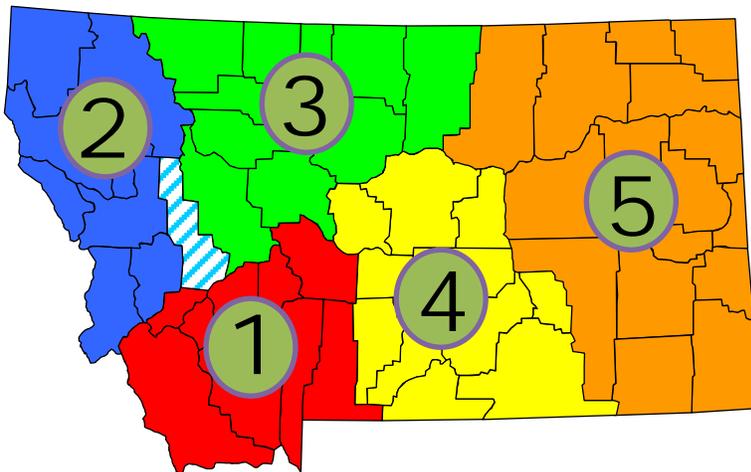
Comparison of Winter Maintenance - Other Significant Differences

Significant Differences	
Gender	Males Rated MT Maintenance Better
Rural/Urban	
Age	
Education	
Residents 10+ Yrs	Rated MT Winter Maintenance Higher

Discussion

While over three-quarters of those surveyed reported driving in another state within the previous 12 months, a number of these individuals (149) chose not to compare MT's winter maintenance to that of other states. Many of these non-responding individuals said that their out-of-state driving did not occur during the winter season. Of those with an opinion, 40% said Montana had better winter maintenance, 46% reported that MT's winter maintenance was equal to that of other states, and 14% chose the option that MT's winter maintenance was worse than that of other states for which they had experience. Males and those who have lived in the state for over 10 years were more likely to rate MT's winter maintenance as better than that of other states than did females or residents of less than 10 years.

Winter Maintenance Comparison differed by Administrative District.



Ranking in order of highest average Winter Maintenance Comparison is as follows:

1. Butte
2. Missoula
3. Great Falls
4. Billings
5. Glendive

Road Surface Maintenance

Road Surface Maintenance refers to pavement smoothness and how potholes, bumps, and other imperfections are viewed.

Surface Rating

Questions

- *How would you rate the surface of Montana's interstates and state highways? In making this rating, consider ride quality which is affected by potholes, ruts, bumps, cracks, etc.*
- *How important is the smoothness of Montana's interstates and state highways to you?*
- *What resource priority should be placed on smooth pavement on interstates and state highways in Montana?*

Surface Rating - Number of Observations by Administrative District

	Missoula	Butte	Great Falls	Glendive	Billings	OVERALL
Poor	28	4	12	10	8	62
Fair	112	51	59	39	61	322
Good	146	108	114	68	107	543
Excellent	23	22	27	5	27	104
NR	0	2	2	3	7	14
Total	309	185	212	122	203	1045

Surface Rating - Percentage of Observations by Administrative District

	Missoula	Butte	Great Falls	Glendive	Billings	OVERALL
Poor	9%	2%	6%	8%	4%	6%
Fair	36%	28%	28%	32%	30%	31%
Good	47%	58%	54%	56%	53%	52%
Excellent	7%	12%	13%	4%	13%	10%
NR	0	1%	1%	2%	3%	1%
Total	100%	100%	100%	100%	100%	100%

Surface Rating - Other Significant Differences

Significant Differences	
Gender	
Rural/Urban	Urban Residents Rated Higher
Age	
Education	College Graduates Rated Higher
Residents 10+ Years	

Discussion

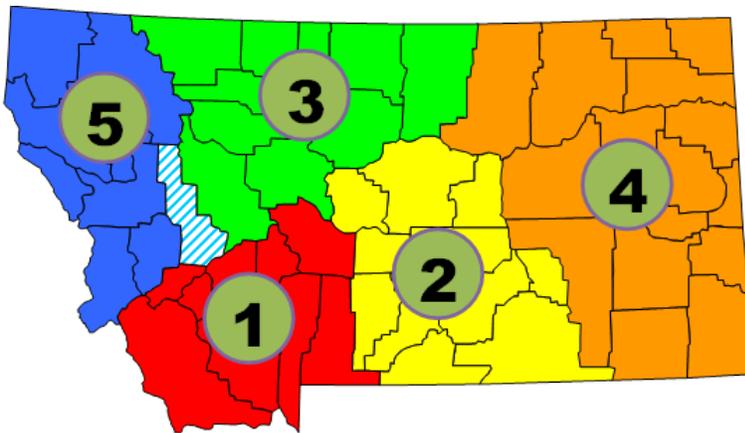
Overall, 62% of those interviewed rated road surfaces as Good or Excellent and over one-third (37%) rated road surfaces Poor or Fair. Those living in MT Urban counties and College Graduates tended to report higher overall Road Surface Ratings than did rural residents or those who did not report a four-year college degree respectively.

Surface Rating - Percentage of Observations by District



Road Surface ratings systematically varied by administrative region, with combined Good-Excellent and Poor-Fair ratings ranging from 70%/30% for Butte to 54%/45% for Missoula District.

District Ranking by Surface Rating



Ranking in order of highest average Surface Rating is as follows:

1. Butte
2. Billings
3. Great Falls
4. Glendive
5. Missoula

Road Surface Importance

Surface Importance – Number and Percentage of Observations

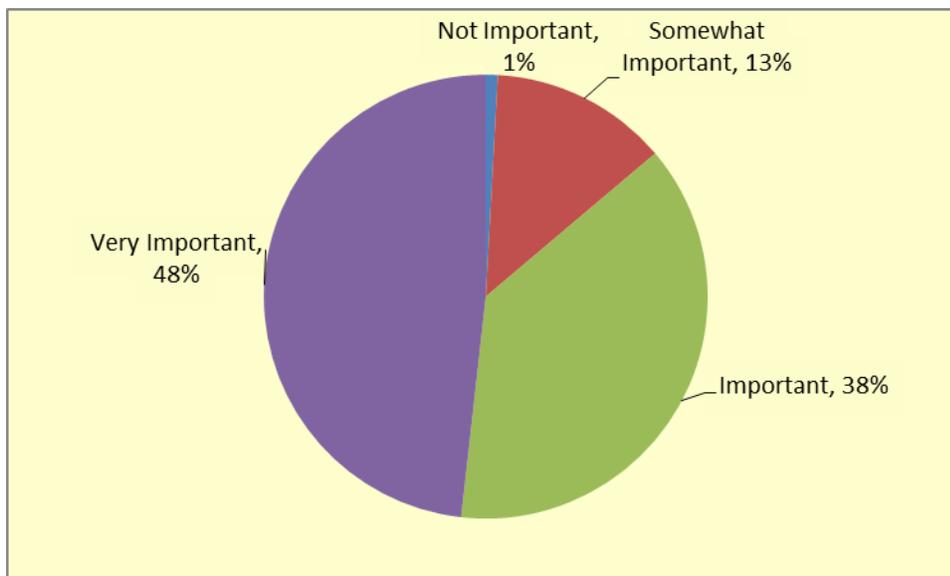
	Observations	Percentage
Not Important	9	1%
Somewhat Important	135	13%
Important	395	38%
Very Important	502	48%
NR	3	<1%
Total	1044	100%

Surface Importance - Other Significant Differences

Significant Differences	
Gender	
Rural/Urban	
Age	Age 50+ Rated More Important
Education	
Residents 10+ Yrs	

Discussion

Surface Importance - Percentage of Observations



Almost one-half (48%) of those surveyed said Road Surfaces were Very Important and a combined 86% said Road Surfaces Maintenance was Important or Very Important. Individuals age 50 and older tended to report higher importance levels than did those ages 18-49.

Road Surface Priority

Surface Priority - Number and Percentage of Observations

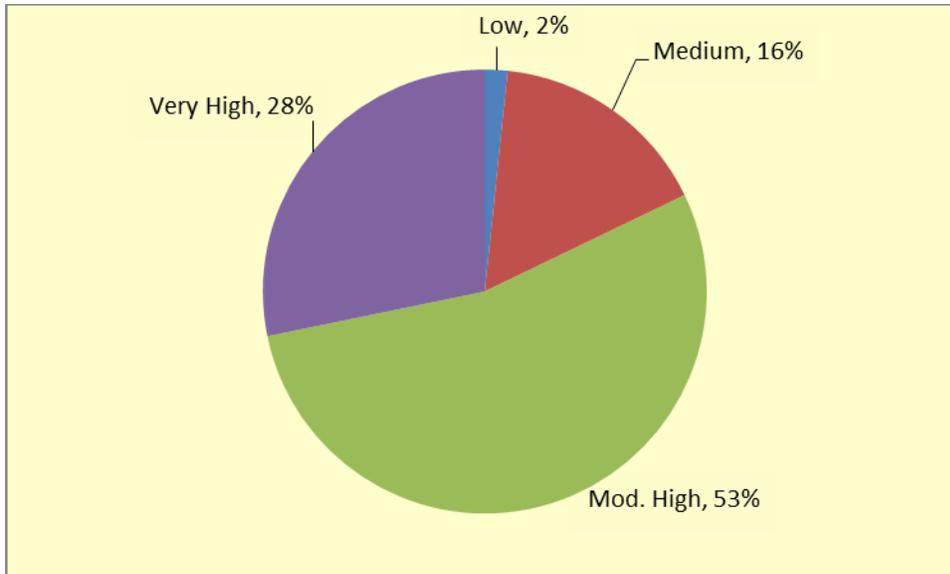
	Observations	Percentage
Low	17	2%
Medium	167	16%
Moderately High	556	53%
Very High	291	28%
NR	13	1%
Total	1044	100%

Surface Priority - Other Significant Differences

Significant Differences	
Gender	
Rural/Urban	Urban Residents Rated Higher Priority
Age	Age 50+ Rated Higher Priority
Education	
Residents 10+ Yrs	

Discussion

Surface Priority - Percentage of Observations



Of those surveyed, 28% gave Road Surfaces a Very High Priority and a combined 81% gave Road Surfaces a Very High or Moderately High Priority. Urban residents and those age 50 or older tended to give Road Surfaces higher priority than did rural or younger respondents.

Roadside Maintenance

Roadside Maintenance refers to road shoulders and medians.

Roadside Rating

Questions

- How would you rate the management of interstate and state highway roadsides in Montana? Roadside management includes mowing shoulders and eliminating unwanted vegetation.
- How important is interstate and state highway roadside management in Montana to you?
- What resource priority should be placed on interstate and state highway roadside management in Montana?

Roadside Rating - Number of Observations

	Observations	Percentage
Poor	58	6%
Fair	245	24%
Good	527	52%
Excellent	189	19%
Total	1019	100%

Discussion

Overall, 30% of those surveyed rated Roadside Maintenance As Poor or Fair while 71% rated Roadsides Good or Excellent.

Roadside Importance

Roadside Importance - Number of Observations by Administrative District

	Missoula	Butte	Great Falls	Glendive	Billings	OVERALL
Not Important	16	6	9	4	9	44
Somewhat Important	84	49	51	21	46	251
Important	112	80	72	36	89	389
Very Important	94	51	80	59	57	341
NR	2	1	2	1	5	11
Total	308	187	214	121	206	1045

Roadside Importance - Percentage of Observations by Administrative District

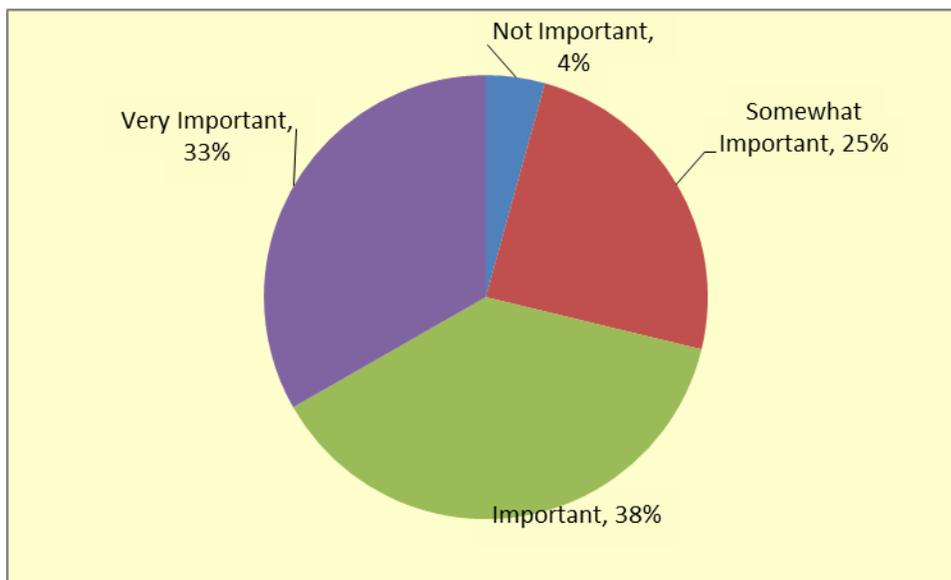
	Missoula	Butte	Great Falls	Glendive	Billings	OVERALL
Not Important	5%	3%	4%	3%	4%	4%
Somewhat Important	27%	26%	24%	17%	22%	25%
Important	36%	43%	34%	30%	43%	38%
Very Important	31%	27%	37%	49%	28%	33%
NR	<1%	<1%	<1%	<1%	<2%	<1%

Roadside Importance - Other Significant Differences

Significant Differences	
Gender	Females Rated More Important
Rural/Urban	Urban Residents Rated Less Important
Age	Age 50+ Rated More Important
Education	
Residents 10+ Yrs	Long-Term Residents Rated More Important

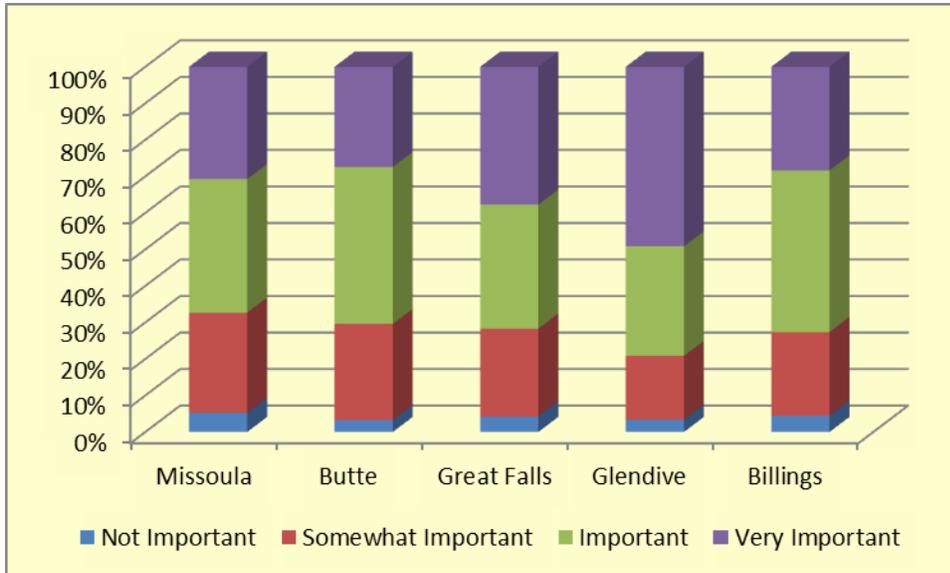
Discussion

Roadside Importance - Percentage of Observations



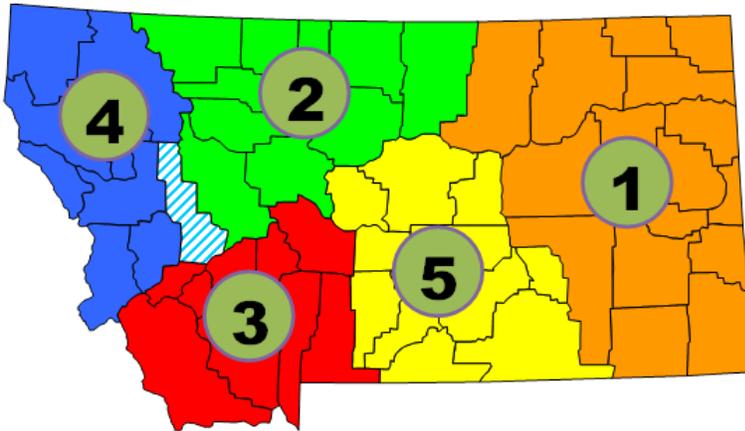
One-third (33%) of those surveyed said that Roadside Maintenance was Very Important and a combined 71% said these conditions were Very Important or Important. Twenty-nine percent (29%) of respondents indicated that Roadside issues were either Not or Somewhat Important. Females, those age 50 or older, and MT Residents of Over 10 Years tended to give roadsides more importance, while Urban Residents tended to give lower levels of importance.

