

# **BICYCLE SAFETY AWARENESS CAMPAIGN**

## ***TASK 4 MIDCOURSE SURVEY RESULTS***

**Final Report**

***Prepared For:***

**Bicycle Transportation Alliance  
and  
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# Executive Summary

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## Executive Summary

The Bicycle Safety Awareness Campaign is a series of six 30-second television spots intended to educate cyclists and drivers about critical safety issues. These public service announcements (PSAs) were broadcast during 2000 and 2001 on Portland, Oregon television station KGW-TV, Channel 8. This is the second of three reports documenting the impacts of the campaign.

The measurement method used for the evaluation were three telephone surveys of persons in the KGW-TV broadcast area. The baseline survey was completed in early July 2000, before any of the campaign PSAs were aired. The midcourse survey of the Bicycle Safety Awareness Campaign was completed in early February 2001. These two surveys were compared to evaluate the midcourse effectiveness of the Bicycle Safety Awareness Campaign. A final survey, fielded in August 2001, was also compared to the baseline and midcourse survey to measure the overall effectiveness and impact of the campaign. These results are to be described in a final report.

The survey questions attempted to determine the knowledge and attitude of respondents toward the six key topics of the Bicycle Safety Awareness Campaign. These topics are:

- General introduction in support of cycling: (*What If?*).
- Look and see bikes (*Look Right, See Right*).
- Stopping at stop signs and lights (*Close Call*).
- Winter riding and riding in the dark and rain (*See and be Seen*).
- Riding with traffic, not against it (*Wrong Way*).
- How and why to use bike lanes (*Bike Lanes*).

## Results

The midcourse survey has several results. First, the number of people reporting that they have seen the PSA campaign was estimated. Any measurable changes in attitudes and awareness of respondents were also determined by comparing the responses in the midcourse and the baseline surveys. Finally, any changes in attitudes or awareness to the PSA campaign that respondents attribute to the campaign were determined.

## ***Executive Summary***

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For the midcourse survey net recall of campaign messages was 7.0%. There are no changes in attitude and awareness that were observed between the baseline and midcourse survey. And the number of respondents saying that they had learned something from the campaign was high. These results are described in detail below.

### ***Number of Respondents Seeing PSA Campaign***

In the baseline survey 12% of respondents claimed that they had seen the PSA campaign even though it had not yet aired. The respondents apparently had seen other traffic and bicycle safety messages that they thought fit the description used in the telephone survey.

For the midcourse survey, the gross number of respondents 'seeing' the PSA campaign was 17.2%. With non-campaign responses subtracted out, the net viewership was determined to be 7.0%, which appears to compare with national campaigns on different topics with many times the media budget. Considering the population where KGW-TV programming is available, it is estimated that 115,000 drivers and cyclists in Oregon have a specific recollection of some element of the Bicycle Safety Awareness Campaign.

A number of respondents who said that they had seen the campaign provided clear descriptions of PSA content. This accounted for 16% of the responses. Another large group, accounting for 36% of responses, recalled some specific elements from the campaign.

### ***Changes in Attitude and Awareness***

So far there are no positive results observed in the analysis of changes in attitude and awareness. The final survey will be a more appropriate measure of this change than these midcourse results.

The negative results are that drivers are less sure about the rights and responsibilities of bikes, that drivers and cyclists are less sure about how cars and bikes should stop at stops signs and lights, and drivers and cyclists are not as certain how bicyclists should ride safely in the dark and rain. Some of these differences are possibly due to wording changes made in the midcourse survey. The final survey will use the same wording as the midcourse survey, which should alleviate any bias in response from wording changes.

### ***Campaign Attribution of Changes in Attitude and Awareness***

Those respondents that had seen the PSA campaign were asked if their opinion on each of the campaign topics had changed or if they had learned something as a result of seeing the campaign. Overall, respondents believe that they already know about 84% of what they need to know about various bicycling safety rules and behaviors.

Of those seeing the PSA, the average number of “Yes, I learned something...” responses was 24%: an indication of the portion of viewers that learned from the campaign. Every “Yes” answer is a positive response, in that the campaign has corrected some previously incorrect or incomplete understanding of the rules of the road for safe bicycling and driving.

# Introduction

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## Introduction

The Bicycle Safety Awareness Campaign was intended to educate cyclists and motorists in Oregon about critical safety issues. This is the second of three reports documenting the evaluation of the campaign impact.

### ***Summary of the Bicycle Safety Awareness Campaign***

The Bicycle Safety Awareness Campaign was a series of six, 30-second, public service announcements (PSAs) broadcast on Portland television station KGW-TV, Channel 8. The primary topics for the campaign were:

- General introduction in support of cycling: (*What If?*).
- Look and see bikes (*Look Right, See Right*).
- Stopping at stop signs and lights (*Close Call*).
- Winter riding and riding in the dark and rain (*See and be Seen*).
- Riding with traffic, not against it (*Wrong Way*).
- How and why to use bike lanes (*Bike Lanes*).

The campaign broadcast schedule varied as a function of which PSAs were available, which of the spots were seasonally appropriate, and available time on KGW-TV. The spots started on July 10, 2000 and ended on July 4, 2001. The fewest number of spots aired in an entire month was 33 in September 2000; the largest number was 141 for April 2001. In September 2000 a bicycle safety web page featuring the PSA campaign elements was launched on [kgw.com](http://kgw.com). Monthly web page views of the Bicycle Safety page were tracked, as was web view time, in seconds, starting in February 2001. Table 1 shows the overall broadcast schedule and web tracking over the course of the campaign.

**TABLE 1: PSA AIR SCHEDULING**

<b>Campaign Month</b>	<b>Total Spots</b>	<b>Web Page Views</b>	<b>Web View Seconds</b>
July 2000	54		
August 2000	65		
September 2000	33	697	
October 2000	44	517	
November 2000	66	688	
December 2000	78	261	
January 2001	73	324	
February 2001	62	254	65
March 2001	89	503	73
April 2001	141	555	55
May 2001	76	605	55
June 2001	78	1,146	42
July 2001	35	898	37
<b>TOTAL</b>	<b>894</b>	<b>6,448</b>	

The PSA spots were prepared as the campaign unfolded with only the “*What If?*” message for the first several months. Subsequent PSAs were put on the air as they were produced. By the time the midcourse survey was fielded, four of the spots had been broadcast. Table 2 describes which of the PSA campaign spots had been aired for each of the three survey waves.

