

**The Maryland State Highway Administration
Customer Satisfaction Survey Report
Statewide Results**

Schaefer Center for Public Policy

Revised February 2015

State Highway Administration
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Submitted to:

Becky Burk

Performance Excellence Manager
Maryland State Highway Administration
707 N. Calvert Street, C-400
Baltimore, MD 21202
Phone: (410) 545-5691
BBurk@sha.state.md.us

Submitted by:

William Wells, M.P.A.

Survey Research Manager
Schaefer Center for Public Policy
1402 N. Charles Street
Baltimore, Maryland 21201
410-837-6188
wwells@ubalt.edu

The chief researchers for the survey were Dr. Ann Cotten, Dr. Don Haynes, and William Wells, M.P.A. The survey was conducted through the Schaefer Center's Computer Aided Telephone Interviewing (CATI) lab, with all programming, analysis, and report generation being performed by the Schaefer Center for Public Policy. The research team would like to thank Becky Burk and everyone at SHA for their efforts and collaboration on this project, as well as the professional staff at the Schaefer Center CATI Lab and Graduate Fellows Ryan Fredriksson, Sarah Scholl, Kenneth Weaver, and Emmanuel Welsh.

The Schaefer Center implemented this project in full compliance with the standards and best practices as adopted by the American Association for Public Opinion Research (AAPOR). A full explanation of these standards may be found on AAPOR's website: <http://aapor.org/home.htm>.

ABOUT THE SCHAEFER CENTER FOR PUBLIC POLICY

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For information about contracting with the Schaefer Center, please contact the Center director, Ann Cotten, at 410-837-6185 or acotten@ubalt.edu.

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EXECUTIVE SUMMARY

The Schaefer Center for Public Policy, in collaboration with the Maryland Department of Transportation State Highway Administration (SHA), conducted an external customer satisfaction survey of Maryland residents with valid Maryland driver's licenses between 18 and 99 years of age. The purpose of this statewide telephone survey was to gauge general customer satisfaction with and opinions about SHA operations across the state of Maryland.

The Schaefer Center used a sample of list-assisted, random numbers sufficient to obtain the necessary number of completed interviews. The survey itself contained over 60 possible questions (depending on skip patterns). Interviews were conducted between June 14, 2014 and August 7, 2014 and resulted in 808 completed surveys. Statewide responses were weighted to more closely reflect the age distribution of the population(s) being studied. The survey has a +/- 3.45% margin of error at the 95% confidence interval.

Respondents placed high importance on the following SHA responsibilities (over 93% stated that the responsibility was either "important" or "extremely important"):

- Maintaining roadways (98%)
- Keeping bridges safe (98%)
- Clearing the road after a crash (98%)
- Plowing, salting, and sanding of snow-covered roadways (97%)
- Providing roadway features (93%)
- Managing traffic with tools such as signals and passing and turning lanes (93%)

Overall, SHA performed well. Seventeen percent (17%) of the respondents gave SHA an "A" for all the services it provides and 54% of the respondents gave SHA a "B." The SHA responsibilities below were those that received the highest grades. Percentages indicate those who gave SHA a grade of "A" or "B."

- Providing roadway features (82%)
- Installing road signs (81%)
- Plowing, salting, and sanding of snow-covered roadways (80%)
- Managing traffic with tools such as signals and passing and turning lanes (78%)
- Clearing the road after a crash (76%)
- Setting speed limits (76%)

MAJOR FINDINGS

One of the primary goals of the customer satisfaction survey is to assess what SHA services are most important to Marylanders and how Marylanders rate SHA’s performance in these key areas. From its strategic plan, SHA identified twenty-four key functions. For each function, respondents were asked to rate the importance of the function, using a four point scale (extremely important, important, somewhat important, or not at all important), and grade how well SHA performs the function, using a standard grading scale (A, B, C, D, and F).

Table 1, below, summarizes the results of these two questions. The functions in the table are listed in order of importance based upon the percentage of respondents who rated the function either “very important” or “important.” Next to the importance rating is the percentage of respondents who graded SHA’s performance of the function as either an “A” or “B.”

Table 1: SHA Functions in Order of Importance and Percent Graded “B” or Better

SHA Function	Extremely Important or Important	Grade A or B
Maintaining roadways	98%	60%
Keeping bridges safe	98%	74%
Clearing the road after a crash	98%	76%
Plowing, salting, and sanding of snow-covered roadways	97%	80%
Providing roadway features	93%	82%
Managing traffic with tools such as signals and passing and turning lanes	93%	78%
Installing road signs	88%	81%
Removing roadway & shoulder debris	87%	69%
Setting speed limits	84%	76%
Picking up litter	80%	72%
Providing travel information	80%	74%
Providing roadside emergency assistance	80%	74%
Protecting the environment during road construction	77%	70%
Cleaning stormwater that runs off the roads before it gets into streams	73%	61%
Replacing wetlands, streams and trees removed during roadside construction	70%	68%
Building roads	70%	67%
Providing sidewalks	69%	54%
Providing roadside maintenance	68%	70%
Building bridges	68%	66%
Building and maintaining roadside rest areas	60%	70%
Providing bike lanes and paths	49%	45%
Regulating placement of billboards and business signs	43%	62%
Providing roadside landscaping and wildflowers	39%	66%
Providing travel maps	29%	57%

Three of the 24 functions earned a grade of B or better from 80% or more of respondents. These three functions (plowing, salting, and sanding snow-covered roadways; installing road signs; and providing roadway features) all ranked among the ten most important functions.

Twenty-one (21) of the functions earned a grade of “B” or better from less than 80% of the respondents. Seven of these were ranked among the ten most important functions (maintaining roadways; removing roadway & shoulder debris; picking up litter; keeping bridges safe; clearing the roadway after a crash; setting speed limits; and managing traffic with tools such as signals and turning lanes). Once again, providing bike lanes and bike paths was the only function to earn a grade of “B” or better from less than half of respondents at 45%.

Maryland drivers again rated many of the “traditional” functions of highway management highly on the importance list. Keeping bridges safe, clearing the road after a crash, maintaining roadways, plowing/salting roads, managing traffic, and providing roadway features were rated as either “extremely important” or “important” by over 90% of respondents.

Less than half of the respondents reported that providing bike lanes and paths, regulating placement of billboards and business signs, providing roadside landscaping and wildflowers, and providing travel maps were “important” or “extremely important.”