Roadside Importance - Percentage of Observations by District



The Importance of Roadside Maintenance varied systematically by Administrative District. Nearly one-half (49%) of those living in the Glendive District reported that Roadsides were Very Important, while for those living in Butte or Billings Districts these were less than 30%.

District Ranking by Roadside Importance



Ranking in order of highest average Roadside Maintenance Importance Rating is as follows:

1. Glendive
2. Great Falls
3. Butte
4. Missoula
5. Billings

Roadside Priority

Roadside Maintenance Priority - Number of Observations by Administrative District

	Missoula	Butte	Great Falls	Glendive	Billings	OVERALL
Low	34	13	13	9	13	82
Medium	99	50	70	26	57	302
Mod. High	128	92	86	51	101	458
Very High	44	31	45	34	32	186
Total	305	186	214	120	203	1028

Roadside Maintenance Priority - Percentage of Observations by Administrative District

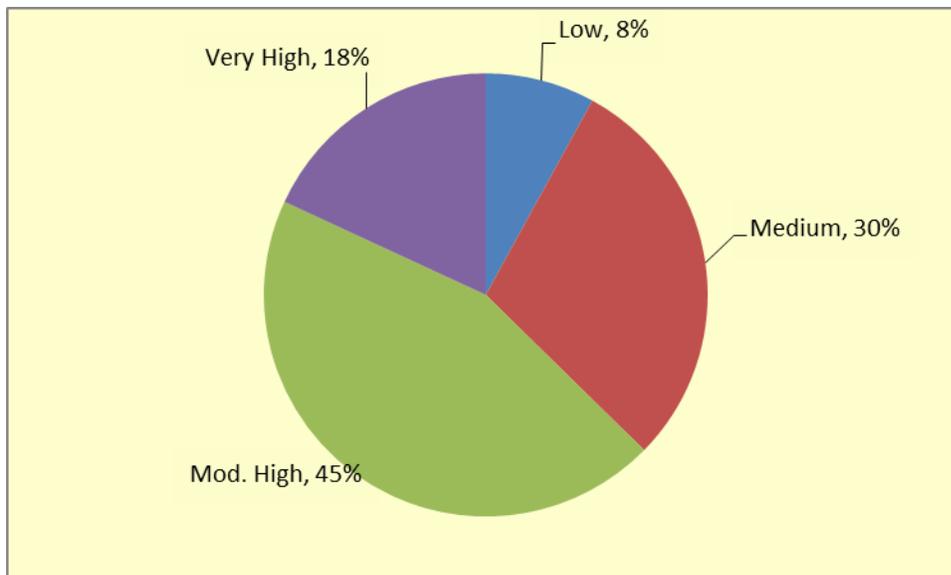
	Missoula	Butte	Great Falls	Glendive	Billings	OVERALL
Low	11%	7%	6%	7%	6%	8%
Medium	32%	27%	33%	21%	28%	30%
Mod. High	41%	49%	40%	42%	49%	45%
Very High	14%	17%	21%	28%	16%	18%

Roadside Priority - Other Significant Differences

Significant Differences	
Gender	
Rural/Urban	Urban Residents Rated Lower Priority
Age	Age 50+ Rated Higher Priority
Education	College Graduates Rated Lower Priority
Residents 10+ Yrs	Long-Term Residents Rated Higher Priority

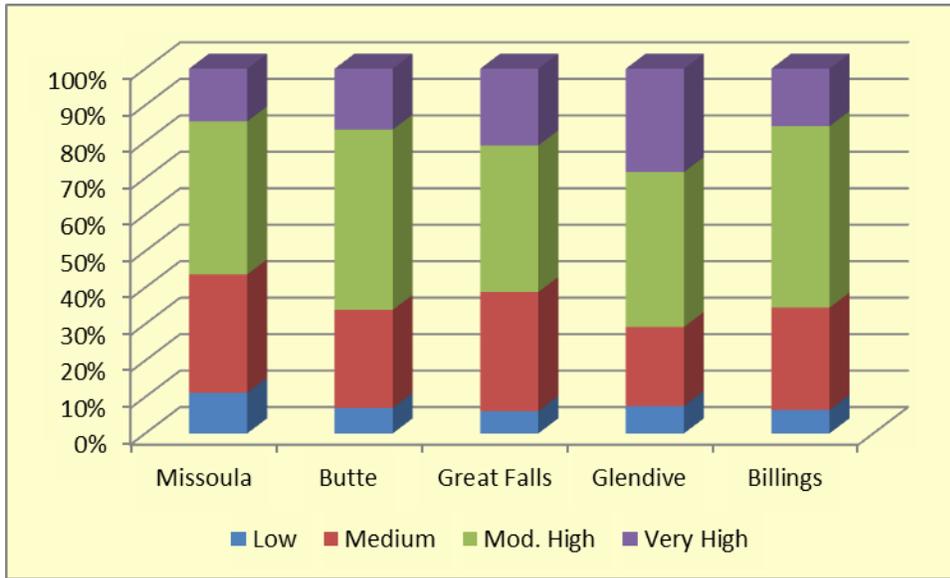
Discussion

Roadside Priority - Percentage of Observations



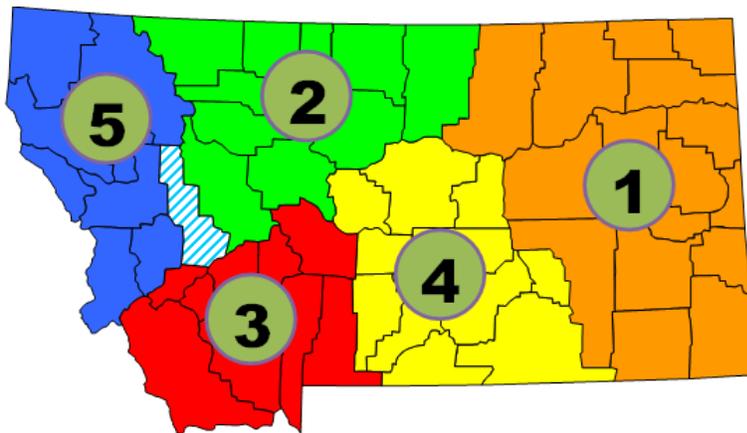
Overall, 18% of those surveyed gave Roadside Maintenance a Very High Priority and a total of 63% said it was a Very High or Moderately High Priority. Those over age 50 and those who have lived in MT for 10 or more years tended to report higher priorities while individuals living in Urban counties and College Graduates, on average, gave lower priorities to Roadside Maintenance.

Roadside Priority - Percentage of Observations by District



The Glendive District respondents placed a significantly higher priority upon Roadside Maintenance than did those living in other districts. The percentage of observations reporting Moderately High or Very High Priorities ranged from 55% for Missoula District to 70% for those living in the Glendive District.

District Ranking by Roadside Priority



Ranking in order of highest average Roadside Maintenance Priority is as follows:

1. Glendive
2. Great Falls
3. Butte
4. Missoula
5. Billings

Road Signage

Road Signage includes safety, traffic control, and informational signs.

Signage Rating

Questions

- How would you rate the condition of interstate and state highway signs in Montana?
- How important is interstate and state highway road sign management in Montana to you?
- What resource priority should be placed on repairing and replacing signs on interstates and state highways in Montana?

Signage Rating - Number of Observations by Administrative District

	Missoula	Butte	Great Falls	Glendive	Billings	OVERALL
Poor	5	9	1	4	2	21
Fair	18	15	21	10	24	88
Good	214	108	116	75	129	642
Excellent	71	54	73	30	50	278
NR	0	2	3	1	7	13
Total	308	186	211	119	205	1029

Signage Rating - Percentage of Observations by Administrative District

	Missoula	Butte	Great Falls	Glendive	Billings	OVERALL
Poor	2%	5%	0%	3%	1%	2%
Fair	6%	8%	10%	8%	12%	8%
Good	69%	58%	55%	63%	63%	62%
Excellent	23%	29%	35%	25%	24%	27%
NR	<1%	<1%	<1%	<1%	<1%	1%

Discussion

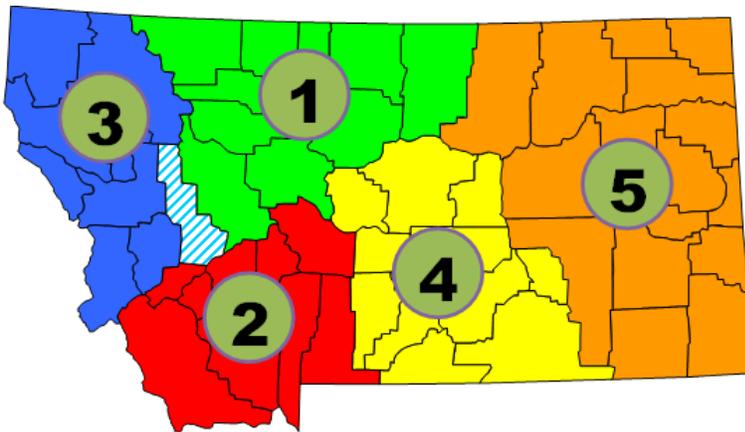
Overall, 27% of those surveyed rated Signage as Excellent and a total of 89% rated it either Good or Excellent.

Signage Rating - Percentage of Observations by District



Statistical analysis suggests that Signage Ratings vary by Administrative Region. Thirteen percent (13%) of Butte district respondents rated signage Poor or Fair, while for Missoula District this total was 7%. Over one-third (35%) of Great Fall District responses gave an Excellent Signage Rating while in Missoula District Excellent Ratings represented only 23% of responses.

District Ranking by Signage Rating



Ranking in order of highest average Signage Maintenance Rating is as follows:

1. Great Falls
2. Butte
3. Missoula
4. Billings
5. Glendive

Signage Importance

Signage Importance - Number and Percentage of Observations

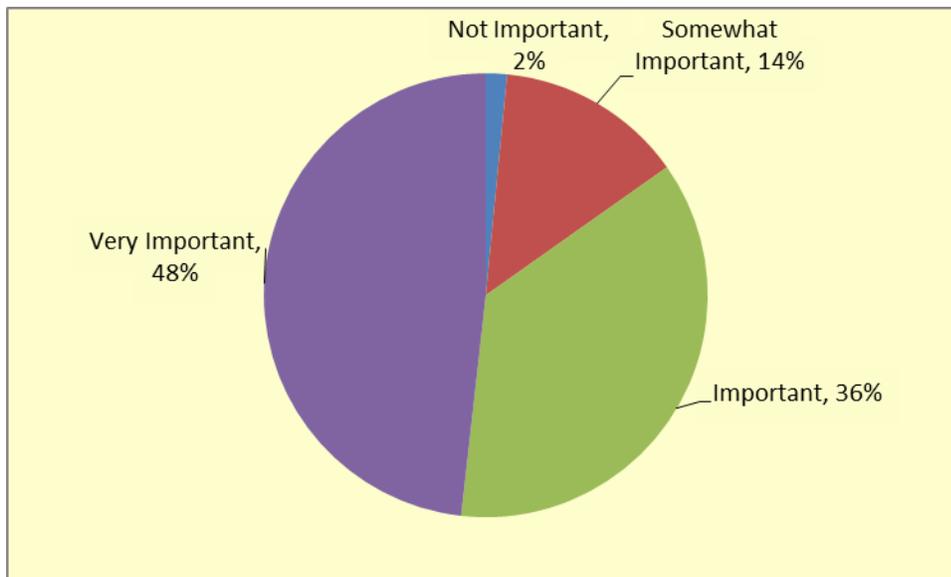
	Observations	Percentage
Not Important	16	2%
Somewhat Important	142	14%
Important	380	36%
Very Important	501	48%
NR	3	< 1%

Signage Importance - Other Significant Differences

	Significant Differences
Gender	Females Rated More Important
Rural/Urban	
Age	Age 50+ Rated More Important
Education	
Residents 10+ Yrs	

Discussion

Signage Importance - Percentage of Observations



Nearly one-half of those surveyed (48%) reported that Signage was Very Important and a combined 84% said it was Important or Very Important. Females and those over age 50 reported higher levels of importance than did males or respondents age 18-49.

Signage Priority

Signage Priority - Number of Observations

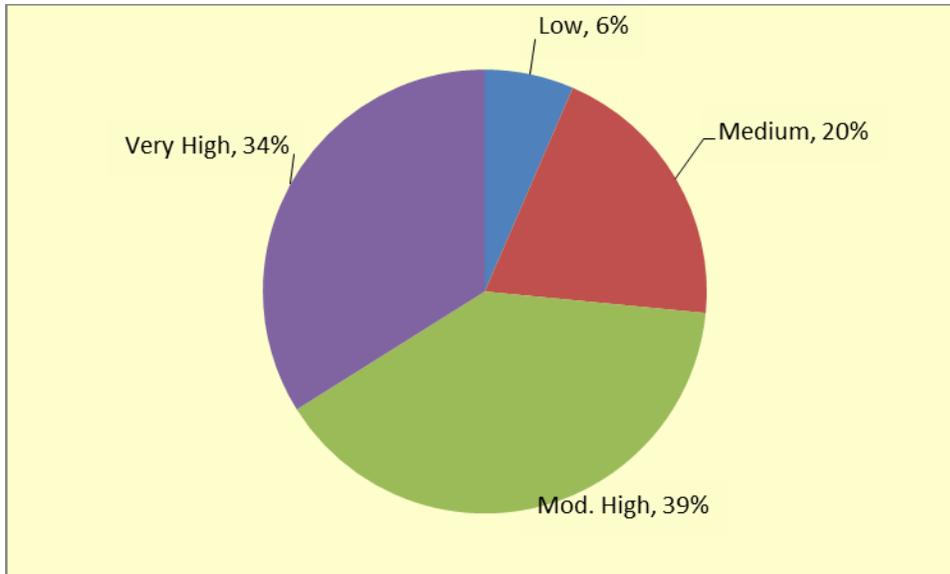
	Observations	Percentage
Low	67	6%
Medium	207	20%
Mod. High	408	39%
Very High	350	34%
NR	10	1%

Signage Priority - Other Significant Differences

	Significant Differences
Gender	Females Rated Higher Priority
Rural/Urban	
Age	Age 50+ Rated Higher Priority
Education	College Graduates Rated Lower Priority
Residents 10+ Yrs	

Discussion

Signage Priority - Percentage of Observations



Just over one-third of respondents reported that Signage had a Very High Priority, and just under three-quarters (73%) reported Signage was either a Very High or Moderately High Priority. Females and those age 50 and older tended to give Signage higher priority levels, while College Graduates tended to give it a lower priority.