**TABLE 2: PSA INCLUDED IN SURVEYS**

<b>PSA</b>	<b>Baseline Survey</b>	<b>Midcourse Survey</b>	<b>Final Survey</b>
PSA 1 – <i>“What If?”</i>		X	X
PSA 2 – <i>Look Right, See Right</i>		X	X
PSA 3 – <i>Close Call</i>		X	X
PSA 4 – <i>See and be Seen</i>		X	X
PSA 5 – <i>Wrong Way</i>			X
PSA 6 – <i>Bike Lanes</i>			X

The main purpose of this series of six PSAs was to educate cyclists and motorists about critical safety issues, making the roads safer for both types of commuters. Along the way, they also made the case for why these safety concerns should be addressed in the first place: More people should be bicycling for their own health and for the health of their community. In short, getting more cyclists on the roads is good for everyone, including motorists. Each of these PSAs sought to

accomplish two things. First, they present bicycling as fun and healthful. Second, they provide important tips on how to bicycle safely. A brief description of each PSA follows.

### PSA 1 – "What If?"

The first installment of the series asks a simple question: What if you decided to hop on a bike instead of into a car to get to work? It shows that commuting by bike can be quick, healthy, inexpensive, pollution-free, and efficient. Safety is demonstrated through use of hand signals when turning and stopping and by complete stops.

### PSA 2 – Look Right, See Right

In "Look Right, See Right," the main character is driving his car as if he has the road to himself, which a quick glance in the mirror seems to confirm. But is he really alone? He can't be sure until he double-checks his mirror by looking right and finds a cadre of cyclists not yet visible in his mirrors.

### PSA 3 – Close Call (stopping at stop signs and lights)

The infamous California stop isn't limited to commuters with four wheels. This PSA explores the importance of stopping at stoplights, but almost more importantly, at stop signs too. Along the way proper signaling is shown.

### PSA 4 – See and be Seen (winter riding)

Riding in the winter when it's dark and rainy can be safe and fun if done correctly. Raingear for riding in the rain and proper lighting for those dark days is demonstrated. Riding in less than ideal weather is shown to be a reasonable choice.

### PSA 5 – Wrong Way

Strange as it may seem, many people believe biking against the traffic is safer. This PSA demonstrates that this is not true, especially at intersections where motorists aren't looking for cyclists on the other side of the road.

### PSA 6 – Bike Lanes

How cyclists should and cars should not use bike lanes is covered in this PSA. It is first a reminder to drivers to stay out of bike lanes, and it also points out to cyclists (and drivers) that the traffic in bike lanes keeps moving even when cars are not.

### ***Evaluation Summary***

The baseline survey was conducted before any of the campaign PSAs were aired. The midcourse survey was conducted about seven months later, when four of the PSAs had been broadcast. The evaluation also fielded a final survey in August 2001 after all six PSA had been aired.

The telephone surveys polled households in the KGW-TV broadcast area, which includes the majority of the population in Oregon. The sources for household phone numbers included lists of random telephone numbers and lists of those with connections to cycling. For each of the baseline and midcourse surveys, approximately 5,000 calls were made to complete about 430 surveys over the two-week survey period.

This survey and report are Task 4 of seven tasks of the evaluation of the Bicycle Safety Awareness Campaign. Tasks 1, 2, and 3 have been completed. An outline of all evaluation tasks is provided below.

- Task 1 – Development of a Detailed Evaluation Workplan
- Task 2 – Research into Other Related Evaluation Efforts
- Task 3 – Baseline Survey
- Task 4 – Midcourse Survey
- Task 5 – Final Survey
- Task 6 – Ongoing Reporting and Communication
- Task 7 – Final Report

### ***Survey Methodology***

Both the baseline and the midcourse survey were independent random samples of potential viewers, and thus drivers and cyclists in the broadcast area. The results of the two surveys were compared to look for differences in attitudes and awareness of bicycle and driver safety. The survey approach is described in detail and the final survey will follow the same approach.

### ***Survey Geographic Area***

Several overlapping constraints describe the sample sources used. The Oregon Department of Transportation was interested in assessing the campaign impact for all of Oregon, but the KGW-TV broadcast signal is only available in parts of Oregon. It was hypothesized that larger cities and towns will be most affected by

the campaign. Bicycle/car interactions occur and need to be evaluated where there is sufficient cycling activity. Purpose (rather than recreational) cycling occurs primarily in built-up urban areas where travel distances are shorter and travel speeds are lower.

Based on these factors, the major population areas where the KGW-TV signal is available by broadcast or cable were selected. Seven counties, four of which are in the top five for population in Oregon, are included. Additionally, a sampling of other cities across Oregon where the KGW-TV signal is available were included. Together these account for 62% of the Oregon population. This is most of the KGW-TV area, which is available to about 66% of the state's population. Tables 3 and 4 show the selected counties and cities and the portion of the overall sample population compared to the sampling achieved in both of the first two survey waves.

**TABLE 3: SAMPLED POPULATIONS BY COUNTY**

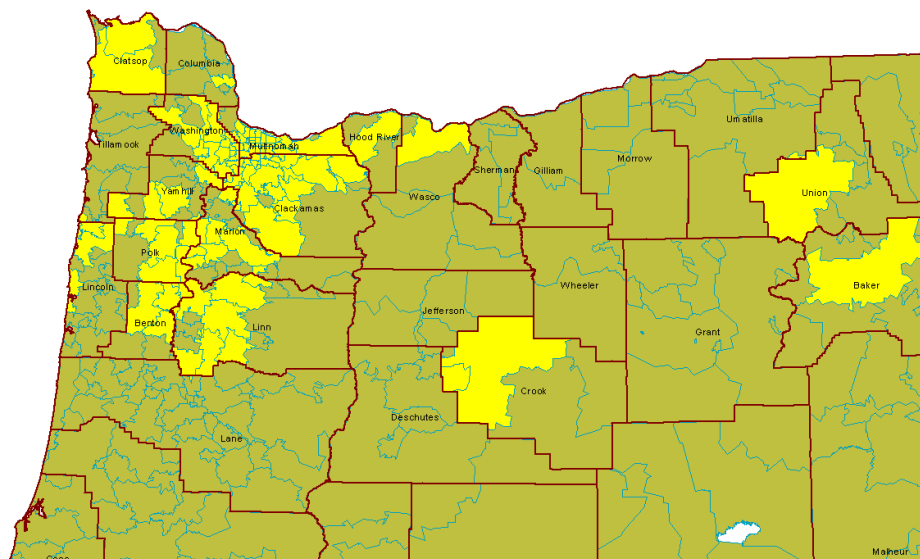
<b>County Rank</b>	<b>County</b>	<b>Actual Population %</b>	<b>Baseline Sample %</b>	<b>Midcourse Sample %</b>
1	Multnomah	31.7%	36.3%	35.4%
2	Washington	19.8%	20.8%	13.6%
3	Clackamas	16.0%	16.0%	13.1%
5	Marion	13.5%	9.7%	16.2%
8	Linn	5.0%	4.7%	5.2%
10	Yamhill	4.1%	2.6%	1.9%
16	Polk	2.9%	1.9%	2.6%