Chart 1: Top Ten Most Important SHA Responsibilities

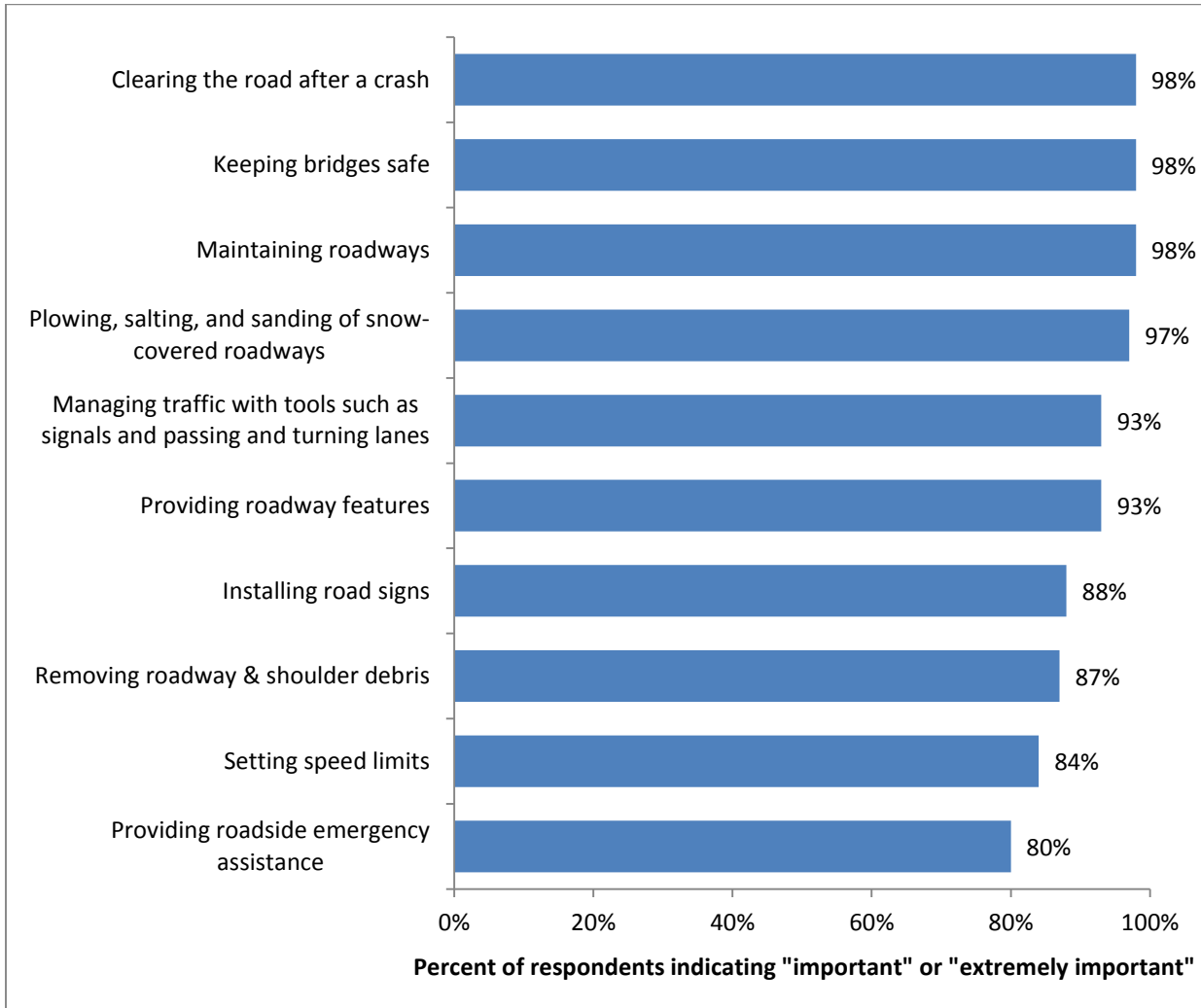
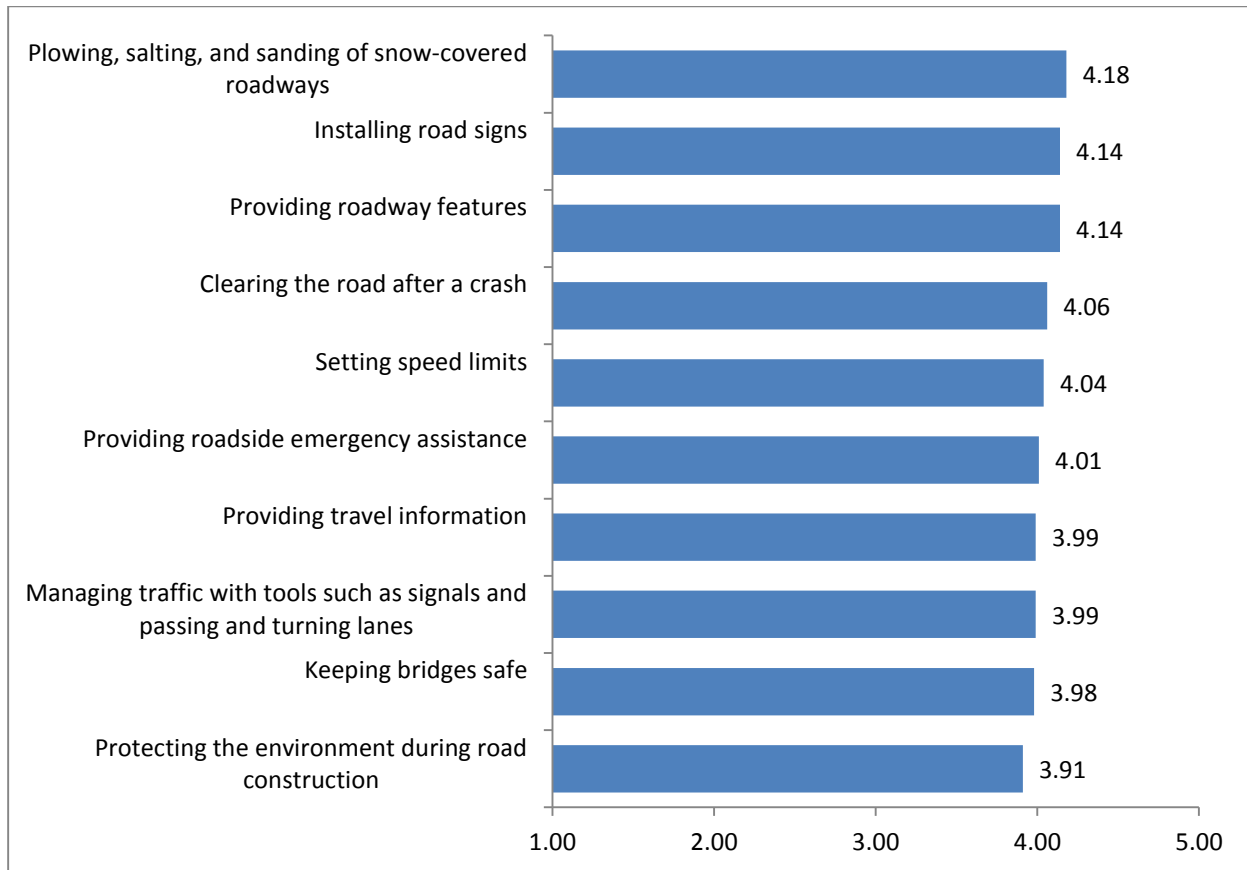


Chart 1 is a graphical depiction of SHA’s 10 most important functions as identified by survey respondents.