Debris Removal

Litter, road kill, and fallen rocks are examples of debris that may be found on MT roadways and the responsibility of MDT to remove.

Debris Removal Rating

Questions

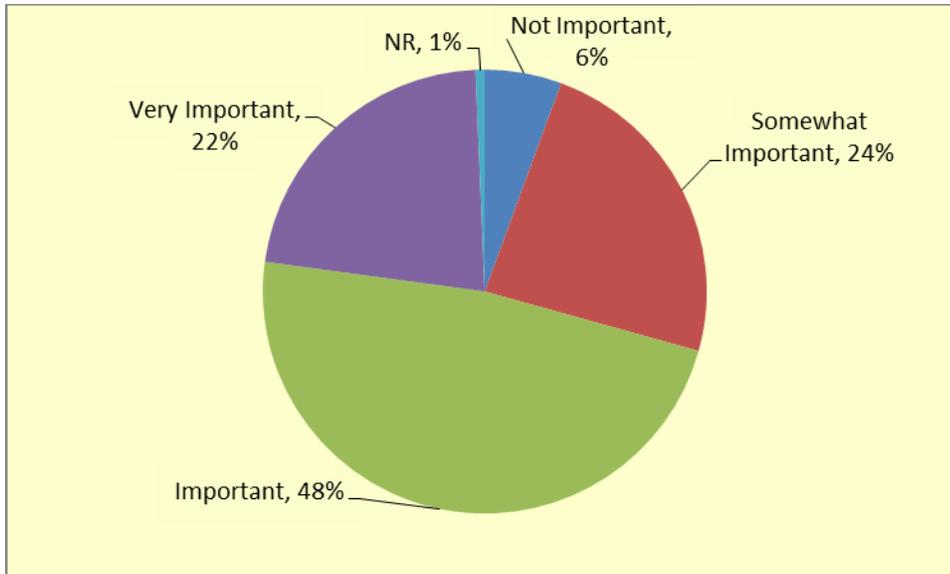
- *How would you rate the removal of debris such as litter, road kill, and fallen rocks, on Montana's interstates and state highways?*
- *How important is the removal of debris on interstates and state highways in Montana to you?*
- *What resource priority should be placed on debris removal on interstates and state highways in Montana?*

Debris Removal Rating - Number and Percentage of Observations

	Observations	Percentage
Poor	58	6%
Fair	246	24%
Good	496	48%
Excellent	230	22%
NR	7	<1%
Total	1037	100%

Discussion

Debris Removal Rating



Twenty-two percent (22%) of those surveyed rated Debris Removal as Excellent and a total of 70% rated it as either Excellent or Good.

Debris Removal Importance

Debris Removal Importance - Number of Observations

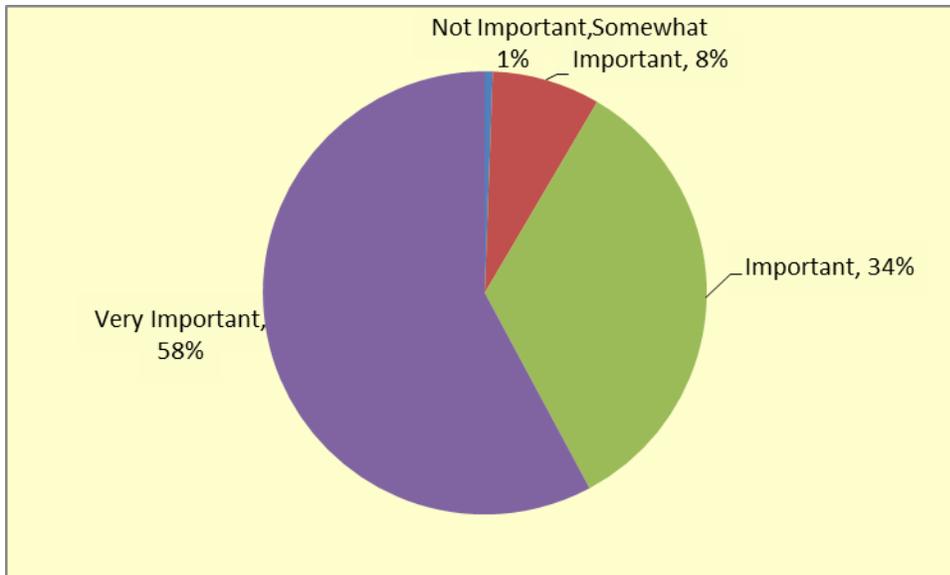
	Observations	Percentage
Not Important	6	<1%
Somewhat Important	82	8%
Important	351	34%
Very Important	602	58%
NR	2	<1%
Total	1043	100%

Debris Removal Importance - Other Significant Differences

Significant Differences	
Gender	Females Rated More Important
Rural/Urban	
Age	
Education	
Residents 10+ Yrs	

Discussion

Debris Removal Importance - Percentage of Observations



Ninety-Two percent (92%) of those surveyed said that Debris Removal was important or Very Important. On average, Females placed more Importance upon Debris Removal than did Males.

Debris Removal Priority

Debris Removal Priority - Number of Observations

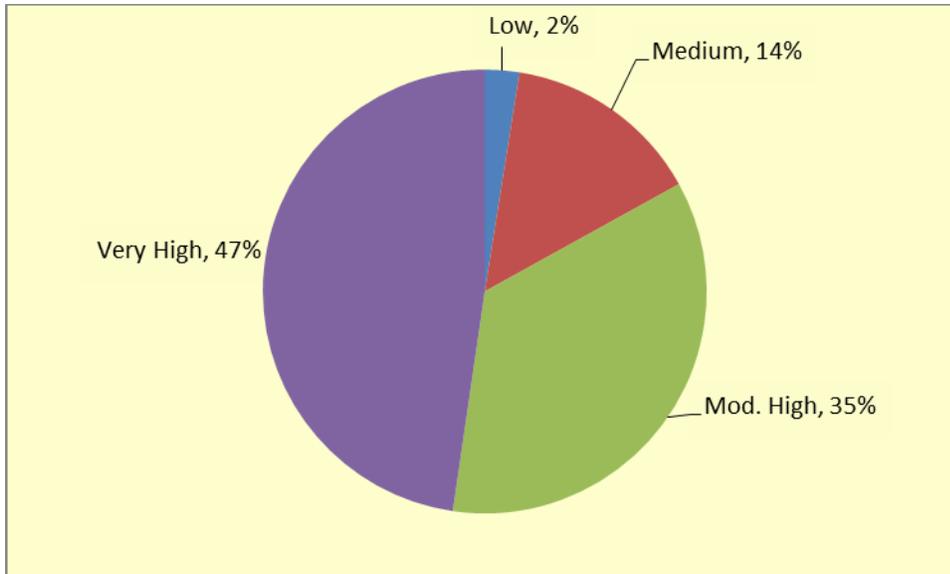
	Observations	Percentage
Low	26	2%
Medium	150	14%
Mod. High	367	35%
Very High	495	47%
NR	5	<1%
Total	1043	100%

Debris Removal Priority - Other Significant Differences

	Significant Differences
Gender	Females Rated Higher Priority
Rural/Urban	
Age	Age 50+ Rated Higher Priority
Education	
Residents 10+ Yrs	

Discussion

Debris Removal Priority - Percentage of Observations



Almost one-half (47%) of respondents placed a Very High Priority upon Debris Removal and 82% reported that Debris Removal had either a Very High or High Priority. Females and those over age 50 tended to place a higher priority upon Debris Removal than did Males or younger responders.

Rest Area Maintenance

Rest Area Maintenance includes both facility condition and cleanliness.

Rest Area Rating

Questions

- *How would you rate the maintenance of rest areas on Montana interstates and state highways. Rest area maintenance includes cleaning rest areas and keeping rest areas in working order.*
- *How important is interstate and state highway rest area maintenance to you?*
- *What resource priority should be placed on rest area cleanliness and maintenance on interstates and state highways in Montana?*
- *How would you compare rest area cleanliness and maintenance in Montana with rest area cleanliness and maintenance in other states?*
- *How often did you use the rest areas in Montana in the last 12 months?*

Rest Area Rating - Number and Percentage of Observations

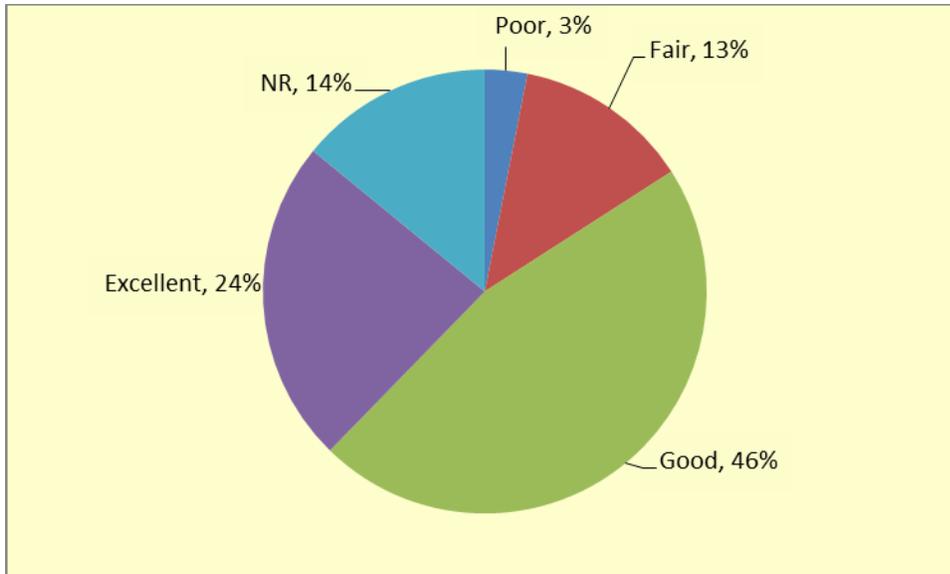
	Overall	Percentage
Poor	32	3%
Fair	133	13%
Good	481	46%
Excellent	245	24%
NR	146	14%
Total	1037	100%

Rest Area Rating - Other Significant Differences

Significant Differences	
Gender	
Rural/Urban	
Age	Age 50+ Rated Higher
Education	
Residents 10+ Yrs	

Discussion

Rest Area Rating - Percentage of Observations



Around one-quarter (24%) of those surveyed rated Rest Areas as Excellent and a combined 70% rated Rest Areas as Good or Excellent. Those over age 50 tended to give higher ratings than did younger individuals.

It must be noted that the 14% who did not respond to this question included a number of individuals who said they had not visited a MT Roadside Rest area in the previous 12 months.

Rest Area Importance

Rest Area Importance - Number and Percentage of Observations

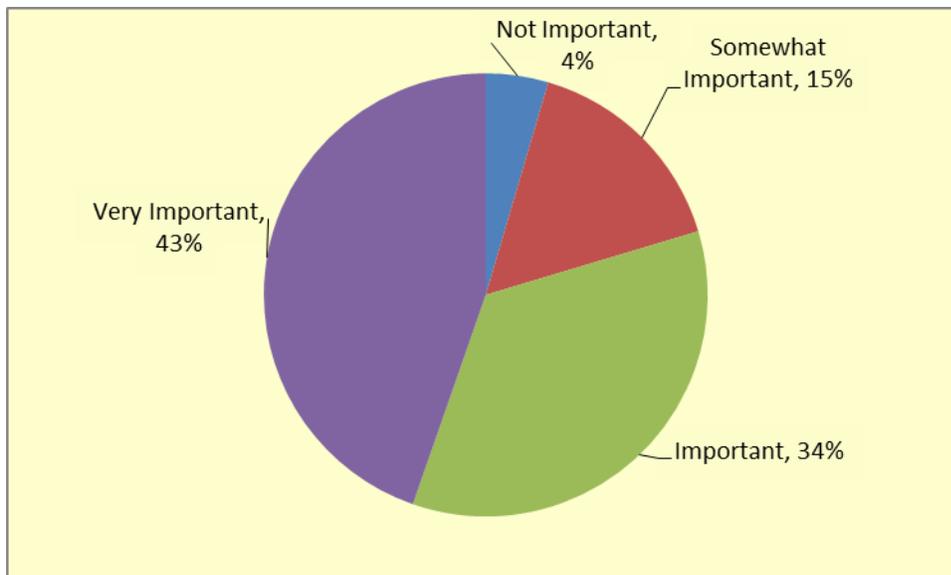
	Observations	Percentage
Not Important	46	4%
Somewhat Important	160	15%
Important	354	34%
Very Important	452	43%
NR	32	3%
Total	1044	100%

Rest Area Importance - Other Significant Differences

Significant Differences	
Gender	
Rural/Urban	
Age	Age 50+ Rated More Important
Education	
Residents 10+ Yrs	

Discussion

Rest Area Importance - Percentage of Observations



Forty-Three percent (43%) of those surveyed reported that Rest Area Maintenance was Very Important and a combined 77% reported that it was either Very Important or Important. Respondents age 50 and older tended to place more importance upon Rest Area Maintenance.