**TABLE 4: SAMPLED POPULATIONS BY CITY**

City Rank	City	Actual Population %	Baseline Sample %	Midcourse Sample %
9	Corvallis	2.5%	2.4%	6.6%
31	La Grande	0.6%	0.9%	1.4%
37	The Dalles	0.6%	0.9%	0.5%
41	Newport	0.5%	0.5%	0.0%
42	Baker City	0.5%	0.5%	0.9%
44	Astoria	0.5%	0.7%	0.7%
45	St. Helens	0.5%	0.7%	0.0%
51	Prineville	0.4%	0.7%	1.2%
53	Lincoln City	0.3%	0.5%	0.0%
65	Hood River	0.3%	0.2%	0.2%
66	Madras	0.2%	0.0%	0.7%

There was a response from each geographic category, except the city of Madras for the baseline survey and from all but Lincoln City for the midcourse survey. Figure 1 shows a map of the northwest portion of Oregon and the survey coverage with those areas included highlighted.

**FIGURE 1: ACHIEVED GEOGRAPHIC SAMPLING BY ZIP CODE**



### ***Sampling Goals***

The general goal for sampling in this survey was for accuracy of  $\pm 6\%$  with 95% certainty. That is, the survey results from a sample of 430 should be within 6% of the actual values for the entire population.

The sampling goal needed to be achieved for two populations – that of drivers and that of cyclists. The hypothesis is that these two groups have distinct characteristics and points of view in terms of their approach to transportation and could have different responses to the campaign. Additionally, in order to understand any improvement in the education and behavior of the two groups, the two groups need to be understood distinctly.

In order to segregate the respondents into the two groups, they were asked about their use of a car as well as regular purpose use of cycling. They were also asked about first person knowledge (relative, friend, neighbor) of someone who purpose cycles (defined as bicycling for commuting, shopping, or errands).

The “drivers” group are car drivers with no exposure to or experience with cycling. The “cyclists” group are people that had some exposure to or experience with cycling. These are the “drivers” and “cyclists” described throughout the survey results. Note that cyclists may not be bicycle commuters or ever ride a bike. They may only know a person who regularly uses a bicycle for commuting, shopping, or errands. Similarly, a driver is someone that drives a car and may use transit for commuting – but does not have exposure to cycling.

### ***Survey Sampling Sources***

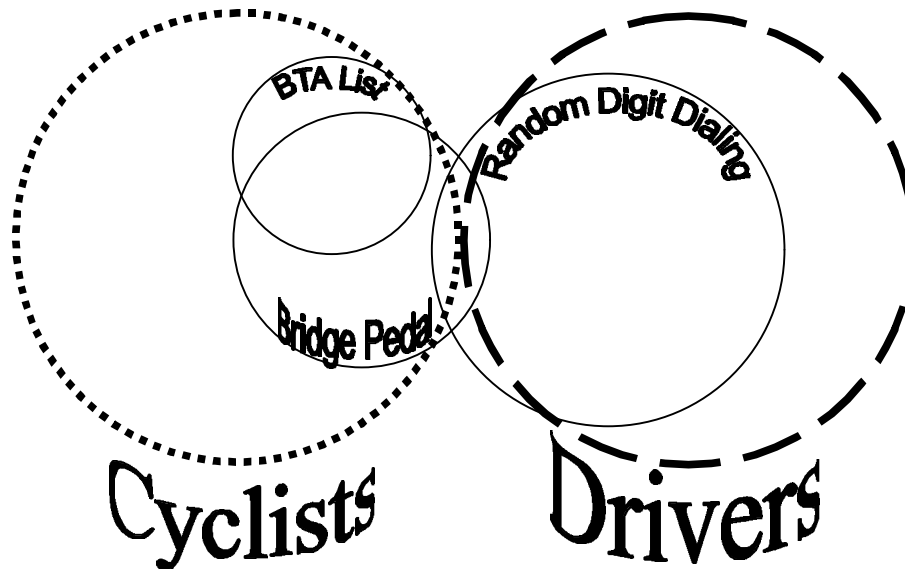
Three sources were used for sampling of the viewing population. Random digit dialing (RDD) was used for the sampling from the general population. Two additional sources were included to provide a sample for the bicycling stratification. Without these two additional lists there would not be enough cyclists surveyed from the general population to achieve the sampling goals. The additional sources were the Bicycle Transportation Alliance (BTA) membership list and the participant list from the 1997-99 Bridge Pedal. Table 5 describes the sources and the segregations for each of the two survey waves.

**TABLE 5: SAMPLING SOURCES PLANNED AND ACTUAL**

	<b>Random Digit Dialing</b>	<b>BTA Membership</b>	<b>Bridge Pedal</b>
Planned Sampling	45%	10%	45%
<b>Baseline Survey</b>			
Overall Sampling	65%	8%	27%
Drivers	86%	1%	13%
Cyclists	52%	13%	36%
<b>Midcourse Survey</b>			
Overall Sampling	65%	8%	27%
Drivers	87%	0%	13%
Cyclists	47%	14%	39%

A Venn diagram can be used to show the sources and sampling in the survey approach. The overlapping of the circles represents what is common between the sets, while not overlapping indicates that there are no common elements. The two large circles of Figure 2 below represent the population of cyclists and drivers as they are defined above. By definition, they have nothing in common, and do not overlap in the diagram. The smaller circle on the right is the pool of random digit dialing. Note that it includes mostly drivers, but also some cyclists. The BTA list in the upper left includes almost entirely cyclists, but interestingly, a few drivers came from this sample in the baseline survey (see Table 5). The last circle from the Bridge Pedal list includes some of each group.