Of the top ten most important responsibilities, the highest graded responsibility was providing roadway features (82%), installing road signs (81%), and plowing, salting, and sanding of snow-covered roadways (80%).

Chart 2 depicts the average rating (grade) for the ten SHA responsibilities that had the highest average grade. The grade scale follows a typical grading scheme, allowing a respondent to assign an A, B, C, D or F to each function. In order to facilitate comparisons between the ratings of the different functions, a numeric scale has been applied where an “A” is equal to “5,” a “B” is equal to “4,” a “C” is equal to “3,” a “D” is equal to “2,” and an “F” is equal to “1.” The mean rating is the function’s performance score on a 1 to 5 point scale with 5 being the highest score.

Chart 2: Highest Rated SHA Responsibilities ¹



In addition to being asked about their satisfaction with specific services, all respondents were also asked a global satisfaction question about their overall satisfaction with all of the services that SHA provides. These results are presented in charts 3 and 4.

Respondents were asked to indicate on the same five point grading scale, what overall grade they would give SHA for all of the services that SHA provides. Over three quarters of respondents graded SHA a “B” or better, with almost two-thirds indicating a “B.” A slightly higher percentage of respondents gave SHA a “C” (23%) than those who gave SHA an “A” (17%). A statistically insignificant percentage of respondents indicated that they would give SHA a grade of “D” (3%) or “F” (1%) on its overall performance. These results are similar as those in 2012.

¹ These scores are the mean scores for each category, based on a conversion of the A, B, C, D and F scale to a numeric scale where A=5, B=4 C=3, D=2 and F=1

Chart 3: Overall Grade for all SHA Services

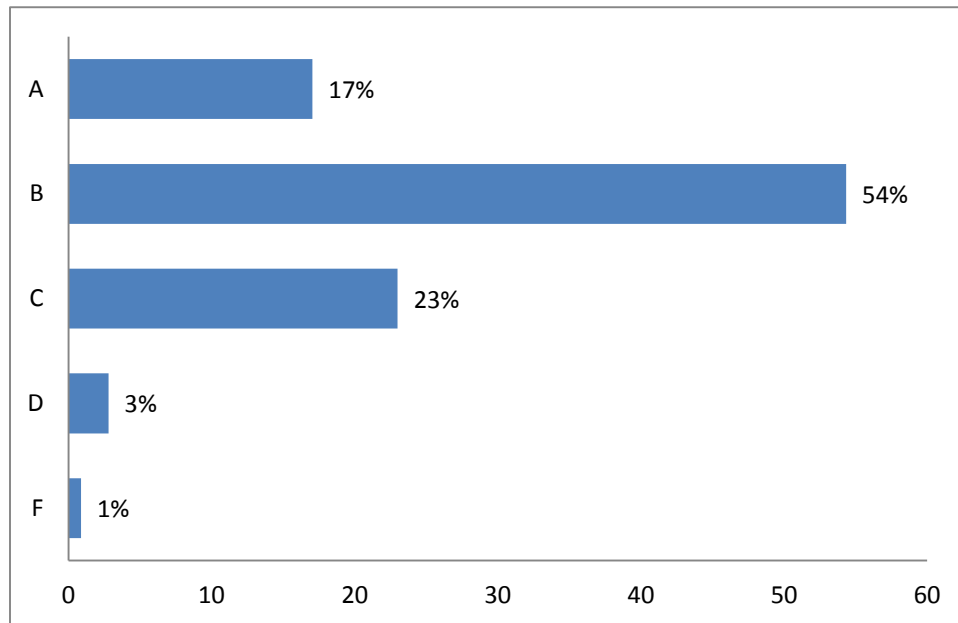
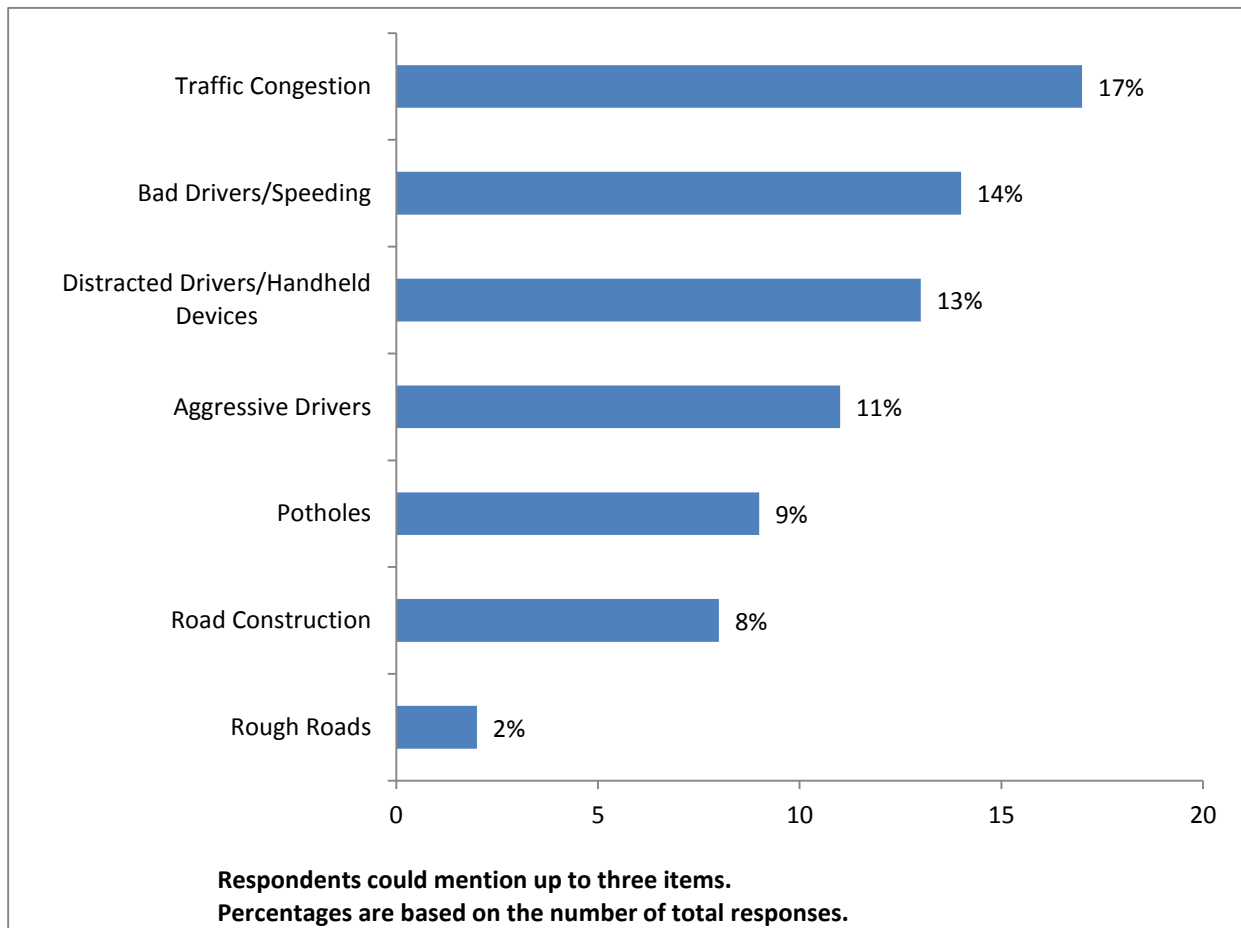