Rest Area Priority

Rest Area Priority - Number of Observations by Administrative District

	Missoula	Butte	Great Falls	Glendive	Billings	OVERALL
Low	8	2	10	3	7	30
Medium	82	34	27	21	31	195
Mod. High	123	87	95	62	87	454
Very High	87	61	81	31	77	337
NR	9	3	1	5	4	22
Total	309	187	214	122	206	1038

Rest Area Priority - Percentage of Observations by Administrative District

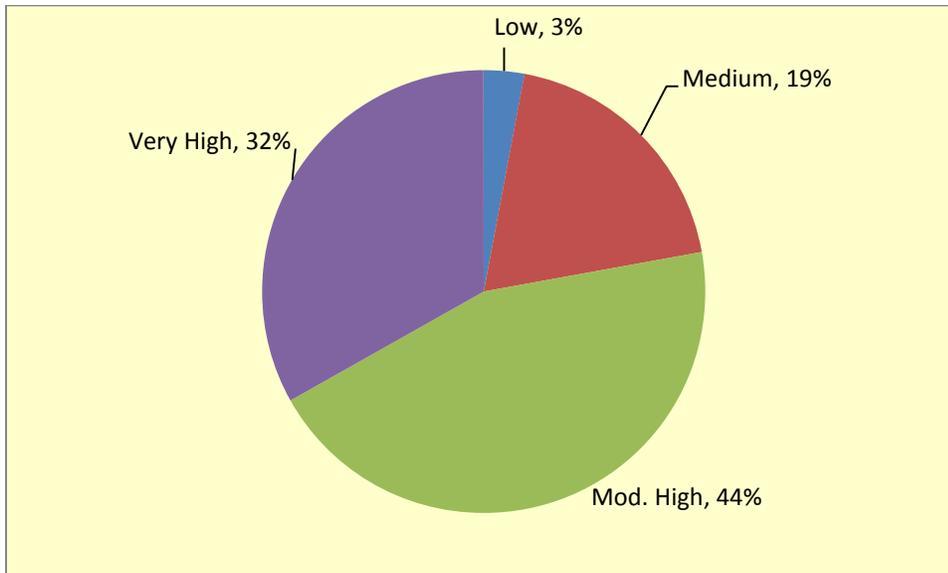
	Missoula	Butte	Great Falls	Glendive	Billings	OVERALL
Low	3%	1%	5%	2%	3%	3%
Medium	27%	18%	13%	17%	15%	19%
Mod. High	40%	47%	44%	51%	42%	44%
Very High	28%	33%	38%	25%	37%	32%
NR	3%	2%	<1%	4%	2%	2%
Total	100%	100%	100%	100%	100%	100%

Rest Area Priority - Other Significant Differences

Significant Differences	
Gender	
Rural/Urban	
Age	Age 50+ Rated Higher Priority
Education	College Graduates Rated Lower Priority
Residents 10+ Yrs	Long-Term Residents Rated Higher Priority

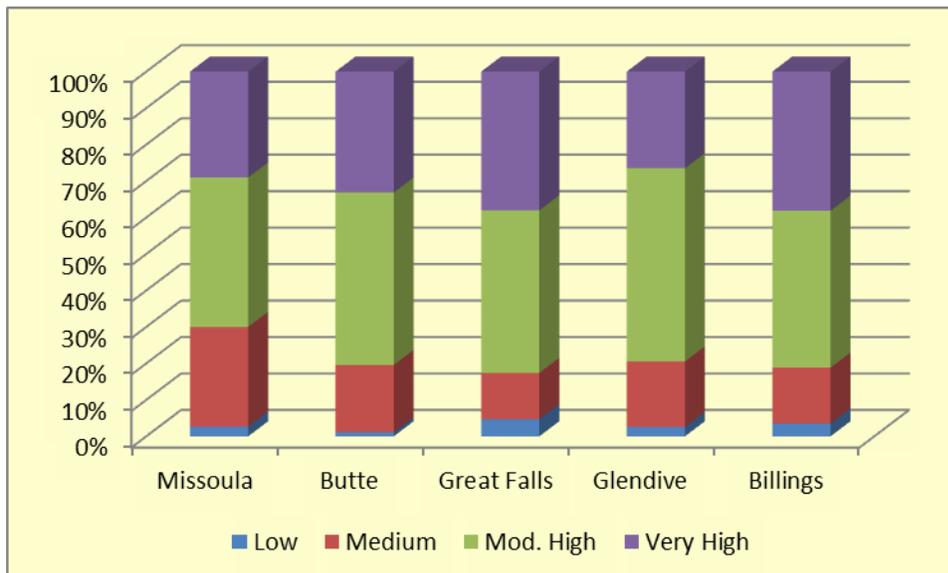
Discussion

Rest Area Priority - Percentage of Observations



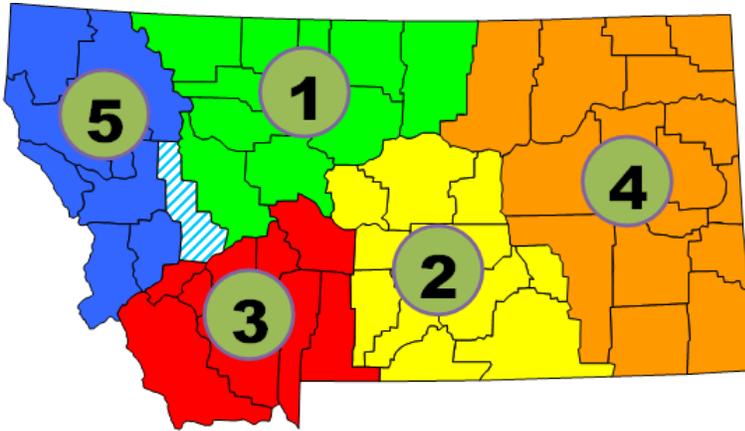
Around one-third (32%) of those surveyed reported that Rest Area Maintenance had a Very High Priority and over three-quarters (76%) said that Rest Area Maintenance was a Very High or Moderately High Priority. Those over age 50 and individuals who have lived in MT for 10 or more years tended to place a higher priority upon this maintenance, while College Graduates tended to place less priority upon Rest Area Maintenance.

Rest Area Priority - Percentage of Observations by Administrative District



Rest Area Maintenance Priority varied systematically by Administrative District. Those living in the Great Falls or Billings District were most likely to report Rest Areas were a Very High Priority (37%-38%) while only 25% of Glendive District residents rated this type of maintenance as Very High Priority. Thirty percent (30%) of Missoula District residents gave Rest Area Maintenance a Low or Medium Priority, roughly twice the percentage of Great Falls or Billings District responses (18%).

District Ranking by Rest Area Priority

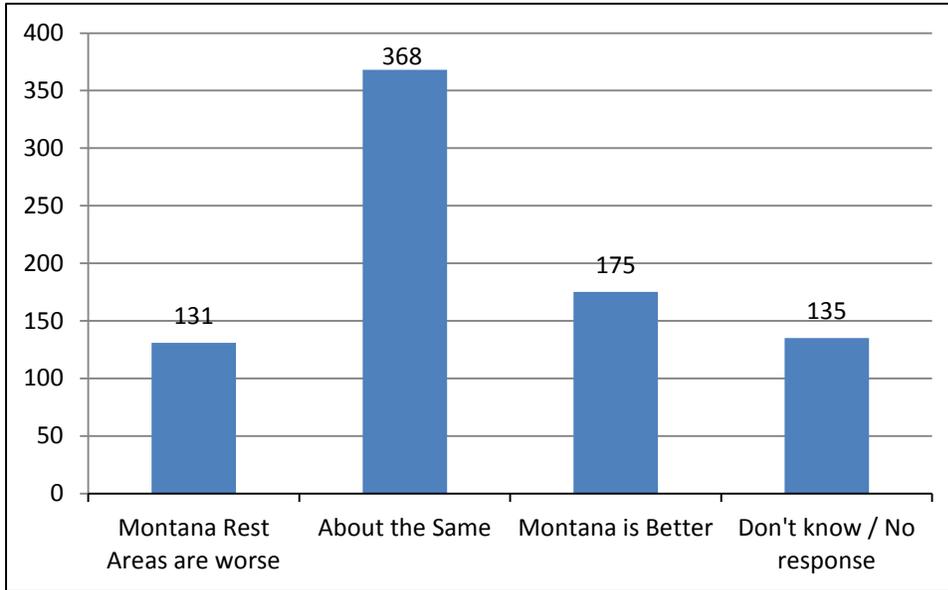


Ranking in order of highest average Rest Area Priority Rating is as follows:

1. Great Falls
2. Billings
3. Butte
4. Glendive
5. Missoula

Rest Area Maintenance Comparison to Other States

Comparison of MT Rest Area Maintenance to Other States



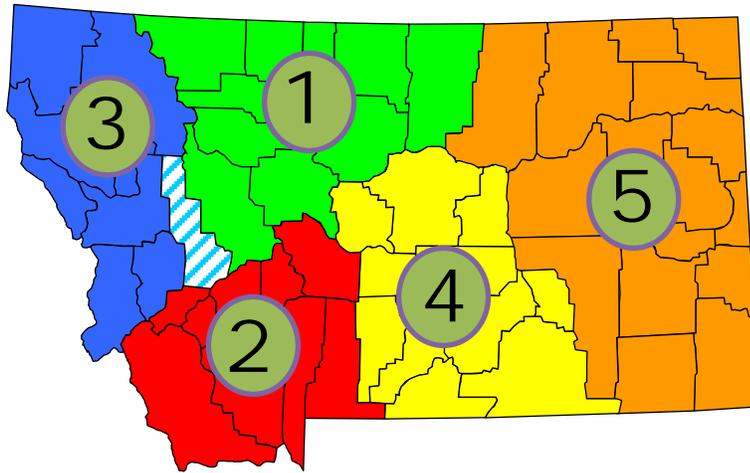
Rest Area Comparison - Other Significant Differences

Significant Differences	
Gender	
Rural/Urban	
Age	Age 50+ Rated MT Rest Areas Lower
Education	
Residents 10+ Yrs	Rated MT Rest Area Maintenance Lower

Discussion

Of those respondents who reported traveling to other states within the previous 12 months, 16% did not answer the question of comparing MT's rest area maintenance to that of other states. In many cases this is because the respondent reported that he or she did not use an out-of-state roadside rest area. Of those who answered, 26% said MT rest areas were better, 55% said MT rest areas were about the same, and 19% said MT rest area maintenance was worse than what they found in other states.

Rest Area Maintenance Comparisons varied systematically by Administrative District.



Ranking in order of highest average Rest Area Maintenance Comparison is as follows:

1. Great Falls
2. Butte
3. Missoula
4. Billings
5. Glendive

Pavement Marker Maintenance

Pavement Markers are those markings on the pavement surface delineating such things as lane edges and turning lanes.

Pavement Marker Rating

Questions

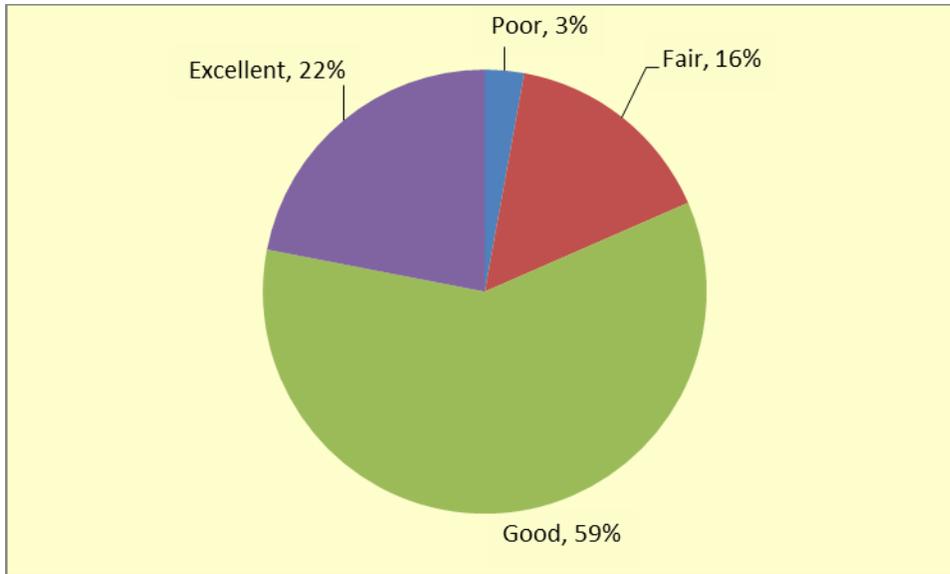
- *How would you rate the condition of striping (lines) on Montana's interstates and state highways? Striping and lines include the middle lines, no-passing lines, left turn lanes, and shoulder lines.*
- *How important is interstate and state highway striping to you?*
- *What resource priority should be placed on roadway striping on interstates and state highways in Montana?*

Pavement Marking Rating - Number and Percentage of Observations

	Observations	Percentage
Poor	30	3%
Fair	164	16%
Good	627	59%
Excellent	213	22%
NR	3	<1%
Total	1037	100%

Discussion

Pavement Marking Rating - Percentage of Observations



Twenty-Two percent (22%) of those surveyed rated Pavement Markings as Excellent and a combined 81% gave Pavement Markings an Excellent or Good Rating.

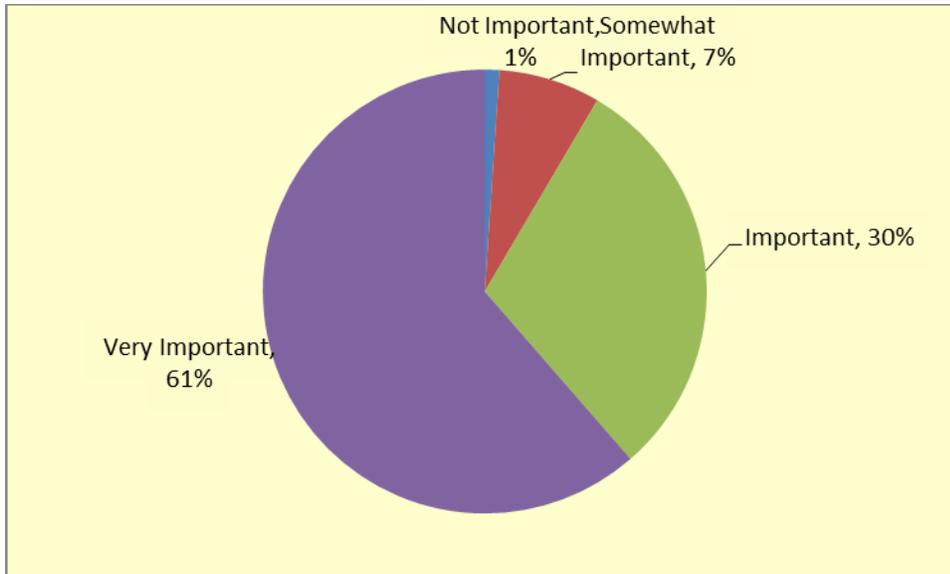
Pavement Marking Importance

Pavement Marking Importance - Number and Percentage of Observations

	Overall	Percentage
Not Important	11	1%
Somewhat Important	77	7%
Important	313	30%
Very Important	638	61%
NR	4	<1%
Total	1043	100%

Discussion

Pavement Marking Importance - Percentage of Observations



Sixty-one percent (61%) of those surveyed said that Pavement Marking Maintenance was Very Important and 91% said it was either Very Important or Important.

Pavement Marking Priority

Pavement Marking Priority - Number of Observations

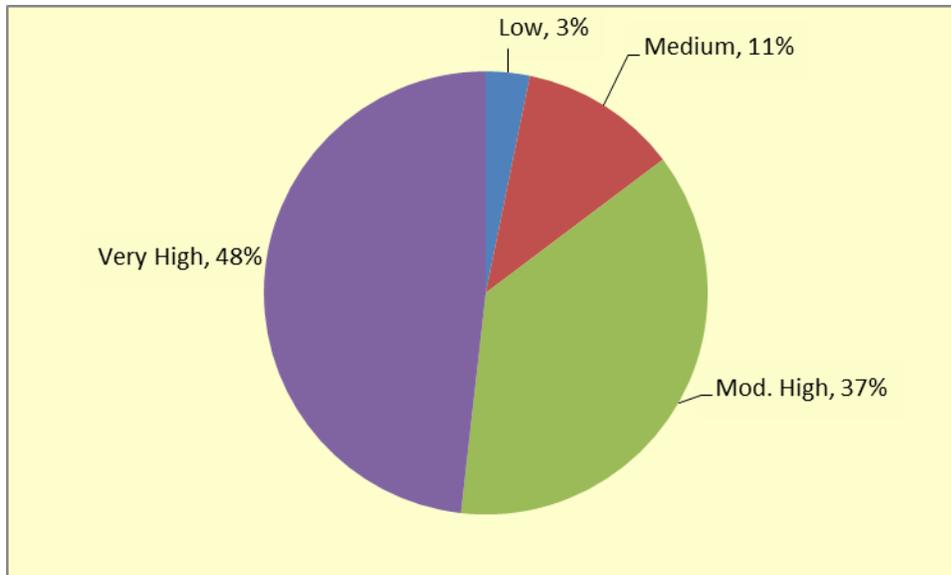
	Observations	Percentage
Low	33	3%
Medium	119	11%
Mod. High	383	37%
Very High	498	48%
NR	8	<1%
Total	1041	100%

Pavement Marking Priority - Other Significant Differences

Significant Differences	
Gender	Females Rated Higher Priority
Rural/Urban	
Age	Age 50+ Rated Higher Priority
Education	
Residents 10+ Yrs	

Discussion

Pavement Marking Priority - Percentage of Observations



Nearly one-half (48%) of respondents reported that Pavement Marking Maintenance was a Very High Priority and a combined 85% say that it is either a Very High or Moderately High Priority. Females and those over age 50 tended to give Pavement Marking Maintenance a higher priority.