**FIGURE 2: SAMPLING VENN DIAGRAM**



### ***Survey Approach***

Each of the six campaign elements is addressed by one or more survey questions. Most of these questions use a five point Likert scale as a variable scale for respondents. Respondents could either use a number value or the verbal description as they preferred. The five points of the Likert scale correspond to:

1. Strongly Disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly Agree

Four of the questions in the baseline survey were modified for the midcourse survey because it was felt that the wording used in the baseline survey was potentially biasing. The questions with changes were numbers 11, 12, 16, and 19. The wording for the baseline survey for these questions included the phrase “I know the rules about...” which was changed to “Please rate your knowledge of the rules about...”

This wording change necessitated modifications to the previous Likert scale for these questions. The scale used for these four questions became:

1. Completely Unsure
2. Unsure
3. In-between
4. Positive
5. Absolutely Positive

The final survey will use the same wording as the midcourse survey. Comparisons between the final and midcourse survey for these questions will be more reliable than comparisons between the baseline and midcourse surveys for these questions. The midcourse survey instrument is included in the appendix.

## Midcourse Survey Results

The following pages describe the results of the midcourse survey. In most cases the results stem from a comparison of the midcourse survey to that of the baseline. The impacts in terms of campaign recall and changes in attitude and awareness are described first, and the less significant disposition and demographic findings are presented at the end.

### *Number of Respondents Seeing PSA Campaign*

In the baseline survey 12% of respondents claimed that they had seen the PSA campaign, even though it had not yet aired. The respondents apparently had seen other traffic and bicycle safety messages that they thought fit the description used in the telephone survey. For the midcourse survey the gross portion of respondents ‘seeing’ the PSA campaign was 17.2%. In this case we also believe that some respondents had seen other messages, not from this campaign. Because respondents were asked to provide some description of the PSA message, content, or topic, it was possible to provide a net estimate of the portion of respondents that had actually seen and recalled the PSA campaign.

In the midcourse survey analysis the descriptions of the PSA provided by respondents was compared against those PSA that had aired prior to the survey. Table 2 earlier showed the broadcast schedule of the PSA compared to the survey waves. If a respondent claiming to have seen the campaign described a topic or element that had already been aired, they were counted as part of the sample that had actually seen the PSA. Otherwise, they were not counted. The following lists some of the elements that were not a specific part of the PSA campaign that some respondents claimed to have seen. Note that helmets were pictured on every cyclist in the PSA campaign, but were not specifically mentioned. There is apparently a different campaign on bike helmets ongoing in this market. “How bikes should ride with traffic” is an element of the PSA campaign, but had not yet aired at the time of the midcourse survey.

- ❑ Use of bike helmets – 16 responses
- ❑ General safety messages – 7 responses
- ❑ Car drivers should indicate turns – 5 responses
- ❑ How bikes should ride with traffic – 4 responses
- ❑ Use of child carseats – 2 responses

- ❑ Alleviation of congestion – 2 responses
- ❑ Use of seatbelts – 2 responses

In the baseline survey, where some respondents claimed to have seen the PSA before it had been aired, only 10% recalled any specific content. Those things mentioned by these respondents included:

- ❑ Bicycles should use bike lanes where provided.
- ❑ Car drivers should indicate turns for the benefit of pedestrians and bicycles.
- ❑ Bicycles can be ridden safely on city streets.
- ❑ Bicycles are legitimate users of the road.
- ❑ Bicycling is good for the environment.

The midcourse survey non-campaign responses totaled 10.2% of the 17.2% gross responses. With non-campaign responses subtracted out, the net viewership was estimated to be 7.0%, which appears to compare well against national campaigns on other topics with many times the media budget. Considering that the viewshed for KGW-TV includes a total population of 2,176,000 and that approximately 76% of that population have a drivers license (one of the screening criteria), it is estimated that 115,000 drivers and cyclists in Oregon had a specific recollection of some element of the PSA campaign during the midcourse survey.

Of those respondents properly identifying PSA content, 57% were in the cyclists group, and 43% were drivers, proportional to the segregation used. The number of respondents seeing the PSA were also proportional to the sampling sources – there was not a disproportionate number from the BTA membership list. Table 6 compares these results. Recall that Cyclists are those persons that cycle or know a cyclist and that Drivers do not cycle or know anyone who bicycles regularly.

**TABLE 6: SAMPLING SOURCES SEEING PSA**

	<b>Random Digit Dialing</b>	<b>BTA Membership</b>	<b>Bridge Pedal</b>
Overall	65%	8%	27%
Seeing PSA	69%	12%	19%

A number of respondents who said that they had seen the campaign provided clear verbal descriptions of PSA content. This accounted for 16% of the responses.

Another large group, accounting for 36% of responses, recalled specific elements from the campaign. Selected descriptions are provided below.

### Verbal Descriptions Provided:

- *Legitimate means of transportation.*
- *Encourage people to ride bicycles especially in nice weather.*
- *I should use my bike more often; it's environmental.*
- *It made me aware that they wanted more to ride bikes to cut down traffic.*
- *Healthy.*
- *Less stressful alternative to cars.*
- *Saves energy. It's good for exercise.*
- *It's healthier.*
- *Less stress because you won't be stuck in traffic.*
- *Advising car drivers to look to your right.*
- *To be aware of bicyclist around you.*
- *Cars should look right at bike lanes.*
- *I learned that if your driving a car you had better be on the look out for bicycles and pedestrians.*
- *Being careful around cyclists - be aware.*
- *Her friends called her crazy because she is pedaling to work in the rain. She uses her gear. She stays dry. She is the president of the company. Faster than cars because you don't have to wait in traffic.*
- *Bicycles can be ridden in all weather conditions by anybody. Bicycles and motorist can share the road.*
- *Bicyclists should wear bright clothes.*

### Specific Elements Recalled:

- *Bicycles can be an alternative to cars.*
- *Bicycles can be ridden safely on city streets.*
- *Bicycles are vehicles, like cars.*
- *Bicycles are legitimate users of the road.*
- *Bicycling is good for the environment.*
- *How to ride a bicycle safely in the dark and rain.*
- *How cars should stop at stop signs and lights.*
- *How bicycles should stop at stop signs and lights.*

The PSA campaign is providing a positive example of proper behaviors for car/bicycle interactions, and a positive role model' for the most important elements of bicycle safety.

### ***Changes in Attitudes and Awareness***

An approach called a t-test allows two survey results to be compared to see if they are statistically different. Although it is often tempting to simply look at changes in average responses, the t-test gives us assurance that there are real differences between the two survey results. The responses to fifteen questions on attitudes and awareness from the baseline and midcourse surveys were compared in this way.