Chart 4: What Interferes Most with Driving

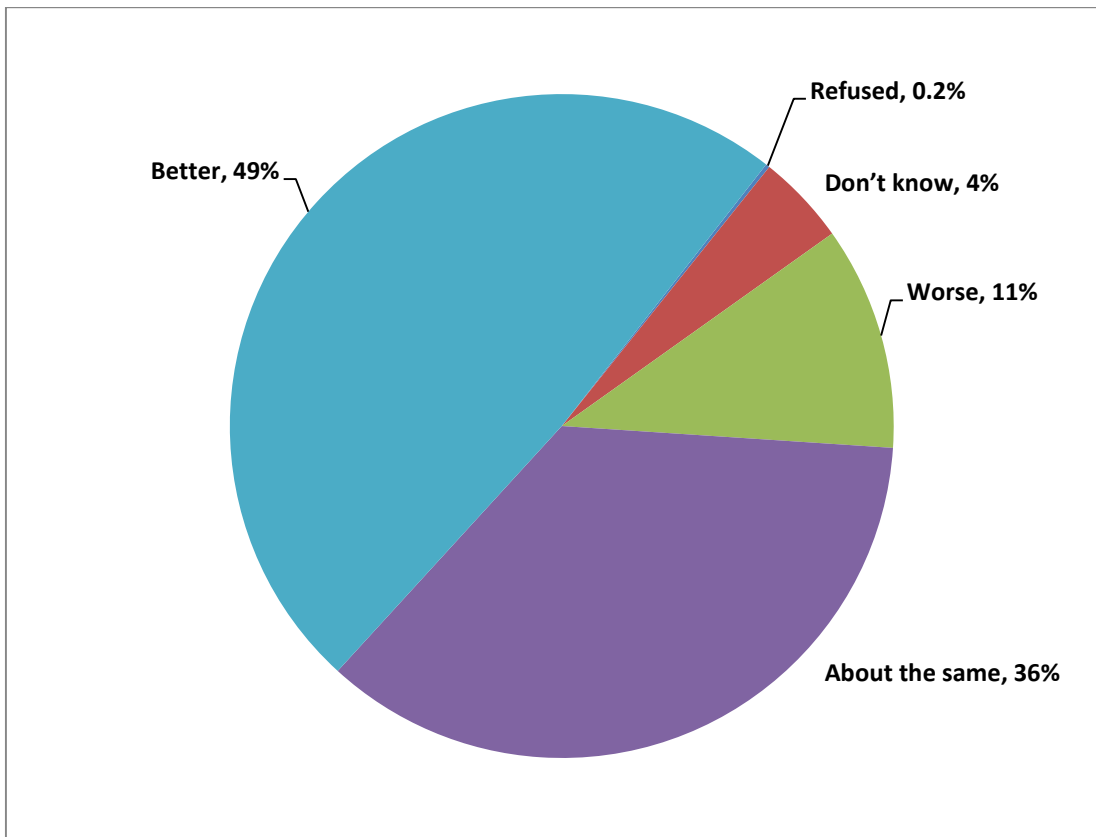


By going through and classifying all of the responses originally recorded as “Other,” a more accurate depiction of what people feel interferes with driving was obtained (Chart 4). After this process, very few responses were categorized as “Other,” allowing many responses to be housed appropriately in preexisting or newly created categories. Of all responses given, the most frequent was traffic congestion (17%). However, the top three concerns from drivers, traffic congestion, bad drivers/speeding (14%), and distracted drivers/handheld devices (13%), were all rated fairly close to each other. Of the top seven concerns, three can be classified as actions by the driver, three can be classified as road conditions, and one can be classified as a traffic concern. Overall, people were more concerned with the poor decisions and actions of other drivers than the conditions of the roads. Nevertheless, concerns with traffic congestion trumped all other responses.

All seven of the top responses for what interferes with driving have appeared in previous years as top concerns for drivers. The main difference between this year’s results and that of previous years is the total percentage of people concerned with traffic congestion has come down considerably and people’s concerns for distracted drivers has gone up considerably. Concerns for bad drivers and aggressive drivers collectively have remained similar to previous years.

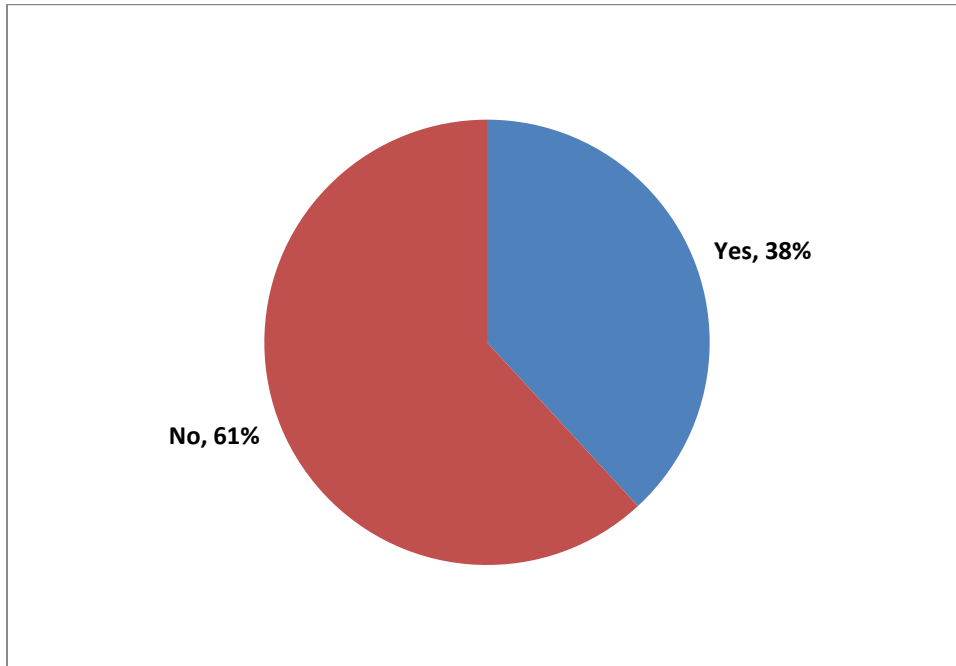
Overall, the majority of people would give SHA a B for all its services on an A-F grading scale as seen in Chart 3. Only 4% of those surveyed would give the SHA a grade lower than a C. Meanwhile, 17% feel the SHA deserves an A, and 23% feel the SHA deserves a C. The results coincide with previous years, with most people electing to give SHA a B, and no major changes occurring in the other grade levels.