Road Crews

Road Crews concern traffic control such as temporary lane closures that may take place during road maintenance.

Questions

- How would you rate the traffic control while maintenance crews are working on interstates and state highways?

Road Crew Rating

Crew Rating - Number and Percentage of Observations

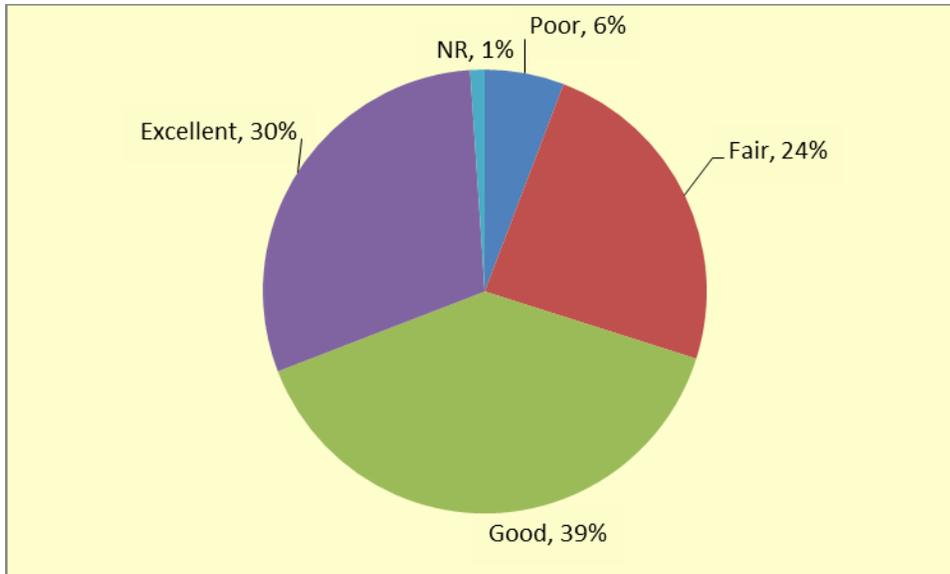
	Overall	Percentage
Poor	60	6%
Fair	250	24%
Good	407	39%
Excellent	309	30%
NR	11	1%
Total	1037	100%

Crew Rating - Other Significant Differences

Significant Differences	
Gender	
Rural/Urban	
Age	Age 50+ Rated Higher
Education	
Residents 10+ Yrs	

Discussion

Crew Rating - Percentage of Observations



Thirty percent (30%) of those surveyed gave Road Crews an Excellent Rating and another 30% rated Road Crews as Poor or Fair. Respondents over age 50 tended to rate Road Crews higher than did those age 18-49.

Road Information

Road Information concerns real-time news of current road conditions presented on the media and the internet.

Information Importance

Questions

- How important is up to date winter interstate and state highway information to you?
- What resource priority should be placed providing accurate and up to date information about the current condition of state maintained highways in Montana?

Information Importance - Number of Observations by Administrative District

	Missoula	Butte	Great Falls	Glendive	Billings	OVERALL
Not Important	33	12	13	10	6	74
Somewhat Important	63	30	29	15	30	167
Important	77	43	46	30	58	254
Very Important	133	97	125	67	106	528
NR	3	5	1		6	15
Total	309	187	214	122	206	1038

Information Importance - Percentage of Observations by Administrative District

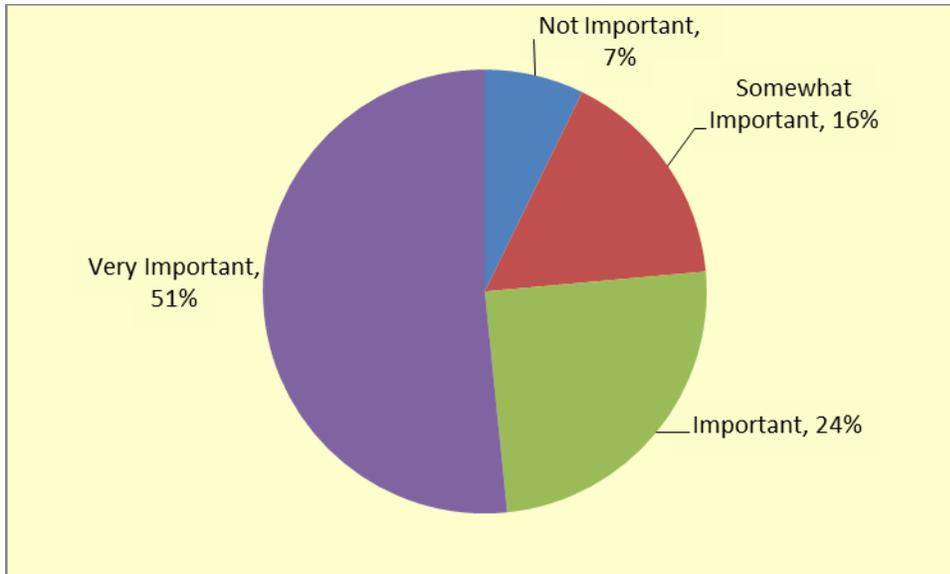
	Missoula	Butte	Great Falls	Glendive	Billings	OVERALL
Not Important	11%	6%	6%	8%	3%	7%
Somewhat Important	20%	16%	14%	12%	15%	16%
Important	25%	23%	21%	25%	28%	24%
Very Important	43%	52%	58%	55%	51%	51%
NR	1%	3%	0%	0%	3%	1%
Total	100%	100%	100%	100%	100%	100%

Information Importance - Other Significant Differences

Significant Differences	
Gender	Females Rated More Important
Rural/Urban	
Age	
Education	
Residents 10+ Yrs	

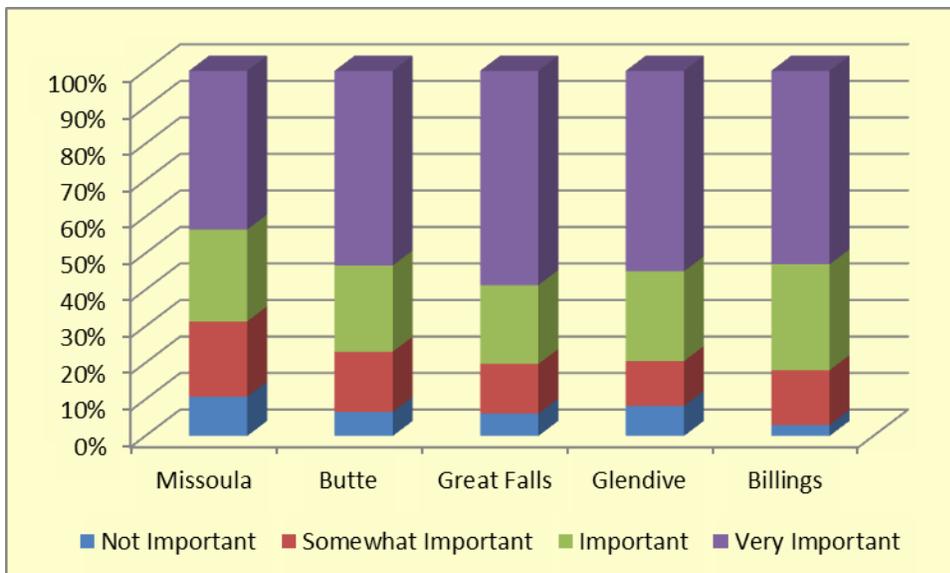
Discussion

Information Importance - Percentage of Observations



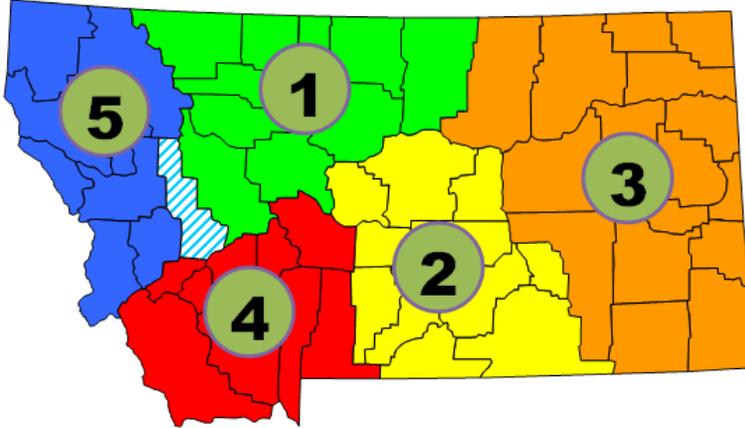
One-half of those surveyed (51%) said that Road Information was Very Important and a combined three-quarters (75%) consider it either Important or Very Important. Females tended to choose a higher importance level than did Males.

Information Importance - Percentage of Observations by District



Information Importance ratings varied by administrative district. Fifty-Eight percent (58%) of Great Falls District responses rated Information as Very Important while in Missoula District this percentage was far less (43%).

District Ranking by Information Importance



Ranking in order of highest average Information Importance Rating is as follows:

1. Great Falls
2. Billings
3. Glendive
4. Butte
5. Missoula

Information Priority

Information Priority - Number of Observations

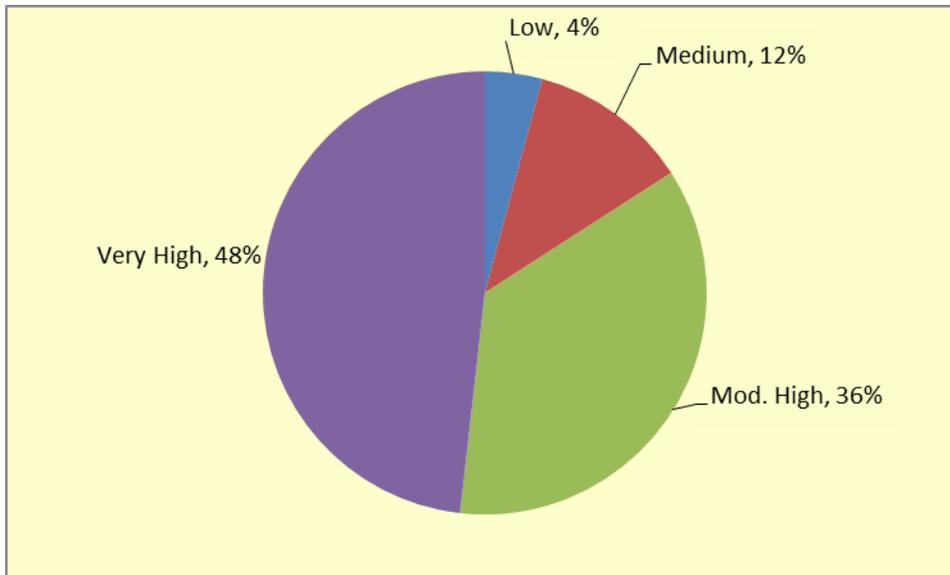
	Observations	Percentage
Low	43	4%
Medium	121	12%
Mod. High	371	36%
Very High	498	48%
NR	10	1%
Total	1043	100%

Information Priority - Other Significant Differences

Significant Differences	
Gender	Females Rated Higher Priority
Rural/Urban	
Age	
Education	
Residents 10+ Yrs	

Discussion

Information Priority - Percentage of Observations



Nearly one-half (48%) of those surveyed gave Road Information a Very High Priority and a combined 84% gave it either a Very High or Moderately High Priority. Females tended to give Road Information a higher Priority than did Males.

Safety

In 2010 the MDT asked that we create a composite indicator by combining the results of the Pavement Markings and Road Sign indicators. The 2012 results of these Safety-related indicators are as follows.

Safety Rating

Safety Rating - Number and Percentage of Observations

	Observations	Percentage
Poor	10	1%
Fair	80	8%
Good	623	60%
Excellent	330	32%
NR	2	<1%
Total	1045	100%

Safety Rating - Number of Observations by Administrative District

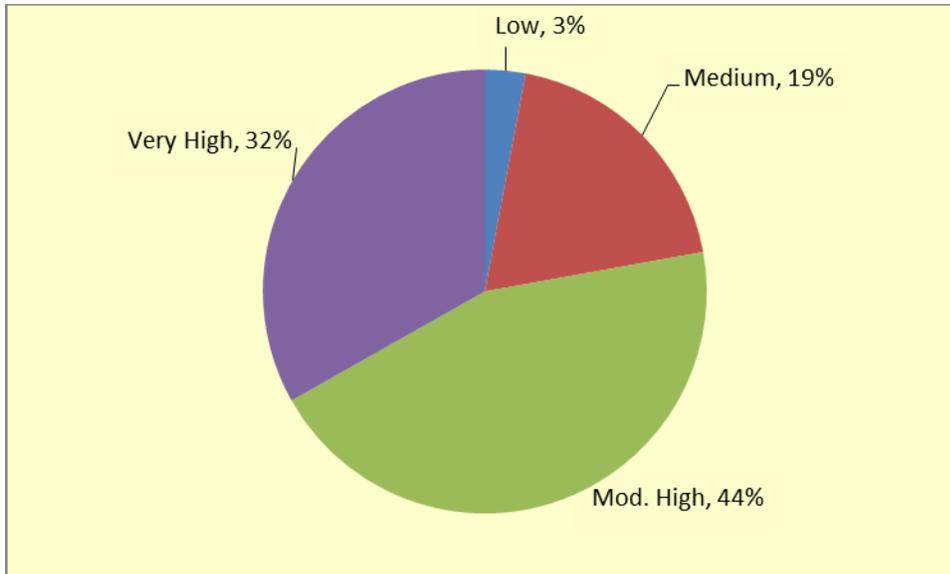
	Missoula	Butte	Great Falls	Glendive	Billings	OVERALL
Poor	2	1	3	3	1	10
Fair	25	17	13	8	17	80
Good	200	107	115	71	130	623
Excellent	85	62	83	39	61	330
Total	313	187	214	122	209	1045