Table 7 describes the test results for each of the attitude and awareness questions in several ways. It compares all responding drivers from the baseline survey to all responding drivers from the midcourse survey (first results column). It also does the same comparison for all cyclists (second results column). It then makes a comparison of all responding drivers from the baseline survey to responding drivers in the midcourse survey *that had seen the campaign* (third column). The fourth column is that same comparison for cyclists. The symbols used in the table are a 'O' for no statistical difference between the compared populations, a '-' if the statistical difference is negative, and a '+' if the difference is positive. For example, cyclists that had seen the campaign in the midcourse survey compared to all cyclists in the baseline survey have a lower opinion of how drivers understand bike lanes, and thus a '-' is used.

**TABLE 7: CHANGES IN RESPONSE BY SEGREGATION, WAVE AND OBSERVED CAMPAIGN**

Q#	Survey Question	Baseline vs. Midcourse, All Responses		Baseline vs. Midcourse, Saw Campaign	
		Drivers	Cyclists	Drivers	Cyclists
Q8	Bicycles can be an alternative to a car for purpose trips.	○	○	○	○
Q10	Most drivers understand how to drive around bikes and bike lanes.	○	○	○	–
Q11	When driving, I know the rules about driving around bike lanes.	–	–	–	○
Q12	When riding a bike, I know how to ride in bike lanes.	N/A	–	N/A	○
Q14	Most car drivers stop properly at stop signs and traffic lights.	○	○	○	–
Q15	Most bicyclists stop properly at stop signs and traffic lights.	○	○	○	○
Q16	I know how cars and bicycles should stop at stop signs and lights.	–	–	–	○
Q18	Most bicyclists ride safely in the dark and rain.	○	○	○	○
Q19	I know how bicyclists should ride safely in the dark and rain.	–	–	○	○
Q21	Most bicyclists ride on the right side of the street like a car.	○	○	○	○
Q22	Bicyclists should ride on the right side of the street like a car.	○	○	○	○
Q24	When driving, I feel I understand rights and responsibilities of bikes.	–	○	○	○
Q25	As a bicyclist, I feel I understand my rights and responsibilities.	N/A	○	N/A	○
Q26	I feel that most cyclists follow the rules of the road.	○	○	○	○
Q27	I feel that most car drivers follow the rules of the road.	○	○	○	○

Expected results from the campaign would be positive and indicated by a ‘+’. There were no positive results observed in this analysis of changes in attitude and

awareness between the baseline and midcourse surveys. There were only negative results.

Some of the statistically significant results are in areas where there had been no campaign message. Those cells where changes are deemed reasonable because a campaign message had been broadcast are highlighted in Table 7. For example, the PSA on bike lane use had not aired by the time of the midcourse survey, but messages on riding in the rain had been.

The negative results are that drivers are less sure about the rights and responsibilities of bikes, that drivers and cyclists are less sure about how cars and bikes should stop at stops signs and lights, and drivers and cyclists are not as certain how bicyclists should ride safely in the dark and rain.

Negative results may be better understood after the final survey. And some of these negative differences are also possibly due to changes to question wording made in the midcourse survey. In particular, Questions 11, 12, 16, and 19 had wording changes. “I know the rules about...” was felt to be potentially biasing and was changed to “Please rate your knowledge of the rules about...” This may explain some of the changes observed, especially the negative responses. The final survey will use the same wording as the midcourse survey, which should alleviate any bias in response from wording changes.

### ***Campaign Attribution of Changes in Attitudes or Awareness***

Those respondents that had seen the PSA campaign were asked if their opinion on each of the campaign topics had changed or if they had learned something as a result of the PSAs. A summary of results can be found in Table 8. The elements that had already been covered by the PSA campaign for this survey are highlighted in the table.

**TABLE 8: ATTRIBUTION OF AWARENESS**

Q#	Survey Question	Yes	No	Don't Know
Q9	Was your opinion on bicycles as an alternative to cars improved after seeing the television campaign?	31%	42%	27%
Q13	Did you learn more about how cars and bikes should behave around bike lanes from the television campaign?	28%	69%	3%
Q17	Did you learn more about how cars and bicycles should stop from the television campaign?	19%	76%	4%
Q20	Did you learn more about how bicyclists should ride safely in the dark and rain from the television campaign?	22%	71%	7%
Q23	Did you learn that bicyclists should ride on the right side of the street from the television campaign?	9%	86%	5%

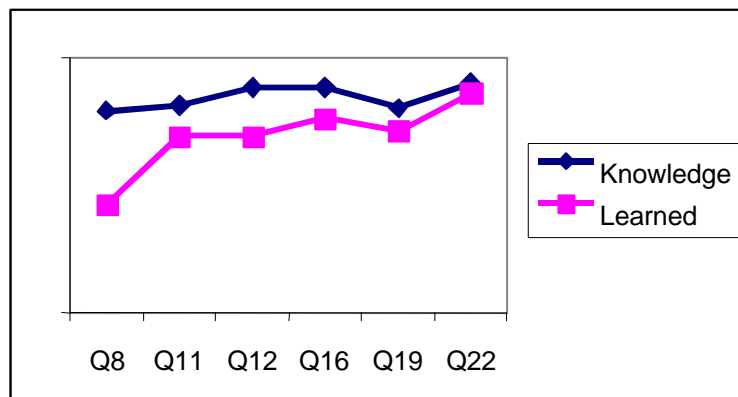
It is possible and reasonable to assume that the responses to these questions lean towards negative because the vast majority of people feel that they already know the proper behavior and rules. The results from questions 8, 11, 12, 16, 19 and 22, those that self-rate knowledge of a rule or proper behavior, suggest that this is true. The average knowledge score on a 1 to 5 scale is included below in Table 9. Overall, respondents rate their knowledge at 84% for the variety of bicycling safety rules and behaviors asked about. Setting aside the responses from campaign elements that have not yet been aired, the average “Yes” response is 24%; an overall indication of the portion of people learning something from the campaign.

The averages of the knowledge scores of Table 9 are compared to the “No” responses of Table 8 in Figure 3 (scaling adjustments were made for easier comparison). Note that as relative knowledge goes up, the number of people saying they did not learn from the campaign also goes up. In the case that most people already know the rules, every “Yes” answer is a significantly positive response, in that the campaign has corrected some previously incorrect or incomplete understanding of the rules of the road for safe bicycling and driving.