Chart 5: How are Maryland Roads Compared to Other States?



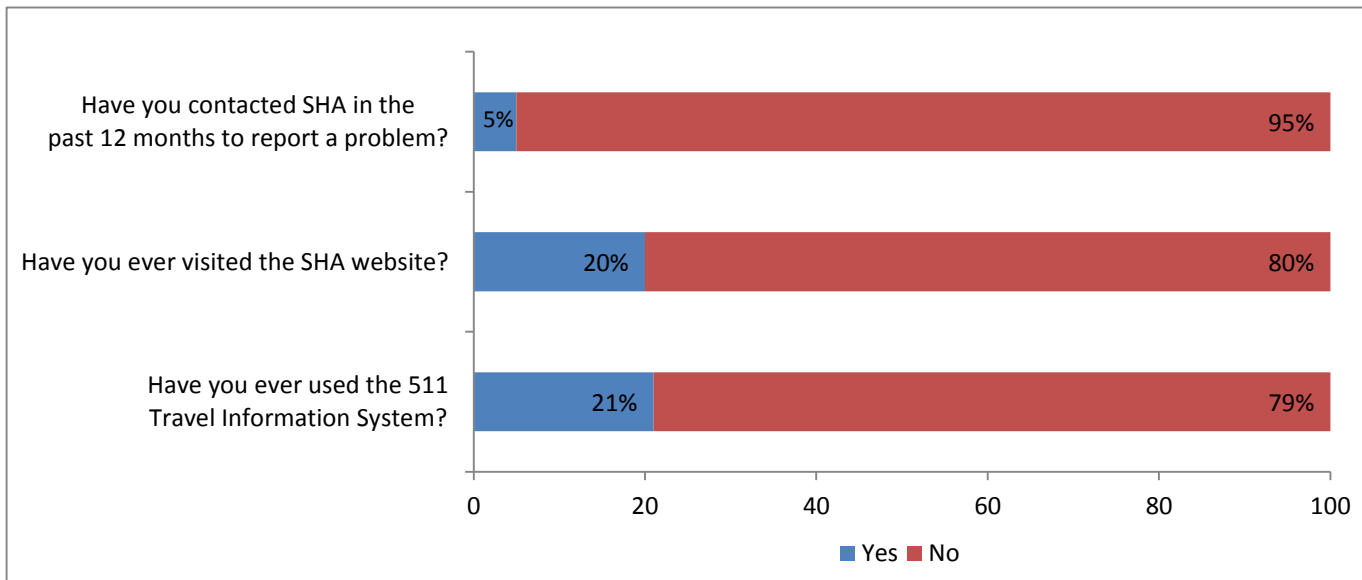
Every respondent was asked to compare Maryland roads to similar roads in other, nearby states. Almost half indicated that they believed that Maryland roads were better than those in other, nearby states (49%). Slightly fewer thought that Maryland roads were about the same as the roads in other, nearby states (36%), while only 11% felt that Maryland roads were worse. These results are virtually identical to those from 2012.

Chart 6: Before Now, Have You Heard of the 511 Travel Information System?



All respondents were asked about the 511 Travel Information System. All respondents were asked if they had previously heard of the Maryland 511 Travel Information System. One-third of Maryland drivers surveyed indicated that they had heard of the 511 system, prior to the interview.

Chart 7: Contacting the SHA.



A new question in this year’s survey pertains to whether or not respondents had contacted the SHA to make a complaint regarding highway conditions. Only five percent (5%) indicated that they had. As in previous years, all respondents were asked if they had ever visited the SHA website. Twenty percent of respondents (20%) indicated that they had. Of the third who responded “yes” to having heard of the 511 Travel Information System, 21% indicated that they had actually used the 511 system.

STATEWIDE SHA ATTAINMENT REPORT INDEX SCORE

SHA requested that the Schaefer Center develop an overall customer satisfaction measure for SHA based on the SHA Responsibilities/Functions displayed in Table 1. Since respondents were asked to rate the importance of each of the 24 functions, these importance ratings are used to modify the actual grades respondents assigned to each function. In this manner, those functions that were most important to respondents had a greater impact on the calculation of satisfaction than those functions that were identified by respondents as being less important. We first calculated a factor for each of the SHA functions, the Weighting Factor (WF), which was computed by dividing each function's Mean Importance Rating (MIR) by the sum of all 24 MIRs.

Table 2: Calculation of Weighting Factor for Overall Customer Satisfaction Index

SHA function	Mean Importance Rating	Weighting Factor (WF)
Keeping bridges safe	3.82	5.06%
Plowing, salting, and sanding of snow-covered roadways	3.77	5.00%
Clearing the road after a crash	3.76	4.99%
Maintaining roadways	3.74	4.96%
Providing roadway features	3.59	4.76%
Managing traffic with tools such as signals and passing and turning lanes	3.57	4.73%
Installing road signs	3.48	4.61%
Removing roadway & shoulder debris	3.43	4.55%
Providing roadside emergency assistance	3.36	4.46%
Setting speed limits	3.33	4.42%
Picking up litter	3.20	4.24%
Protecting the environment during road construction	3.19	4.23%
Providing travel information	3.19	4.23%
Cleaning stormwater that runs off the roads before it gets into streams	3.12	4.14%
Building roads	3.06	4.06%
Providing sidewalks	3.04	4.03%
Replacing wetlands, streams and trees removed during roadside construction	3.04	4.03%
Building bridges	2.99	3.96%
Providing roadside maintenance	2.94	3.90%
Building and maintaining roadside rest areas	2.75	3.65%
Providing bike lanes and paths	2.49	3.30%
Regulating placement of billboards and business signs	2.31	3.06%
Providing roadside landscaping and wildflowers	2.28	3.02%
Providing travel maps	1.97	2.61%
Total	75.42	

The Weighting Factors were then used to modify the satisfaction ratings given for each SHA function. The results of this calculation and the calculation of the Overall Customer Satisfaction Index Score are displayed in Table 3.