Safety Rating - Percentage of Observations by Administrative District

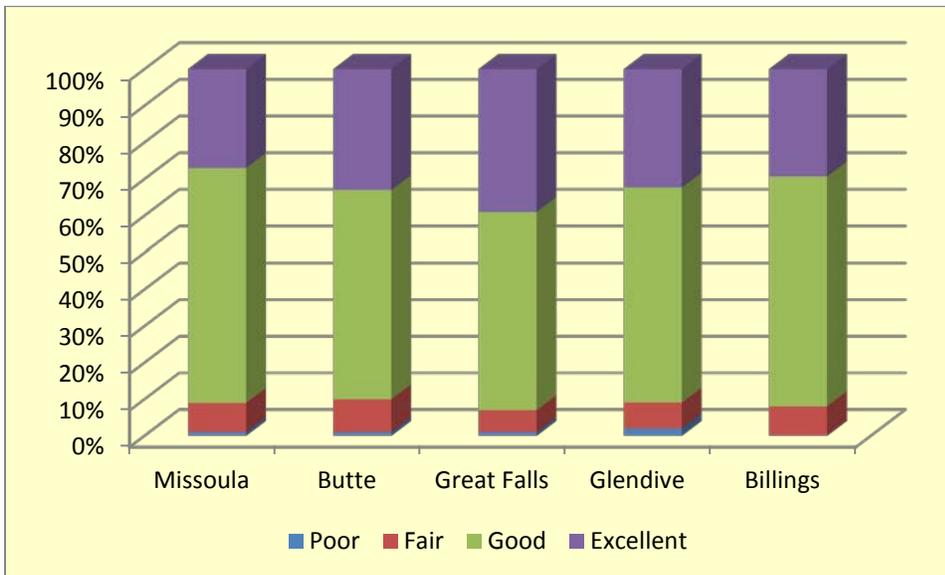
	Missoula	Butte	Great Falls	Glendive	Billings	OVERALL
Poor	1%	1%	1%	2%	<1%	1%
Fair	8%	9%	6%	7%	8%	8%
Good	64%	57%	54%	58%	62%	60%
Excellent	27%	33%	39%	32%	29%	32%
Total	100%	100%	100%	100%	100%	100%

Discussion

Safety Rating - Percentage of Observations



Safety Rating - Percentage of Observations by Administrative District



Safety Importance

Safety Importance - Number and Percentage of Observations

	Observations	Percentage
Not Important	7	<1%
Somewhat Important	57	5%
Important	321	31%
Very Important	658	63%
NR	2	<1%
Total	1045	100%

Safety Importance - Number of Observations by Administrative District

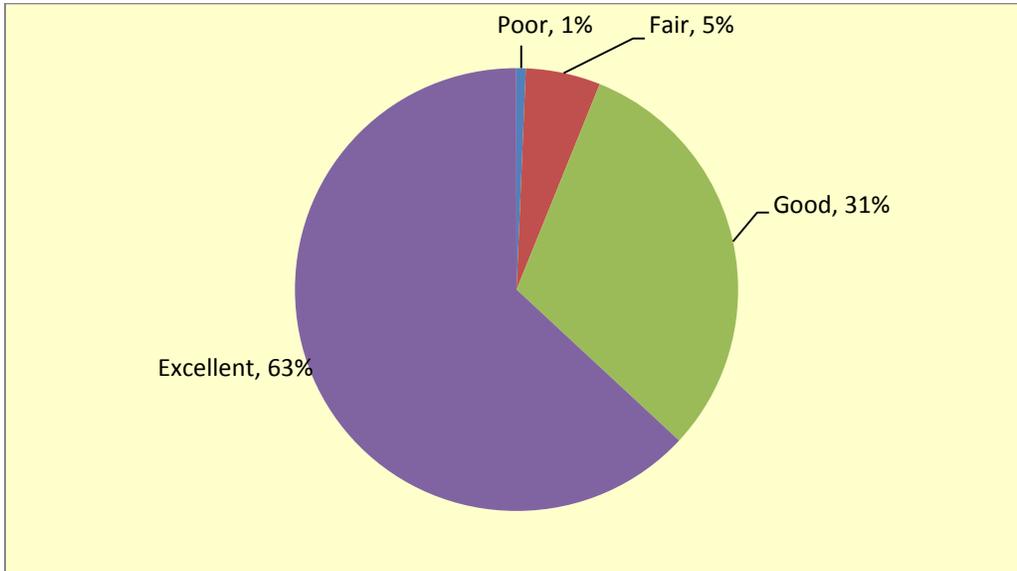
	Missoula	Butte	Great Falls	Glendive	Billings	OVERALL
Not Important	2	0	0	2	3	7
Somewhat Important	11	13	10	6	17	57
Important	102	60	57	34	68	321
Very Important	197	114	147	80	120	658
Total	312	187	214	122	208	1043

Safety Importance - Percentage of Observations by Administrative District

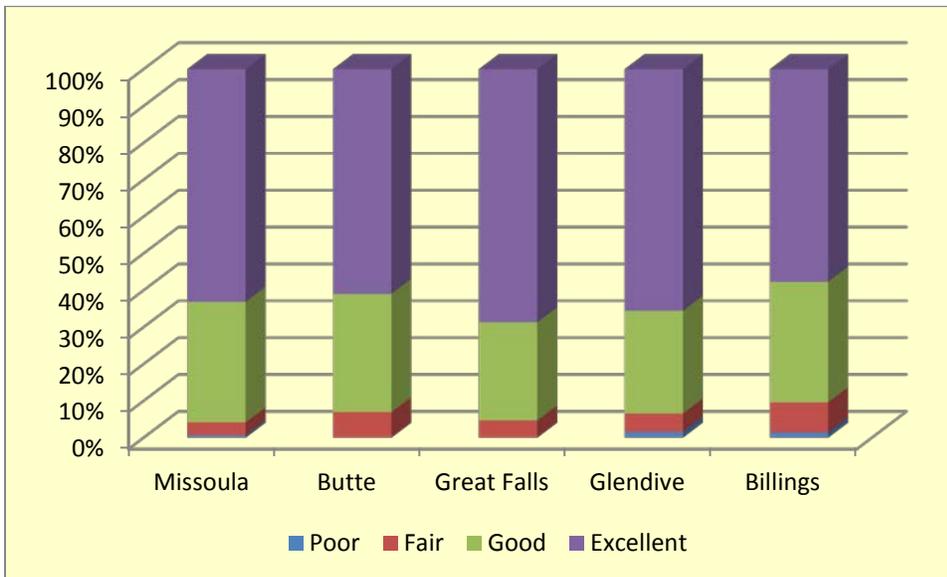
	Missoula	Butte	Great Falls	Glendive	Billings	OVERALL
Not Important	1%	<1%	0%	2%	1%	1%
Somewhat Important	4%	7%	5%	5%	8%	5%
Important	33%	32%	27%	28%	33%	31%
Very Important	63%	61%	69%	66%	58%	63%
Total	100%	100%	100%	100%	100%	100%

Discussion

Safety Importance - Percentage of Observations



Safety Importance - Percentage of Observations by Administrative District



Safety Priority

Safety Priority - Number and Percentage of Observations

	Observations	Percentage
Low	22	2%
Medium	116	11%
Mod. High	379	36%
Very High	517	49%
NR	11	1%

Safety Priority - Number of Observations by Administrative District

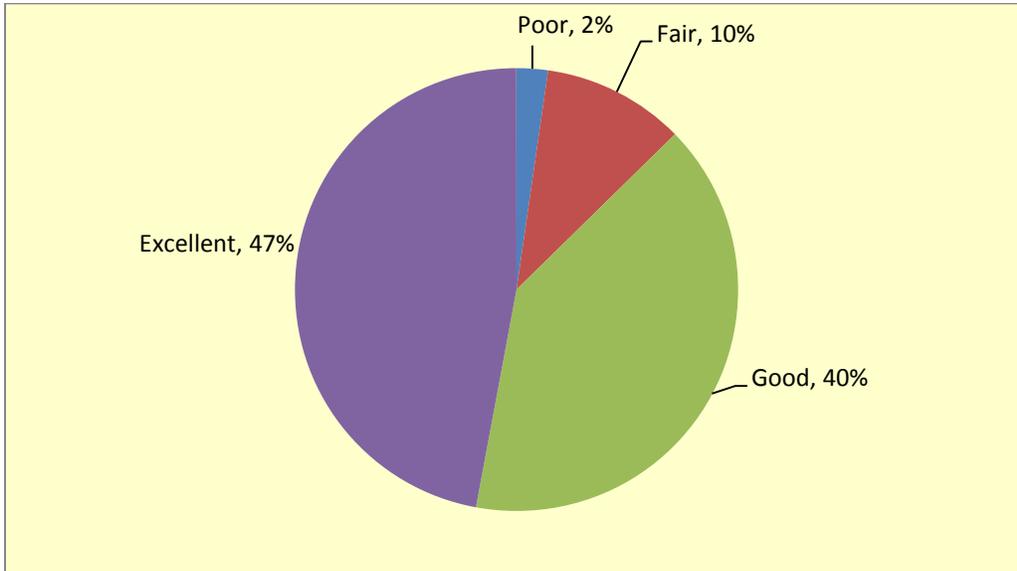
	Missoula	Butte	Great Falls	Glendive	Billings	OVERALL
Not Important	7	4	1	5	5	7
Somewhat Important	32	19	22	15	28	32
Important	124	67	81	42	65	124
Very Important	145	97	110	59	106	145

Safety Priority - Percentage of Observations by Administrative District

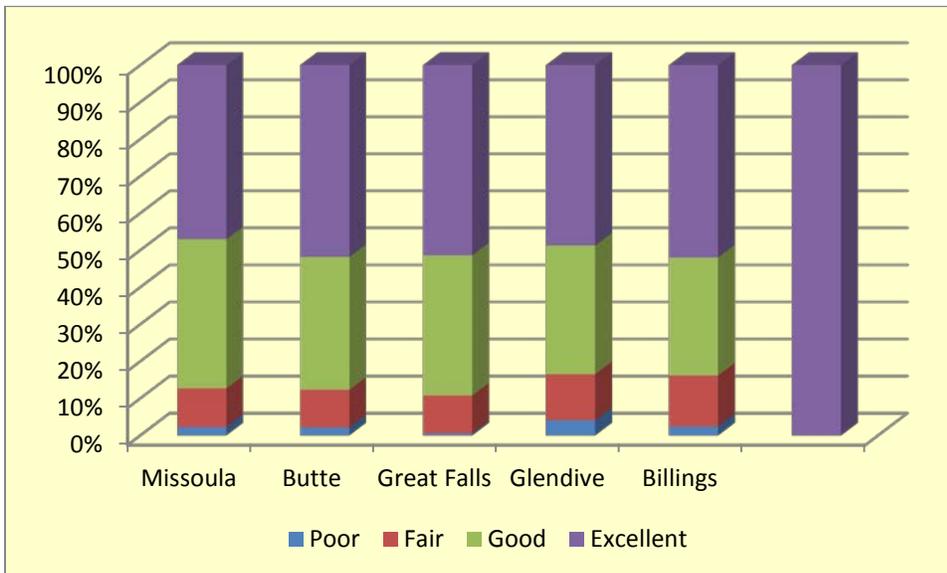
	Missoula	Butte	Great Falls	Glendive	Billings	OVERALL
Not Important	2%	2%	0%	4%	2%	2%
Somewhat Important	10%	10%	10%	12%	14%	10%
Important	40%	36%	38%	35%	32%	40%
Very Important	47%	52%	51%	49%	52%	47%

Discussion

Safety Priority - Percentage of Observations



Safety Priority - Percentage of Observations by Administrative District



Montana Resident's Underlying Views and Preferences on Road Maintenance

A primary goal of this survey is to determine MT residents' views and perspectives on the MT road maintenance. The detailed categories of road quality, from Winter Maintenance through Pavement Markings, asks those interviewed to systematically evaluate these maintenance dimensions of MT's roads. By requesting that those surveyed rate these dimensions on a standardized scale, we try to produce generalized results which may guide future efforts by the MDT.

There is, of course, the danger of reading too much into any single statistic, and this is why in this analysis report we have tried to avoid placing too much emphasis upon individual results. Given this, the following are general conclusions based upon evidence developed by this analysis:

1. *The questions asked did a good job of determining how MT Residents viewed the conditions of MT's roads.*

Correlations between Rating, Priority, and Importance

	Priority-to-Importance	Rating-to-Priority	Rating-to-Importance
Winter Maintenance	0.3209	0.1009	0.0087
Surface	0.3233	0.0467	0.0203
Roadside	0.4159	-0.0568	0.0257
Signage	0.3867	0.0033	0.0926
Debris	0.3831	0.0600	0.1083
Rest Area	0.3721	0.0788	0.0964
Pavement Markings	0.4773	-0.0035	0.0301

The low correlation coefficients between 'Rating and Importance' and 'Rating and Priority' shows that those surveyed were able to differentiate between their Rating of current road maintenance conditions and views of each area's relative Importance and Priority.

There was some level of overlap between their scoring of a maintenance area's Priority and its Importance, with correlations ranging from 0.32 to 0.48. In the future, it might be useful to rewrite either or both of these question areas.

2. *In every maintenance area over one-half of those surveyed rated MT road maintenance as Good or Excellent.*

In fact, in several rating categories there were so few ratings of Poor that we needed to combine Poor and Fair responses in order to run statistical tests that require a minimum number of observations in each category in order to produce usable results.

3. *In many cases, residents in different Administrative Districts held different views on MT's road maintenance.*

In this document we break out average Ratings, Importance scores, and Priority scores if the Chi-Squared statistical test shows that the distribution of answers for each category (e.g. the percentage of Excellent Ratings for Signage) were significantly different for responses from each Administrative District. In these cases we discuss how districts compared based upon their average score for this maintenance area. We advise the reader to not get too caught up in small differences in relative ranking, such as the difference between having the third- as opposed to fourth-highest Rating in some area, since sometimes these differences in average score are small. Instead, focus upon the outliers or differences between the top and bottom score.

4. *Residents have a fairly clear hierarchy of what they consider to be the most important aspects of MT road maintenance.*

Ranking Based Upon Average of Importance and Priority

	Rating	Importance	Priority
Winter	5	1	1
Pavement Marker	3	2	2
Debris	6	3	4
Surface	8	4	6
Rate Crew	4	7	3
Rest Area	1	6	5
Signage	2	5	7
Roadside	7	8	8

The combined average scores for Importance and Priority suggests that those surveyed rank Winter Maintenance, Pavement Marking, Debris Removal, and Surface Maintenance as the most important and highest-priority issues in MT roadway maintenance.

5. *Residents' overall Rating of MT's road maintenance is largely based upon how they rate Road Surface Maintenance and Winter Maintenance and to a lesser degree Pavement Marking, Roadside, and Signage maintenance.*

In the Appendix of this document we report upon a model built to explore how respondents' rating of specific maintenance areas related to their overall road maintenance rating. (In this survey individuals were first asked for an overall rating and then to rate specific maintenance areas.) This model was fairly successful at predicting what an individual's overall rating based upon his or her ratings of, in order:

- 1st Surface Rating
- 2nd Winter Maintenance Rating
- 3rd Pavement Marker Rating
- 4th Roadside Rating
- 5th Signage Rating

Of these attributes, Surface Rating and Winter Maintenance Rating were the main drivers of Overall Rating, accounting for over 70% of the explained variation.

Comparisons of 2012 with Previous Survey Results

A comparison of the average scores on the 2012 results with those from the 2006, 2008, and MDT survey shows that several of the average ratings, priorities, and importance scores changed by statistically significant amounts between 2010 and 2012.