**TABLE 9: MIDCOURSE KNOWLEDGE SCORE, 1-5 SCALE**

Q#	Survey Question	Driver Score	Cyclist Score
Q8	Bicycles can be an alternative to a car for purpose trips.	3.7	4.2
Q11	When driving, I know the rules about driving around bike lanes.	3.9	4.2
Q12	When riding a bike, I know how to ride in bike lanes.	N/A	4.4
Q16	I know how cars and bicycles should stop at stop signs and lights.	4.3	4.5
Q19	I know how bicyclists should ride safely in the dark and rain.	3.8	4.2
Q22	Bicyclists should ride on the right side of the street like a car.	4.4	4.6

**FIGURE 3: RELATIVE COMPARISON OF KNOWLEDGE AND LEARNED**



### ***Survey Screening and Call Disposition***

In both the baseline and midcourse survey, respondents were screened to be licensed automobile drivers over 19 years of age. The survey gathered information from those presumed likely to have completed high school and have the ability to drive or some experience driving. The survey also screened for those who make regular purpose travel by auto, bike, or transit. Those that do not make regular purpose trips were presumed to be unable to provide useful information on bicycle/car interactions. Altogether about 1.5% of potential respondents were screened out.

The surveys did not screen for employment by broadcast organization, marketing research firm, or transit/transportation entity that is sometimes done for surveys performed for marketing purposes. Even people commonly screened out of surveys are participants in the overall transportation interaction picture of the region. No bias is expected from non-exclusion.

Overall, it was initially expected that about 13 calls would be attempted for every completed survey. The actual result was slightly better for the baseline survey, with 12.6 calls made for every completed survey, and excellent in the midcourse survey with 9.5 calls per completed survey. The complete disposition results for both the baseline and midcourse survey are shown in Table 10.

**TABLE 10: CALL DISPOSITION**

<b>Disposition</b>	<b>Baseline # Calls</b>	<b>Baseline Percent</b>	<b>Midcourse # Calls</b>	<b>Midcourse Percent</b>
No Answer	1,443	26.3%	1,196	28.9%
Busy	213	3.9%	187	4.5%
Answering Machine	1,293	23.6%	664	16.0%
Respondent Not Available	366	6.7%	484	11.7%
Technical Difficulties	98	1.8%	56	1.4%
Disconnect	470	8.6%	381	9.2%
Business Number	177	3.2%	111	2.7%
Language Barrier	43	0.8%	42	1.0%
Refused	568	10.3%	345	8.3%
Scheduled Callback	147	2.7%	0	0.0%
Wrong Number	43	0.8%	83	2.0%
Fax Number	99	1.8%	67	1.6%
Partial Survey	22	0.4%	24	0.6%
Screener Termination	71	1.2%	66	1.6%
Complete	434	7.9%	434	10.5%
Total Calls Attempted	5,487		4,140	

## Demographic Results

The survey results have been segregated into two groups, cyclists and drivers, in order to draw conclusions about how they might differently see and respond to the campaign. Recall that cyclists are those who know other cyclists, who cycle themselves, or who say that bicycling is their primary commute mode and drivers are those that do not know a cyclist and don't bicycle.

Table 11 describes the overall segregation of the sample for the baseline and the midcourse survey. The results are very similar.

**TABLE 11: OVERALL SAMPLING SEGREGATIONS ACHIEVED**

	<b>Drivers</b>	<b>Cyclists</b>
Baseline Sample Achieved	178 (41%)	256 (59%)
Midcourse Sample Achieved	197 (46%)	232 (54%)

In terms of overall transportation behaviors the groups have some expected and some unexpected differences. Unexpected was that there were more car trips per week for the cyclists. Interestingly, there are not striking differences in primary commute mode between the groups. In terms of some demographics, they have interesting disparities in terms of education, gender, and number of bicycles per household. Tables 12 through 15 describe averages from the survey results and Figure 4 shows the primary commute mode by segregation.

In Table 14 education levels from the 1990 Census were provided for interest only. Because the survey respondents are screened, they can't be compared directly to the general population of the Census results.

**TABLE 12: AVERAGE RESPONDENT TRAVEL BEHAVIOR BY SEGREGATION**

	<b>Car Trips per Week</b>	<b>Transit Trips per Week</b>	<b>Bicycle Trips per Month</b>
<b>Baseline Survey</b>			
Drivers	8.7	6.1	0
Cyclists	8.8	4.3	11.6
<b>Midcourse Survey</b>			
Drivers	9.0	4.9	0
Cyclists	10.0	2.7	10.7

**TABLE 13: RESPONDENT DEMOGRAPHICS BY SEGREGATION**

	<b>Ed. to High School</b>	<b>Some College</b>	<b>College Grad</b>	<b>Percent Male</b>	<b>Percent Female</b>
<b>Baseline Survey</b>					
Drivers	22%	40%	38%	38%	62%
Cyclists	13%	29%	59%	50%	50%
<b>Midcourse Survey</b>					
Drivers	30%	33%	37%	41%	59%
Cyclists	10%	24%	66%	47%	53%

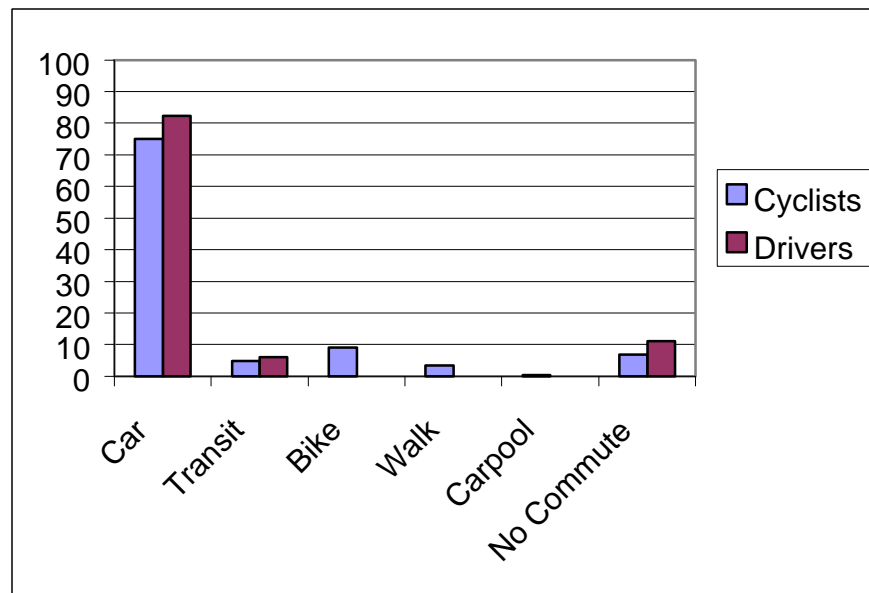
**TABLE 14: EDUCATIONAL DEMOGRAPHICS BY SURVEY WAVE**