Table 3: Calculation of Overall Customer Satisfaction Index

SHA Function	Mean Grade (MG)	Weighting Factor (WF)	Weighted Score WS=(WF*MG)
Keeping bridges safe	3.98	0.0506	0.2016
Plowing, salting, and sanding of snow-covered roadways	4.18	0.0500	0.2089
Clearing the road after a crash	4.06	0.0499	0.2024
Maintaining roadways	3.63	0.0496	0.1800
Providing roadway features	4.14	0.0476	0.1971
Managing traffic with tools such as signals and passing and turning lanes	3.99	0.0473	0.1889
Installing road signs	4.14	0.0461	0.1910
Removing roadway & shoulder debris	3.87	0.0455	0.1760
Providing roadside emergency assistance	4.01	0.0446	0.1786
Setting speed limits	4.04	0.0442	0.1784
Picking up litter	3.85	0.0424	0.1634
Providing travel information	3.99	0.0423	0.1688
Protecting the environment during road construction	3.91	0.0423	0.1654
Cleaning stormwater that runs off the roads before it gets into streams	3.70	0.0414	0.1531
Building roads	3.76	0.0406	0.1526
Replacing wetlands, streams and trees removed during roadside construction	3.83	0.0403	0.1544
Providing sidewalks	3.51	0.0403	0.1415
Building bridges	3.80	0.0396	0.1506
Providing roadside maintenance	3.83	0.0390	0.1493
Building and maintaining roadside rest areas	3.87	0.0365	0.1411
Providing bike lanes and paths	3.28	0.0330	0.1083
Regulating placement of billboards and business signs	3.72	0.0306	0.1139
Providing roadside landscaping and wildflowers	3.79	0.0302	0.1146
Providing travel maps	3.64	0.0261	0.0951
Overall Customer Satisfaction Index Score			3.8748

Statewide SHA Attainment Report Index Score= 3.8748

Using these same calculations, the 2008 Customer Satisfaction Survey yielded a Statewide SHA Attainment Report Index Score of 3.9050, the 2010 Customer Satisfaction Survey yielded an Index Score of 3.9375, and the 2012 Customer Satisfaction Survey yielded an Index Score of 3.9199.

APPENDIX A: SURVEY METHODOLOGY

SURVEY PROJECT TIMELINE

This survey is the biennial SHA customer satisfaction survey. The original survey instrument was designed and implemented in early 2006 and has been amended and implemented in a similar form in 2008, 2010, and again in 2012.

In March of 2012, the 2014 version of the survey was programmed by the Schaefer Center staff using Sawtooth Software's Ci3 Computer Assisted Telephone Interviewing (CATI) software and tested by the Schaefer Center CATI Lab staff. These tests were used to further refine the survey instrument and the CATI programming. Any issues with readability, skip patterns or survey flow were identified and corrected at this stage.

The CATI data collection took place at the Schaefer Center's CATI Lab between June 14, 2014 and August 7, 2014.

SHA SURVEY IMPLEMENTATION

The Schaefer Center used a stratified, random sampling technique, using a pool of random numbers that were sufficient to obtain the necessary number of respondents from across the state. The sample was designed to achieve a margin of error of 3.45% at the 95% confidence interval for the state as a whole.

The sampling method used by the Schaefer Center is a list-assisted random digit dialing (RDD) approach. List-assisted RDD, while not as inclusive as pure RDD, is a much more efficient method of selecting households to survey. In pure RDD, all possible combinations of area code and three digit prefixes have randomly generated four digit suffixes attached. The resulting numbers include businesses, disconnected numbers, and numbers that have not been assigned. This greatly increases the number of non-productive calls that must be made. List-assisted RDD differs in that it assigns random numbers in "100 series" of numbers that have been demonstrated to have been allocated to likely respondents. This greatly increases the efficiency of the sample with minimal loss of working numbers.

The Schaefer Center purchased sample numbers from Survey Sampling, Inc. (SSI), which employs the list-assisted RDD approach to sampling. SSI routinely tests new "100 series" number banks for inclusion. In addition, SSI increases the data efficiency of the sample by screening the resulting sample against a list of disconnected and business telephone numbers before providing the numbers to the Schaefer Center. The survey questionnaire screened potential respondents to include only Maryland residents between 18 and 99 years of age with valid Maryland driver's licenses. Twenty-three jurisdictions (counties) in Maryland were included in the survey. Baltimore City roads are not maintained by SHA; hence, Baltimore City residents were excluded from survey participation.

Respondent selection was not randomized within the household, though if the person who answered the phone did not fall into an open age range, interviewers asked if there was another person in the household who did. Respondents were placed into three age categories (18 to 29, 30 to 54, and 55 to 99 years of age) and each age category received a separate quota proportional to that category’s proportion in the overall population of licensed drivers of that age range in the state. When quotas had been reached for each stratification range, that quota was closed and subsequently, potential respondents were screened out if they belonged to a closed age quota range.

As with any household telephone survey, non-telephone and cell-phone only (CPO) households cannot be included in the final sample. In Maryland it is estimated that between 25.6% and 29.6% of all Marylanders aged 18 and over outside of Baltimore City are living in cell phone only households². Although recent research has shown that cell phone only use can be associated with race/ethnicity, employment, marital status and home ownership, the potential non-coverage bias continues to be real. While the potential for bias in excluding cell phone only households may be small overall, larger non-coverage rates may be found for certain population subgroups (younger adults aged 18 to 29 9years of age) and for certain topics.³

CALCULATION OF RESPONSE, COOPERATION AND REFUSAL RATES

Final disposition and outcome rates are based on the American Association for Public Opinion Research’s (AAPOR) *Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys*, and are in compliance with AAPOR’s *Code of Professional Ethics and Practices*. You may view this and other AAPOR reports and documents on the Internet at <http://www.aapor.org>.

Table 4: Final Disposition and Outcome Rates

AAPOR Final Disposition Code	Category	Records
1.1	Complete	808
1.2	Partial	57
2.11	Callback	58
2.11	Refusal	3,608
2.33	Language barrier	94
3.11	Not Attempted	292
3.12	Always busy	580

² Blumberg SJ, Luke JV, Gonzales G. Wireless substitution: State-level estimates from the National Health Interview Survey, 2012. National Health Statistics Reports; no 70. Hyattsville, MD: National Center for Health Statistics. 2013 (<http://www.cdc.gov/nchs/data/nhsr/nhsr070.pdf>).

³ See “Assessing the Cell Phone Challenge to Survey Research in 2010. The Pew Research Center for the People & the Press, May 20, 2010. www.people-press.org.

3.13	No answer	2,784
3.14	Telephone answering device	3,618
4.2	Fax/data line	470
4.3	Non-working/disconnected number	2,111
4.41	Number changed	22
4.51	Business, government office, other organization	945
4.7	No eligible respondent	1,776
Total		17,223

Over fifty thousand (58,474) individual call attempts were made to 16,931 unique phone numbers in order to obtain 808 completions, with the average completed interview taking just over eighteen minutes.

SHA Survey Outcome Rates

Response Rate (RR1) = 0.068

Cooperation Rate (COOP2) = 0.191

Refusal Rate (REF1) = 0.303

These outcomes are not significantly different than other surveys the Schaefer Center has performed of this type, duration, and population.

Survey respondents who completed the survey (808) were asked over 60 questions, depending on survey skip patterns. These completed surveys were weighted to ensure that the resulting data properly mirrored the age and gender distribution of the overall population. This process ensures statistical validity in the analysis of the survey data. The resulting weighted number of respondent is equal to 809 individuals.