Comparison of Maintenance Conditions Ratings

	2006	2008	2010	2012
Winter	2.79	2.69	2.70	2.89+
Striping	2.85	2.87	2.93	2.99
Debris Removal	2.76	2.77	2.86	2.87
Surface	2.61	2.67	2.70	2.67
Signage	3.07	3.03	3.11	3.15
Rest Area	2.90	2.23	2.95	3.05
Roadsides	2.80	2.70	2.87	2.83
Road Crew			3.03	2.94-

Compared to 2010 responses, the 2012 average score for Winter Maintenance Conditions improved by a statistically-significantly amount while average Crew Ratings showed a statistically-significant decline.

Note that significant differences are shown surrounded by a box, followed by a plus (+) or minus (-) sign to signify if this was an increase or decrease from the 2010 value.

Comparison of Maintenance Importance Scores

	2006	2008	2010	2012
Winter	3.70	3.56	3.71	3.69
Striping	3.58	3.49	3.52	3.52
Information	3.51	3.22	3.21	3.23
Debris Removal	3.47	3.44	3.42	3.49+
Surface	3.35	3.40	3.34	3.34
Signage	3.28	3.31	3.26	3.32
Rest Area	3.19	2.75	3.20	3.25
Roadsides	2.99	3.01	3.01	3.02

In the 2012 survey the average score for the Importance of Debris Removal was significantly higher than it was in 2010.

Comparison of Maintenance Priority Scores

	2006	2008	2010	2012
Winter	3.66	3.56	3.68	3.72
Striping	3.42	3.32	3.31	3.31
Information	3.41	3.32	3.23	3.30+
Debris Removal	3.28	3.23	3.19	3.29+
Surface	3.08	3.12	3.01	3.11+
Signage	3.09	3.03	3.00	3.03
Rest Area	3.06	2.77	3.01	3.12+
Roadsides	2.81	2.70	2.72	2.75

Compared to the average scores from the 2010 survey, the 2012 average Priority scores for Information, Debris Removal, Rest Area, and Surface Maintenance were significantly higher.

As an alternative to mean-based comparisons, a composite score was created based upon adding the Rating, Importance, and Priority ranking scores in each maintenance category.

Comparison of 2006-2012 Scores Results (% of Responses)

Composite Score	Winter Maint	Winter Maint	Winter Maint	Winter Maint	Surface Maint	Surface Maint	Surface Maint	Surface Maint
	2006	2008	2010	2012	2006	2008	2010	2012
2	0.1%	0.29			0.1%	0.10		
3	0.7%	0.38		0.10	0.2%	0.29		
4	1.4%	1.44			0.4%	0.19	0.10	0.01
5	0.6%	0.87	0.11	0.10	1.2%	0.96	0.61	0.59
6	1.1%	1.83	1.05	0.69	4.3%	3.85	2.96	2.83
7	3.2%	2.41	1.26	1.88	11.3%	7.89	10.83	9.95
8	13.2%	7.41	6.62	5.64	24.4%	14.24	18.90	17.56
9	27.0%	16.27	16.07	14.05	29.2%	25.22	27.68	29.56
10	33.9%	26.66	25.84	28.19	16.1%	27.53	23.60	24.00
11	13.2%	32.05	35.82	33.33	9.4%	15.59	12.16	12.00
12	5.6%	9.72	13.24	16.02	3.4%	3.85	3.17	3.41

Comparison of 2006-2012 Scores Results (% of Responses)

Composite Score	Roadside Maint	Roadside Maint	Roadside Maint	Roadside Maint	Road Sign Maint	Road Sign Maint	Road Sign Maint	Road Sign Maint
	2006	2008	2010	2012	2006	2008	2010	2012
2	0.1%	0.48			0.0%	0.10		
3	0.6%	0.48	0.1		0.4%	0.10		
4	2.3%	1.15	0.72	0.79	0.6%	0.58	0.10	0.10
5	5.0%	3.27	2.38	3.48	2.8%	0.87	0.72	0.98
6	9.6%	8.85	7.33	6.06	9.0%	2.41	2.47	2.64
7	21.3%	13.38	13.74	14.20	15.2%	7.41	8.22	8.31
8	23.8%	20.02	22.00	22.34	24.6%	15.21	15.93	12.41
9	19.1%	22.52	23.35	23.34	26.6%	22.23	23.74	22.09
10	11.6%	17.81	17.67	17.58	16.5%	24.35	23.33	26.10
11	4.7%	9.24	9.09	9.24	3.5%	19.54	18.29	18.48
12	1.8%	2.41	3.62	2.98	0.7%	6.93	7.19	8.90

Comparison of 2006-2012 Scores Results (% of Responses)

Composite Score	Debris Maint	Debris Maint	Debris Maint	Debris Maint	Rest Area Maint	Rest Area Maint	Rest Area Maint	Rest Area Maint
	2006	2008	2010	2012	2006	2008	2010	2012
2	0.1%	0.10			1.9%	1.54		
3	0.1%	0.29			3.1%	4.81		
4	0.1%	1.25	0.51	0.19	2.4%	3.37	0.24	0.34
5	0.8%	2.69	0.92	0.87	3.3%	2.79	0.96	1.12
6	4.7%	7.70	2.87	2.13	9.3%	5.77	3.59	3.81
7	11.2%	12.13	6.66	5.33	14.0%	7.51	10.29	7.85
8	19.1%	21.94	12.60	13.48	23.7%	14.82	16.15	13.57
9	26.4%	23.48	25.20	20.85	22.0%	15.78	24.76	22.98
10	23.3%	22.91	22.44	25.61	13.3%	17.04	22.25	21.75
11	10.9%	7.12	19.88	21.24	4.2%	13.28	14.71	18.16
12	3.3%	0.10	8.91	10.28	1.9%	5.29	7.06	10.43

Comparison of 2006-2012 Scores Results (% of Responses)

Composite Score	Road Stripe Maint	Road Stripe Maint	Road Stripe Maint	Road Stripe Maint
	2006	2008	2010	2012
2				
3	0.1%	0.10		
4	0.2%	0.10	0.20	
5	1.1%	0.58	0.61	0.97
6	2.8%	2.41	1.43	1.66
7	7.7%	5.39	4.50	3.80
8	17.3%	9.91	10.43	10.23
9	29.4%	19.92	21.68	21.64
10	27.5%	26.18	27.40	25.83
11	9.4%	26.37	26.18	24.85
12	4.4%	8.37	7.57	11.01

Using the percentage of respondents with each composite score, it is possible to compare maintenance category results since the 2006 survey. Using this method, the distribution of composite scores for Winter Maintenance, Signage, Debris Removal, Road Striping and Rest Area Maintenance tended to show higher values by a statistically-significant amount.

Comparisons with 2000-2012 Ratings

The following table shows the percentage of Good or Excellent ratings given in each maintenance ratings category for the surveys conducted in 2000 through 2012.

12-Year Comparison of Maintenance Conditions Ratings

Good or Excellent Rating	2000	2002	2004	2006	2008	2010	2012
Signage	88%	88%	88%	87%	86%	87%	89%
Information	78%	82%	81%	77%			75%
Rest Area	60%	70%	77%	77%	76%	66%	81%
Pavement Markers	68%	78%	77%	76%	78%	78%	81%
Roadside	70%	72%	77%	72%	69%	73%	70%
Winter Maintenance	69%	68%	70%	69%	73%	71%	73%
Debris Removal	64%	68%	70%	69%	72%	72%	70%
Pavement	45%	50%	59%	61%	61%	66%	65%

The percentage of respondents answering that Rest Area and Pavement Marker (Striping) Maintenance was Good or Excellent grew by statistically-significant amounts compared to 2010 results.

Discussion

These different methods of measuring the changes in survey responses between 2010 and 2012 produced the following general results:

- Winter Maintenance, Pavement Markings, and Rest Area Maintenance Ratings showed improvement while Road Crew Ratings declined.
- Debris Removal Importance increased.
- The Priority for Road Information, Road Surface, and Rest Area Maintenance increased.

Additional Questions

A number of additional survey questions were asked to examine residents' driving habits and views on safety laws and accident causes.

Questions

- Have you driven on roadways in states other than Montana in the last 12 months?
- Which of the following types of trips would you say is most typical of your driving?
- Would you say you drive more or less than 15,000 miles per year?
- Would you support a Primary Seat Belt law for the state of Montana?
- Could you tell us why you are against a primary seat belt law? **(If they answered 'No' to the previous question)**
- Do you support a primary law for child restraint in motor vehicles?
- Which best describes your use of seat belts. You wear a seat belt...
- Which of the following do you believe is the most frequent number of fatal crash?
- I would like to know which you think is the most frequent cause, the second most frequent cause and the third most frequent cause.

Have Driven in State Other Than Montana in Past 12 Months

	Frequency	Percent
Yes	807	78%
No	227	22%
Total	1034	100%

Seventy-eight percent (78%) of those surveyed reported driving in another state in the past 12 months. This is an increase from 2010, when 74% reported driving elsewhere.

Total Miles Driven in Past 12 Months

	Frequency	Percent
More than 15,000	479	47%
Less than 15,000	539	53%
Total	1018	100%

Just under one-half (47%) of survey respondents reported driving over 15,000 miles in the past year. There was not a significant difference in this percent compared to 2010.

Most Frequent Type of Automobile Trip in Past 12 Months

	Frequency	Percentage
Personal/Family	611	51%
Work Commute	255	21%
Work Related	175	14%
Agriculture Related	76	6%
Professional Driving	51	4%
Other	41	3%
Total	1209	100%

Slightly over one-half (51%) of those surveyed chose Personal/Family as their most frequent type of automobile trip. Note that they could choose more than one answer for this question.

Support for Child Restraint Law

	Frequency	Percent
Yes	938	92%
No	78	8%
Total	1016	100%

Support for Child Restraint Laws remains high (92%) and consistent with 2010 values (90%)

Support for Primary Seatbelt Law

	Frequency	Percent
Yes	509	51%
No	493	49%
Total	1002	100%

Just over one-half of those surveyed (51%) reported support for a Primary Seat Belt Law and this percentage declined from 2010 (55%) by a significant amount.

Reasons Opposed to Primary Seatbelt Law

	Frequency	Percent
Individual Right	278	58%
Other	169	35%
Not Necessary in Rural Area	17	4%
Don't Believe in Seatbelts	10	2%
Racial Profiling	8	2%
Total	482	100%

The most frequently chosen reason to oppose these laws were Individual Rights (58%), followed by Other.

Frequency of Seatbelt Use

	Frequency	Percent
All the Time	708	68%
Most of the Time	227	22%
Half the Time	47	5%
Less than Half the Time	21	2%
Rarely or Never	38	4%
Total	1041	100%

Over two-thirds (68%) of respondents reported always using seat belts and another 22% reported using them Most of the Time. These results have not changed significantly since 2010.

Most Frequent Cause of Automobile Accidents

	Frequency	Percent
One vehicle Roll-over	377	42%
Two Vehicles Collide	310	34%
One Vehicle and Fixed Object	162	18%
One Vehicle and Motorcycle	30	3%
Single Motorcycle	12	1%
Vehicle Strikes Pedestrian	8	1%
Total	899	100%

Forty-two percent (42%) of those surveyed chose One Vehicle Roll-over as the most frequent cause of automobile crashes, followed by Two Vehicles Collide (34%) and One Vehicle and Fixed Object (18%).

Discussion

Compared to 2010, a larger percentage of those surveyed had driven in another state in the past year and also in 2012 a smaller percentage agreed with primary seat belt laws. Individual Rights were chosen as the reason by 58% of those who opposed primary seat belt laws. However there was no difference in their reported personal use of seat belts, with 68% reporting using them All the Time.

Conclusion

The results of the 2012 MT Highway Maintenance Survey show that overall; in every maintenance area, the majority of MT residents rate MDT's performance as Excellent or Good. Road Surface and Winter Maintenance remain the most important factors in determining an individual's Overall Maintenance Rating. There are some regional variations in the Importance and Priority of certain maintenance activities, most clearly seen in heightened perceptions among Glendive Region residents concerning Roadside Maintenance.

Statistical Appendix of Results

The rest of this document contains tables of the statistical results of the 2012 Maintenance survey and analysis.

Basic Statistics

Ratings

Variable	Mean	Std Dev
Rest Area Rating	3.05	0.75
Signage Rating	3.15	0.65
Pavement Marker Rating	2.99	0.69
Rate Crew	2.94	0.88
Winter Rating	2.89	0.79
Debris Rating	2.87	0.82
Roadside Rating	2.83	0.79
Overall Rating	2.83	0.65
Surface Rating	2.67	0.74

Importance

Variable	Mean	Std Dev
Winter Importance	3.69	0.63
Overall Importance	3.53	0.66
Pavement Marking Import.	3.52	0.68
Debris Importance	3.49	0.67
Surface Importance	3.34	0.73
Signage Importance	3.31	0.77
Rest Area Importance	3.20	0.87
Information Importance	3.21	0.96
Roadside Importance	3.00	0.87

Priority

Variable	Mean	Std Dev
Winter Priority	3.71	0.53
Pavement Marking Priority	3.30	0.80
Information Priority	3.28	0.83
Debris Priority	3.28	0.80
Rest Area Priority	3.08	0.80
Surface Priority	3.09	0.71
Signage Priority	3.01	0.89
Roadside Priority	2.73	0.85

Mean Scores by Administrative District

	Administrative Region				
	Missoula	Butte	Great Falls	Glendive	Billings
Overall Rating	2.77	2.93	2.84	2.73	2.86
Overall Importance	3.48	3.55	3.62	3.55	3.49
Travel to Other State	1.18	1.25	1.25	1.22	1.23
General Comparison	2.09	2.29	2.19	2.02	2.09
Winter Rating	2.88	3.06	2.98	2.85	2.88
Winter Importance	3.67	3.74	3.78	3.72	3.62
Winter Priority	3.69	3.75	3.78	3.68	3.71
Winter Comparison	2.59	2.73	2.57	2.49	2.51
Surface Rating	2.54	2.82	2.76	2.56	2.78
Surface Importance	3.32	3.34	3.40	3.28	3.32
Surface Priority	3.09	3.02	3.16	3.07	3.18
Roadside Rating	2.86	2.98	2.90	2.71	2.85
Roadside Importance	2.95	2.95	3.07	3.26	3.01
Roadside Priority	2.63	2.77	2.76	2.95	2.78
Signage Rating	3.14	3.11	3.25	3.14	3.11
Signage Importance	3.31	3.29	3.37	3.42	3.23
Signage Priority	2.92	3.04	3.11	3.03	3.07
Debris Rating	2.86	2.91	3.01	2.80	2.83
Debris Importance	3.51	3.45	3.54	3.47	3.45
Debris Priority	3.25	3.28	3.42	3.23	3.25
Rest Area Rating	3.34	3.32	3.34	3.34	3.31
Rest Area Importance	3.22	3.26	3.34	3.22	3.22
Rest Area Priority	3.02	3.16	3.17	3.11	3.19
Rest Area Comparison	2.59	2.73	2.57	2.49	2.75
Pavement Marker Rating	2.89	3.06	3.07	3.02	3.01
Pavement Marker Importance	3.53	3.51	3.56	3.55	3.48
Pavement Marker Priority	3.33	3.28	3.33	3.29	3.32
Information Importance	3.04	3.28	3.34	3.26	3.37
Information Priority	3.17	3.33	3.41	3.28	3.36

Ranking by Administrative District (When Statically-Significant)

	Administrative Region				
	Missoula	Butte	Great Falls	Glendive	Billings
Overall Rating	4	1	3	5	2
Overall Importance					
Travel to Other State					
General Comparison					
Winter Rating	4	1	2	5	3
Winter Importance*					
Winter Priority*					
Winter Comparison	2	1	3	5	4
Surface Rating	5	1	3	4	2
Surface Importance					
Surface Priority					
Roadside Rating					
Roadside Importance	4	3	2	1	5
Roadside Priority	5	3	2	1	4
Signage Rating	3	2	1	5	4
Signage Importance					
Signage Priority					
Debris Rating					
Debris Importance					
Debris Priority					
Rest Area Rating					
Rest Area Importance					
Rest Area Priority	5	3	1	4	2
Rest Area Comparison	3	2	1	5	4
Pavement Marker Rating					
Pavement Marker Importance					
Pavement Marker Priority					
Information Importance	5	4	1	3	2
Information Priority					
Rate Crews					

* = There were so few poor and fair observations in this category that the statistical tests would not produce reliable results.