	<b>Baseline</b>	<b>Midcourse</b>	<b>1990 Census</b>
No High school diploma	2%	2%	15%
High school or GED	14%	17%	19%
Some college, no degree	33%	28%	32%
Four-year degree or more	51%	53%	34%

**TABLE 15: HOUSEHOLD DEMOGRAPHICS BY SEGREGATION**

	People in household	Cars in household	Bikes in household
<b>Baseline Survey</b>			
Drivers	2.6	2.2	1.6
Cyclists	2.7	2.0	2.5
<b>Midcourse Survey</b>			
Drivers	2.8	2.1	1.8
Cyclists	2.7	2.2	2.8

**FIGURE 4: PRIMARY COMMUTE MODE BY SEGREGATION, MIDCOURSE**



## **BICYCLE & CAR SAFETY TELEVISION PSA SURVEY**

*(Midcourse Survey Version)*

### **INTRODUCTION**

Hello, my name is \_\_\_\_\_. I'm calling from Market Decisions, a Portland research firm. We are not selling anything. **(IF FROM SECONDARY DATABASES)** May I please speak with (insert contact name from database)?

REPEAT INTRODUCTION AS NECESSARY, AND CONTINUE. IF AVAILABLE CONTINUE SURVEY. IF CONTACT IS UNAVAILABLE, ASK FOR ANY OTHER ADULT TO SCREEN.

We are surveying people in Oregon to obtain opinions about public service announcements regarding bicycles and automobiles. This short survey takes about ten minutes. Is this an OK time? First I'd like to ask...

### **SCREENING QUESTIONS**

S1. Are you 19 years of age or older?

1 Yes

2 No → **We are only talking to adults over 19 years of age. Thank you for your time. Is there anyone else available that is 19 or over? THANK AND TERMINATE IF NO**

S2. Have you ever had a driver's license?

1 Yes

2 No → **We are only talking to those that have had drivers licenses. Thank you for your time. Is there anyone else available? THANK AND TERMINATE IF NO**

- S3. How many times a week do you make a trip by car, public transit, or bicycle for commuting, shopping, or errands? **(IF NEEDED: “IN AN AVERAGE WEEK, YEAR ROUND.” EACH ROUND-TRIP WOULD COUNT AS ONE TRIP.)**

\_\_\_\_\_ **Record Number of Trips**

997 DK

→ **IF S3 < 4, WE ARE ONLY TALKING TO THOSE WHO MAKE MORE TRIPS EVERY WEEK. THANK YOU FOR YOUR TIME. IS THERE ANYONE ELSE AVAILABLE? THANK AND TERMINATE.**

**SURVEY BODY**

- Q1 How many of the [INSERT S3] trips you make each week for commuting, shopping, or errands are made by car? **(IF NEEDED “IN AN AVERAGE WEEK, YEAR ROUND”)**

\_\_\_\_\_ **Record Number of Trips**

997 DK

**[IF Q1 = S3 SKIP TO Q3]**

- Q2 And how many of those [INSERT S3] trips are on public transit? **(IF NEEDED “IN AN AVERAGE WEEK, YEAR ROUND”)**

\_\_\_\_\_ **Record Number of Trips**

997 DK

- Q3 Now thinking about an entire month, about how many trips by bicycle might you make *in a month* for commuting, shopping, or errands?

\_\_\_\_\_ **Record Number of Trips**

997 DK

Q4. What transportation do you use most of the time for commuting to work or school? **(Single Mention)**

- 1 Car
- 2 Public Transit (Bus/Max)
- 3 Bicycle
- 4 Walk
- 5 Carpool
- 6 Don't commute
- 7 Don't know

Q5. Beside yourself, do you know of a neighbor, friend, or relative that uses a bicycle once a month or more for commuting, shopping, or errands?

- 1 Yes
- 2 No

**(Q6 INTERVIEWER NOTE – FOR FIRST SURVEY WAVE NOTE THAT THE TELEVISION CAMPAIGN HAS NOT AIRED YET)**

Q6 Do you recall seeing a recent public service campaign about bicycle and car safety on a Portland television station? **(CONFIRM YES RESPONSES, CODE UNSURE RESPONSES AS NO)**

- 1 Yes
- 2 No → **Go to Q8**
- 3 No, Don't watch television → **Go to Q8**

Q7. What did you learn from these public service announcements? **(DO NOT READ LIST. ACCEPT ALL MENTIONS. PROBE WITH “CAN YOU RECALL ANYTHING YOU LEARNED? END WITH ‘WAS THERE ANYTHING ELSE YOU LEARNED?’)**

- 11 Cars should not drive in bike lanes
- 12 Bicycles should use bike lanes where provided
- 13 Bicyclists should indicate turns
- 14 Car drivers should indicate turns for the benefit of pedestrians and bicycles
- 15 Bicycles can be an alternative to cars for commuting, shopping and errands
- 16 Bicycles can be ridden safely on city streets

- 17 Bicycles are vehicles, like cars
- 18 Bicycles are legitimate users of the road
- 19 Bicycling is good for the environment
- 20 How to ride a bicycle safely in the dark and rain
- 21 How cars should stop at stop signs and lights
- 22 How bicycles should stop at stop signs and lights
- 23 How bikes should ride with traffic like a car
- 24 Most bicyclists follow the rules of the road
- 99 Other \_\_\_\_\_
- 97 Can't recall, Don't know

**INTRODUCTION FOR LIKERT RESPONSES**

**Next, I'm going to read you a mixture of statements and questions. I'll ask you to rate the statements on a scale of 1 to 5, where 1 means strongly disagree and 5 means strongly agree, and 3 is neutral, meaning you neither agree nor disagree. For the questions, you'll simply answer yes or no.**

**Interviewer Note: If respondent uses number to answer question instead of words, please verify the word correlating to the number they selected for the first couple of responses to be sure they understand the scale properly.**

Q8. Using this 1 to 5 scale, please rate your agreement with the statement: Bicycles can be a reasonable alternative to a car for commuting, shopping, or errands.