Using the final disposition codes described in Table 1.3 response and outcome rates are calculated by using the following:

- I** = Complete Interview (1.1)
- P** = Partial Interview (1.2)
- R** = Refusal (2.10)
- NC** = Non-contact (2.20)
- O** = Other (2.30)
- UH** = Unknown if household/occupied (3.10)
- UO** = Unknown, other (3.20)

The Response Rate for the survey was calculated using AAPOR's Response Rate 1 calculations. The response rate is the number of completions divided by the number of Interviews (completes plus partials) plus the number of non-interviews (refusals, non-contacts, others) plus all cases of unknown eligibility.

$$RR1 = \frac{I}{(I + P) + (R + NC + O) + (UH + UO)}$$

The Cooperation Rate for the survey was calculated using AAPOR's Cooperation Rate 1 calculations. The cooperation rate is the number of complete interviews (completes plus partials) plus the number of non-interviews that involve the identification of and contact with an eligible respondent (refusal).

$$COOP1 = \frac{I}{(I + P) + R + O}$$

The Refusal Rate for the survey was calculated using AAPOR's Refusal Rate 1 calculations. The Refusal Rate is the number of refusals divided by the interviews (complete and partial) plus the non-respondents (refusals, non-contacts, and others) plus the cases of unknown eligibility.

$$REF1 = \frac{R}{(I + P) + (R + NC + O) + (UH + UO)}$$

WEIGHTING METHODOLOGY

Post-survey weighting to known population characteristics is used to correct samples that are not distributed in the correct proportions. Post-survey weighting is based on the differences between the proportion of the sample with the characteristic and the proportion of the population that also shares that characteristic.

A proportional weight was calculated to adjust the final results by gender and age category. This resulted in 3 weights for each gender category. The final weights represent the multiplicative term of the proportional weights for both age and gender and appear in the table below.

Table 5: Weighting Factors and Weighted N's Statewide

Age Group	N Surveyed	Statewide Weighting	Statewide Weighting	Statewide Total Weighted N
		Males	Females	
Ages 18-29	78	1.88	2.06	153
Ages 30-54	460	1.02	.70	380
Ages 55-99	270	1.26	.86	275

Six weights were created using the same proportional weighting formula seen below.

$$\pi_k = \frac{N_k / N}{n_k / n}$$

In the standard proportional weighting formula below, (N) represents a known population, (n) represents the total sample size and (k) indicates a subsection of the respective total.

In 2014, SHA provided the Schaefer Center with a listing of drivers by age categories for the state of Maryland as a whole. These stratifications were used to create weights by age and gender. The ages reported by respondents were consolidated into three (3) age categories for each gender, resulting in the calculation of six (6) weights.

Table 6: Gender and Age Weight Calculation

Weighting Category	Number of Drivers Population	Nk/N	Sample	nk/n	Statewide Weight ((Nk/N)/(nk/n))
Males Ages 18-29	365,973	0.0962	40	0.0511	1.88
Males Ages 30-54	889,213	0.2338	182	0.2292	1.02
Males Ages 55-99	616,786	0.1621	107	0.1286	1.26
Females Ages 18-29	350,901	0.0922	38	0.0447	2.06
Females Ages 30-54	909,815	0.2392	278	0.3417	0.7
Females Ages 55-99	671,241	0.1765	163	0.2052	0.86
N=	3,803,929	n=	808		

Table 7: Statewide Respondent Profile

Demographic Category	Raw "n"	Raw %	Weighted "n"	Weighted %
Gender				
Male	329	40.7%	396	48.9%
Female	479	59.3%	413	51.1%
Age Group				
18-29	78	9.7%	153	19.0%
30-54	460	56.9%	380	47.0%
55 and over	270	33.4%	275	34.0%

(ALL NUMBERS REPRESENT PERCENTAGES)

q1. *Are you licensed to drive in the state of Maryland?*

100.0 - Yes
0.0 - No

age. *How old were you on your last birthday?*

19.0 - 18 to 29
47.0 - 30 to 54
34.0 - 55 and over

q2. *On average how many miles do you drive per week?*

37.8 - 0 to 96 (very infrequent) (0 to 5,000 miles annually)
23.2 - 97 to 192 (infrequent) (5,001 to 10,000 miles annually)
27.0 - 193 to 385 (moderate) (10,001 to 20,000 miles annually)
12.0 - 385 + (frequent) (over 20,000 miles annually)

Do you hold any drivers licenses other than a non-commercial automobile license?

12.2 - Yes
87.8 - No

q3a. *Which of the following licenses do you hold?*

9.5 - Motorcycle
3.8 - CDL
0.0 - Other

q4. *About how often do you drive during peak rush hours?*

47.8 - Almost every work day
19.3 - A couple of times per week
14.1 - Once per week or less
18.7 - Almost never

q6a. Please rank the importance of each of these SHA functions..

SHA function	Importance			
	Extremely Important	Important	Somewhat Important	Not at all important
Building roads	41.0	29.2	18.2	8.7
Building bridges	36.0	31.7	15.3	11.0
Building and maintaining roadside rest areas	25.7	33.9	25.8	12.0
Providing travel maps	10.5	18.5	21.7	42.8
Maintaining roadways	75.3	22.2	1.7	0.0
Picking up litter	42.9	37.0	16.8	3.0
Providing roadside maintenance	31.0	36.6	25.6	5.6
Keeping bridges safe	83.4	14.9	0.5	0.5
Removing roadway and shoulder debris	55.3	32.1	11.2	0.8
Plowing, salting and sanding	80.1	16.7	1.9	1.0
Providing roadway features	66.5	26.7	5.9	0.7
Installing road signs	60.2	28.0	8.8	2.1
Providing roadside landscaping and wildflowers	14.3	24.2	35.2	24.8
Replacing wetlands, streams and trees removed during road construction	38.3	31.5	15.6	9.6
Protecting the environment during road construction	44.4	32.4	14.9	5.4
Collecting runoff from roadways	41.3	32.2	15.4	7.3
Setting speed limits	51.6	32.1	10.4	4.5
Managing traffic	64.0	29.2	4.8	1.1
Regulating placement of billboards and business signs	18.4	24.5	21.7	31.5
Providing travel information	43.9	35.7	12.4	6.3
Providing roadside emergency assistance	56.3	23.9	10.9	5.2
Clearing the road after an accident	77.3	20.6	1.3	0.2
Providing bike lanes and bike paths	23.1	26.1	22.8	24.6
Providing sidewalks	43.5	25.7	17.7	10.7

q6b.