Other Statistically-Significant Differences

	Sex M or F	Rural/Urban	Age
Overall Rating			
Overall Importance			
Travel to Other State	Males Travel More		
General Comparison			50 + Higher
Winter Rating			50+ Higher
Winter Importance	Females Higher		50+ Lower
Winter Priority	Females Higher		
Winter Comparison	Males Said MT Roads Better		
Surface Rating		Urban Higher	
Surface Importance			50 + Higher
Surface Priority		Urban Higher	50 + Higher
Roadside Rating			
Roadside Importance	Females Higher	Urban Lower	50 + Higher
Roadside Priority		Urban Lower	50 + Higher
Signage Rating			
Signage Importance	Females Higher		50 + Higher
Signage Priority	Females Higher		50 + Higher
Debris Rating			
Debris Importance	Females Higher		
Debris Priority	Females Higher		50 + Higher
Rest Area Rating			50 + Higher
Rest Area Importance			50 + Higher
Rest Area Priority			50 + Higher
Rest Area Comparison			50 + Lower
Pavement Marker Rating			
Pavement Marker Importance			50 + Higher
Pavement Marker Priority	Females Higher		50 + Higher
Information Importance	Females Higher		
Information Priority	Females Higher		
Rate Crews			50 + Higher

Other Statistically-Significant Differences (continued)

	Education	10 + Year Residents
Overall Rating	CG Higher	
Overall Importance		
Travel to Other State		Higher
General Comparison		
Winter Rating		
Winter Importance		
Winter Priority		
Winter Comparison		Higher
Surface Rating	CG Higher	
Surface Importance		
Surface Priority		
Roadside Rating		
Roadside Importance		Higher
Roadside Priority	CG Lower	Higher
Signage Rating		
Signage Importance		
Signage Priority	CG Lower	
Debris Rating		
Debris Importance		
Debris Priority		
Rest Area Rating		
Rest Area Importance		
Rest Area Priority	CG Lower	Higher
Rest Area Comparison		Lower
Pavement Marker Rating		
Pavement Marker Importance		
Pavement Marker Priority		
Information Importance		
Information Priority		
Rate Crews		

Modeling Overall Maintenance Ratings

The following are the results of the final model used to predict Overall Maintenance Ratings based upon an individual's rating of the other maintenance areas.

Model 2: Ordered Logit, using observations 1-1044 (n = 1039)

Missing or incomplete observations dropped: 5

Dependent variable: Overall_Rating

QML standard errors

	<i>Coefficient</i>	<i>Std. Error</i>	<i>z</i>	<i>p-value</i>	
WinterMaintenan	0.586524	0.102446	5.7252	<0.00001	***
SurfaceRating	1.43519	0.140859	10.1888	<0.00001	***
RoadsideRating	0.310534	0.109566	2.8342	0.00459	***
SignageRating	0.278276	0.130405	2.1339	0.03285	**
DebrisRating	0.176683	0.0977621	1.8073	0.07072	*
RestAreaRating	0.019352	0.0706252	0.2740	0.78408	
PavementMarkerR	0.382457	0.106576	3.5886	0.00033	***
cut1	3.85145	0.527811	7.2970	<0.00001	***
cut2	7.59573	0.578063	13.1400	<0.00001	***
cut3	11.8613	0.697299	17.0103	<0.00001	***
cut4	17.2737	1.36661	12.6398	<0.00001	***
Mean dependent var	2.831569	S.D. dependent var	0.655145		
Log-likelihood	-783.4099	Akaike criterion	1588.820		
Schwarz criterion	1643.226	Hannan-Quinn	1609.459		

Number of cases 'correctly predicted' = 737 (70.9%)

Likelihood ratio test: Chi-square(7) = 814.52 [0.0000]

Survey Script

The remainder of this document shows the interview script used in this survey. Note that the actual questions were presented on a computer screen and read aloud by the interviewer to the respondent.

2012 Interview Script

Hello, my name is _____ and I am calling from Montana State University, Billings. We are conducting a survey on attitudes and opinions of highway maintenance for the Montana Department of Transportation. The Department of Transportation wants the opinions of citizens of Montana about the condition of our roadways. Your participation in this survey will assist the department in establishing future priorities and enable the maintenance program to better use available resources. In order to interview the right person, I need to speak to the member of your household who is at home, over the age of 18, and has had the most recent birthday. Would that be you? If no, repeat above when new person answers phone.

Before I ask the first questions, let me explain that this survey deals only with maintenance of highways. Maintenance includes such things as maintaining the established roadway surface, snow and ice removal, removal of debris and litter, maintaining roadsides, repairing signs, re-painting roadway stripes and rest area maintenance. This survey does not deal with the construction of new highways nor construction of new rest stops. This survey only deals with interstates and state highways in Montana. We are not asking you about city streets or county roads, just interstates and state highways. Also, we are only interested in opinions based on your experiences with interstates and state highways in Montana in the last two years. Finally, your household was randomly selected by a computer and all your answers will remain anonymous.

How would you rate overall interstate and state highway maintenance in Montana?

- Poor
- Fair
- Good
- Excellent
- Don't know/No response

How important would you say interstate and state highway maintenance in Montana is to you?

- Not important
- Somewhat important
- Important
- Very important
- Don't know/No response

How would you rate winter maintenance of interstates and state highways in Montana? By winter maintenance, I mean snow and ice control including plowing, sanding, de-icing, and preventing drifting.

- Poor
- Fair
- Good
- Excellent
- Don't know/No response

How important would you say interstate and state highway winter maintenance is to you?

- Not important
- Somewhat important
- Important
- Very important
- Don't know/No response

How would you rate the surface of Montana's interstates and state highways? In making this rating, consider ride quality which is affected by potholes, ruts, bumps, cracks, etc.

- Poor
- Fair
- Good
- Excellent
- Don't know/No response

How important is the smoothness of Montana's interstates and state highways to you?

- Not important
- Somewhat important
- Important
- Very important
- Don't know/No response

How would you rate the management of interstate and state highway roadsides in Montana? Roadside management includes mowing shoulders and eliminating unwanted vegetation.

- Poor
- Fair
- Good
- Excellent
- Don't know/No response

How important is interstate and state highway roadside management in Montana to you?

- Not important
- Somewhat important
- Important
- Very important
- Don't know/No response

How would you rate the condition of interstate and state highway signs in Montana?

- Poor
- Fair
- Good
- Excellent
- Don't know/No response

How important is the condition of interstate and state highway signs to you?

- Not important
- Somewhat important
- Important
- Very important
- Don't know/No response

How would you rate the removal of debris such as litter, road kill, and fallen rocks on Montana's interstates and state highways?

- Poor
- Fair
- Good
- Excellent
- Don't know/No response

How important is the removal of debris on interstates and state highways in Montana to you?

- Not important
- Somewhat important
- Important
- Very important
- Don't know/No response

How would you rate the maintenance of rest areas on Montana interstates and state highways? Rest area maintenance includes cleaning rest areas and keeping rest areas in working order.

- Poor
- Fair
- Good
- Excellent
- Don't know/No response

How important is interstate and state highway rest area maintenance to you?

- Not important
- Somewhat important
- Important
- Very important
- Don't know/No response

How would you rate the condition of striping or pavement markings on Montana's interstates and state highways? Striping and lines include the middle lines (solid and skip), no-passing lines (solid), left turn lane lines, and shoulder lines.

- Poor
- Fair
- Good
- Excellent
- Don't know/No response

How important is interstate and state highway striping to you?

- Not important
- Somewhat important
- Important
- Very important
- Don't know/No response

How important is traveler information - road and weather condition and construction information to you?

- Not important
- Somewhat important
- Important
- Very important
- Don't know/No response

Now I am going to go back through the list of maintenance activities. This time, I want you to think about allocation of resources (labor, equipment, and materials) to each of the activities. For each activity, please tell me if you think it warrants a low, medium, moderately high, or very high resource priority when deciding how state highway maintenance resources should be utilized. Remember, we are only dealing with interstates and state maintained roadways.

What resource priority should be placed on interstate and state highway winter maintenance in Montana?

- Low
- Medium
- Moderately high
- Very high
- Don't know/No response

What resource priority should be placed on smooth pavement on interstates and state highways in Montana?

- Low
- Medium
- Moderately high
- Very high
- Don't know/No response

What resource priority should be placed on interstate and state highway roadside management in Montana?

- Low
- Medium
- Moderately high
- Very high
- Don't know/No response

What resource priority should be placed on repairing and replacing signs on interstates and state highways in Montana?

- Low
- Medium
- Moderately high
- Very high
- Don't know/No response

What resource priority should be placed on debris removal on interstates and state highways in Montana?

- Low
- Medium
- Moderately high
- Very high
- Don't know/No response

What resource priority should be placed on rest area cleanliness and maintenance on interstates and state highways in Montana?

- Low
- Medium
- Moderately high
- Very high
- Don't know/No response

What resource priority should be placed on roadway striping on interstates and state highways in Montana?

- Low
- Medium
- Moderately high
- Very high
- Don't know/No response

What resource priority should be placed providing accurate and up to date information about the current condition of state maintained highways in Montana?

- Low
- Medium
- Moderately high
- Very high
- Don't know/No response

How would you rate the traffic control while maintenance crews are working on interstates and state highways?

- Poor
- Average
- Good
- Very good
- Don't know/No response

A primary seat belt law allows a law enforcement officer to stop you and give you a ticket if you are not wearing your seat belt. A secondary seat belt law allows a law enforcement officer to give you a ticket for non-seat belt use only if he has already stopped you for some other offense, such as expired license tags. Currently Montana has a secondary seat belt law.

Would you support a primary seat belt laws for the state of Montana?

- Yes
- No
- Don't know/No response

Could you tell us why you are against a primary seat belt law?

- Don't believe in seat belts
- Individual rights/freedom - It's my choice
- Racial profiling
- Not necessary in a rural area
- Other
- Don't know/No response

Would you support a primary seat belt law for child restraint in motor vehicles?

- Yes
- No
- Don't know/No response

Which best describes your use of seat belts? You wear a seat belt.....

- All of the time
- Most of the time
- Half the time
- Less than half the time
- Rarely or never
- Don't know/No response

In Montana, which type of vehicle collisions do you think occur most frequently?

- Collision between two vehicles (including passenger car with a semi)
- One vehicle fixed object crash
- One vehicle roll-over crash
- Vehicle/pedestrian crash
- Don't know/No response

I am going to mention some possible causes of fatal crashes. I would like to know which you think is the most frequent cause, the second most frequent cause, and the third most frequent cause. MAKE SURE YOU MARK THE OPTIONS IN THE SAME ORDER THEY ANSWER

- Distracted or inattentive driving
- Driving under the influence
- Distracted by cell phone use (talking or texting)
- Falling asleep
- Speeding
- Road rage
- Passing
- Other
- Don't know/None of the above

Just a couple of more questions about interstate and state highway maintenance.

Have you driven on roadways in states other than Montana in the last 12 months?

- Yes
- No
- Don't know/No response

How would you compare general roadway conditions of Montana's state maintained roadways with the general roadway conditions of state maintained roadways in other states? IF THEY SAY THEY HAVE BEEN IN MORE THAN ONE STATE, ASK FOR A GENERAL COMPARISON. IF THEY CANNOT DO THAT, HAVE THEM COMPARE WITH THE STATE THEY DROVE IN MOST RECENTLY.

- Montana roadways are worse
- About the same
- Montana roadways are better
- Don't know/No response

How would you compare winter maintenance of Montana's state maintained roadways with winter maintenance of state maintained highways in other states?

- Montana winter maintenance is worse
- About the same
- Montana is better
- Don't know/No response

How would you compare rest area cleanliness and maintenance in Montana with rest area cleanliness and maintenance in other states?

- Montana rest areas are worse
- About the same
- Montana is better
- Don't know/No response

How often did you use the rest areas in Montana in the last 12 months?

- One to two
- Three to four
- Five to 10
- 10 or more
- Don't know/No response

The Department of Transportation is striving to improve maintenance operations. In your opinion, what could the department do better?

What is the department doing that meets or exceeds your expectations?

As you probably know, different types of people have different types of opinions. The following questions are for statistical purposes only.

Which of the following types of trips would you say is most typical of your driving?

- Commuting to and from work
- Work related trips, that is trips that are made as a part of work activities
- Personal and family errands or trips
- Agriculture related trips
- Professional driving
- Other
- Don't know/No response

Would you say you drive more or less than 15,000 miles per year?

- More
- Less
- Don't know/No response

Compared to previous years, in the past 12 months, would you say that you are.....

- Driving more
- Driving less
- No change

Are you doing any of the following to mitigate or offset the cost of fuel?

- Driving less
- Driving a fuel efficient vehicle
- Carpooling
- Using alternative fuel
- Bicycling
- Walking
- Using other means of transportation (e.g. bus, dial-a-ride)
- Other
- No change
- Don't know/No response

How would you rate your success in reducing your fuel consumption?

- Very successful
- Somewhat successful
- No change in my fuel consumption
- Somewhat unsuccessful
- Very unsuccessful
- Don't know/No response

How old are you?

What is the highest level of education you have completed?

How long have you lived in Montana?

Respondents sex (DON'T READ)

The Montana Department of Transportation may make changes in the way it allocates resources based on the results of this study. Would you be willing to participate in a follow up study so that we can see if your opinions of highway maintenance change in the next two years/ I would like to reassure you that all information will be kept confidential and will not be released for any other purpose.

- Yes
- No

In order to include you in the follow up study, I will need your name, address, and telephone number.

That was the last question. Thank you very much for taking the time to answer these questions. Good bye and have a nice evening.

ⁱ http://missoulian.com/news/local/montana-sees-greatest-improvement-in-college-graduation-rates-in-u/article_8e539f58-cc99-11e1-9b21-0019bb2963f4.html

ⁱⁱ In our survey we purchased lists of telephone numbers known to be from cell phone exchanges, but many of the numbers from lists of landline exchanges included cell phone numbers of people who had ported their previous landline to now ring to their cell phone.

ⁱⁱⁱ In exploring differences by Administrative District, we would, if necessary, collapse the categories (such as combining Poor and Fair) in order to have sufficient observations for your statistical tests. In a few categories it would have required us to combine so many categories that most of the power of the statistical test would be lost.