Please grade SHA on how well you think SHA is currently providing the service

SHA function	Grade				
	A	B	C	D	F
Building roads	21.2	46.0	23.1	6.3	3.3
Building bridges	26.8	39.1	24.5	6.8	2.8
Building and maintaining roadside rest areas	26.2	43.9	22.0	6.1	1.7
Providing travel maps	23.1	33.7	31.1	8.7	3.5
Maintaining roadways	19.6	40.5	28.0	7.1	4.7
Picking up litter	23.5	48.4	20.9	4.2	2.9
Providing roadside maintenance	24.6	45.0	21.8	5.8	2.8
Keeping bridges safe	33.3	40.8	18.9	4.6	2.3
Removing roadway and shoulder debris	28.5	40.9	22.2	5.6	2.8
Plowing, salting and sanding	45.8	34.3	13.9	4.0	2.1
Providing roadway features	37.9	44.0	14.0	2.3	1.7
Installing road signs	38.0	42.9	15.3	2.5	1.3
Providing roadside landscaping and wildflowers	25.0	40.6	25.7	5.7	3.1
Replacing wetlands, streams and trees removed during road construction	23.0	44.9	25.9	3.9	2.2
Protecting the environment during road construction	28.2	41.7	24.5	3.8	1.7
Collecting runoff from roadways	23.6	37.7	27.4	7.8	3.5
Setting speed limits	36.3	39.4	18.6	3.5	2.2
Managing traffic	29.5	48.3	16.3	3.5	2.5
Regulating placement of billboards and business signs	23.4	38.5	28.3	6.2	3.5
Providing travel information	33.2	40.9	19.9	3.8	2.1
Providing roadside emergency assistance	35.3	38.4	19.5	5.3	1.6
Clearing the road after an accident	38.8	37.5	17.6	3.4	2.6
Providing Bike Lanes and Bike Paths	13.2	31.5	32.8	14.9	7.6
Providing Sidewalks	18.4	35.7	30.3	9.6	6.0

q9. Compared to similar roads in nearby states, would you say that Maryland roads are...

- 48.8 - Better
- 35.7 - About the same
- 10.9 - Worse

q10. Overall, how satisfied are you with the delivery of all services that SHA provides?

- 17.0 - A
- 54.3 - B
- 23.0 - C
- 2.8 - D
- 0.9 - F

What do you think interferes MOST with safe travel on [Name of SHA Road in Respondent's County with which he/she is most familiar]?

- 15.7 - Traffic congestion
- 11.0 - Aggressive drivers
- 10.8 - Distracted drivers
- 8.9 - Potholes
- 8.7 - Road construction
- 8.0 - Bad drivers
- 2.4 - Poor visibility due to road design/structures
- 2.2 - Rough roads
- 1.7 - Big trucks, truck traffic
- 1.5 - Poor visibility due to weather
- 1.5 - Poor pavement markings
- 1.4 - Drunk drivers
- 1.2 - Snowy conditions
- 1.0 - Rainy conditions
- 1.0 - Narrow roads
- .5 - Drivers running red lights
- .3 - Road too curvy/not straight enough
- .1 - Railroad crossings
- 22.2 - Other

q14. What do you think interferes MOST with safe travel on [Name of SHA Road in Respondent's County with which he/she is most familiar]?*

- 16.6 - Traffic Congestion
- 14.2 - Bad drivers/Speeding
- 13.0 - Distracted drivers/cell phone/texting
- 11.5 - Aggressive drivers
- 9.0 - Potholes
- 8.5 - Road Construction
- 2.5 - Rough Roads
- 2.4 - Poor visibility due to road design/structures
- 2.1 - Big trucks, truck traffic
- 1.7 - Poor pavement markings
- 1.5 - Poor visibility due to weather
- 1.5 - Rainy Conditions
- 1.4 - Drunk Drivers
- 1.3 - Snowy Conditions
- 1.3 - Animals
- 1.2 - Accidents
- 1.2 - Debris (non-animal)
- 1.0 - Narrow Roads
- .9 - Speed Limit
- .8 - Signs inadequate
- .8 - Timing/Lack of Traffic Lights
- .6 - Merge space inadequate
- .5 - Drivers running red lights
- .5 - Shoulder/Bike Lane
- .5 - Bicycle
- .4 - Poor visibility due to lack of lighting
- .4 - Lack of law enforcement/police presence
- .3 - Road too curvy/not straight enough
- .3 - Poor visibility due to grass/trees/foilage
- .3 - Police/SHA vehicles on the side of the road
- .3 - Red light/speed cameras
- .2 - Lack of sidewalks
- .1 - Railroad crossings
- .1 - Tolls
- .1 - Motorcycles
- .1 - Abandoned Vehicle
- 1.0 - Other

**Other category broken down. Results not weighted*

q18a. *Before now, have you ever heard of the 511 Travel Information System?*

37.8 - Yes
61.3 - No

q18b. *Have you ever used the 511 Travel Information System?*

20.8 - Yes
79.2 - No

q19. *Have you ever visited the SHA website, www.roads.maryland.gov?*

20.3 - Yes
79.2 - No

q22. *Have you contacted SHA in the past 12 months to report a problem or to make a complaint about highway conditions?*

5.2 - Yes
94.6 - No

q23. *How did you contact SHA?*

70.3 - Telephone
20.1 - Internet
2.3 - In person
1.6 - Community/ SHA hearing
0.0 - Letter
4.2 - Other

gender.

51.1 - Female
48.9 - Male

APPENDIX C: SELECTED DEMOGRAPHIC CROSS-TABULATIONS

Based on data collected from the survey, respondents may be placed into three different demographic groups by age, gender and driver type (miles traveled per week/year). It is possible through cross-tabulations to analyze these demographic groups for differences between and among the various groups. The following tables contain cross-tabulations for selected questions in the survey.

CROSS-TABULATIONS FOR OVERALL SATISFACTION WITH THE DELIVERY OF SHA SERVICES

Using the same A to F scale, overall, how satisfied are you with the delivery of all services that SHA provides by Age Group?

Overall Satisfaction by Age

Grade	Age Categories			Total
	18-29years	30-54 years	55 and over	
1. A	31 20.3%	57 15.0%	49 17.8%	137 17.0%
2. B	77 50.3%	209 55.0%	153 55.6%	439 54.3%
3. C	37 24.2%	92 24.2%	57 20.7%	186 23.0%
4. D	4 2.6%	12 3.2%	7 2.5%	23 2.8%
Total	153 100.0%	380 100.0%	275 100.0%	808 100.0%

Using the same A to F scale, overall, how satisfied are you with the delivery of all services that SHA provides by Driving Frequency?

Satisfaction Score by Miles Driven

Grade	Miles driven per year				Total
	Very Infrequent < 5,000s	Infrequent 5,000 – 10,000	Moderate 10,000 – 20,000	Frequent > 20,000	
1. A	44 14.4%	39 20.9%	43 19.6%	13 13.4%	139 17.2%
2. B	172 56.2%	91 48.7%	118 53.9%	59 60.8%	440 54.4%
3. C	67 21.9%	48 25.7%	50 22.8%	21 21.6%	186 23.0%
4. D	10 3.3%	5 2.7%	4 1.8%	3 3.1%	22 2.7%
Total	306 100.0%	187 100.0%	219 100.0%	97 100.0%	809 100.0%

Using the same A to F scale, overall, how satisfied are you with the delivery of all services that SHA provides by Gender?

Satisfaction Score by Gender

Grade	Gender		Total
	1. Male	2. Female	
1. A	71 17.9%	67 16.2%	138 17.1%
2. B	208 52.5%	232 56.2%	440 54.4%
3. C	98 24.7%	88 21.3%	186 23.0%
4. D	9 2.3%	14 3.4%	23 2.8%
Total	396 100.0%	413 100.0%	809 100.0%