- 1 Strongly Disagree
- 2 Disagree
- 3 Neutral
- 4 Agree
- 5 Strongly Agree
- 7 Don't Know

**[ASK Q9 IF Q6 = YES, RECALL PSA, AND Q8 ≥ 3]**

Q9 Was your opinion on bicycles as an alternative to cars improved after seeing the recent television campaign, yes or no?

- 1 Yes, improved
- 2 No, not improved
- 3 No change
- 7 Don't know

Using the same 1 to 5 scale, please rate your agreement with the following statements:

Q10 Most car drivers understand how to drive safely around bikes and bike lanes. **(IF NEEDED MOST IS AT LEAST 90% OR NINE OUT OF TEN)**

- 1 Strongly Disagree
- 2 Disagree
- 3 Neutral
- 4 Agree
- 5 Strongly Agree
- 7 Don't Know

**[ASK Q11 IF Q1, USE CAR > 0]**

Q11 When driving a car, please rate your knowledge of the rules about driving where there are bike lanes. Use 1 for completely unsure and 5 for absolutely positive that you know the rules.

- 1 Completely Unsure
- 2 Unsure
- 3 In-between
- 4 Positive
- 5 Absolutely Positive
- 7 Don't Know

**[ASK Q12 IF Q3, USE BIKE > 0]**

Q12 When riding a bike, please rate your knowledge of the rules about riding in bike lanes. Use 1 for completely unsure and 5 for absolutely positive that you know the rules.

- 1 Completely Unsure

- 2 Unsure
- 3 In-between
- 4 Positive
- 5 Absolutely Positive
- 7 Don't Know

**[ASK Q13 IF Q6 = YES, RECALL PSA, AND Q11 ≥ 4 OR Q12 ≥ 4]**

Q13. Did you learn more about how cars and bikes should behave around bike lanes from the television campaign, yes, or no?

- 1 Yes
- 2 No, already knew
- 3 Don't know

Next, using the same 1 to 5 scale, please rate your agreement with the following statements:

Q14. Most car drivers stop properly at stop signs and traffic lights. **(IF NEEDED MOST IS AT LEAST 90% OR NINE OUT OF TEN)**

- 1 Strongly Disagree
- 2 Disagree
- 3 Neutral
- 4 Agree
- 5 Strongly Agree
- 7 Don't Know

Q15. Most bicyclists stop properly at stop signs and traffic lights. **(IF NEEDED MOST IS AT LEAST 90% OR NINE OUT OF TEN)**

- 1 Strongly Disagree
- 2 Disagree
- 3 Neutral
- 4 Agree
- 5 Strongly Agree
- 7 Don't Know

Q16. Please rate your knowledge of the rules about how cars and bicycles should stop at stop signs and traffic lights. Use 1 for completely unsure and 5 for absolutely positive that you know the rules.

- 1 Completely Unsure
- 2 Unsure
- 3 In-between
- 4 Positive
- 5 Absolutely Positive
- 7 Don't Know

**[ASK Q17 IF Q6 = YES, RECALL PSA AND Q16 ≥ 4]**

Q17. Did you learn more about how cars and bicycles should stop properly at signs and lights from the television campaign, yes or no?

- 1 Yes
- 2 No, already knew
- 3 Don't know

Going back to the 1 to 5 scale, please rate your agreement with the following two statements:

Q18. Most bicyclists ride safely in the dark and rain. **(IF NEEDED MOST IS AT LEAST 90% OR NINE OUT OF TEN)**

- 1 Strongly Disagree
- 2 Disagree
- 3 Neutral
- 4 Agree
- 5 Strongly Agree
- 7 Don't Know

Q19. Please rate your knowledge of the rules about how bicyclists should ride safely in the dark and rain. Use 1 for completely unsure and 5 for absolutely positive that you know the rules.

- 1 Completely Unsure
- 2 Unsure
- 3 In-between
- 4 Positive
- 5 Absolutely Positive

7 Don't Know

**[ASK IF Q6 = YES, RECALL PSA, AND Q19 ≥ 4]**

Q20. Did you learn more about how bicyclists should ride safely in the dark and rain from the television campaign, yes, or no?

- 1 Yes
- 2 No, already knew
- 3 Don't know

Again, Using the same 1 to 5 scale, please rate your agreement with the following two statements:

Q21. Most bicyclists ride correctly on the right side of the street like a car. **(IF NEEDED MOST IS AT LEAST 90% OR NINE OUT OF TEN)**

- 1 Strongly Disagree
- 2 Disagree
- 3 Neutral
- 4 Agree
- 5 Strongly Agree
- 7 Don't Know

Q22. Bicyclists should ride on the right side of the street like a car.

- 1 Strongly Disagree
- 2 Disagree
- 3 Neutral
- 4 Agree
- 5 Strongly Agree
- 7 Don't Know

**[ASK IF Q6 = YES, RECALL PSA AND Q22 ≥ 4]**

Q23. Did you learn that bicyclists should ride on the right side of the street from the television campaign, yes, or no?

- 1 Yes
- 2 No, already knew
- 3 Don't know

And finally, Using the 1 to 5 scale once again, please rate your agreement with the following:

**[ASK IF Q1, USE CAR > 0]**

Q24. When I drive a car, I feel that I understand the rights and responsibilities of bicycles on the road.

- 1 Strongly Disagree
- 2 Disagree
- 3 Neutral
- 4 Agree
- 5 Strongly Agree
- 7 Don't Know

**[ASK IF Q3, USE BIKE > 0]**

Q25. As a bicyclist, I feel that I understand my rights and responsibilities when I cycle.

- 1 Strongly Disagree
- 2 Disagree
- 3 Neutral
- 4 Agree
- 5 Strongly Agree
- 7 Don't Know

Q26 I feel that most bicyclists follow the rules of the road.

- 1 Strongly Disagree
- 2 Disagree
- 3 Neutral
- 4 Agree
- 5 Strongly Agree
- 7 Don't Know

Q27 I feel that most car drivers follow the rules of the road.

- 1 Strongly Disagree
- 2 Disagree
- 3 Neutral
- 4 Agree
- 5 Strongly Agree
- 7 Don't Know

**SURVEY DEMOGRAPHICS**

I now have a few final questions about you and your household to help us understand the results of our research...

D1. How many people live in your household?

\_\_\_\_\_ **Record Number of People**  
97 DK

D2. How many cars does your household own?

\_\_\_\_\_ **Record Number of Cars**  
97 DK

D3. How many bicycles does your household own?

\_\_\_\_\_ **Record Number of Bikes**  
97 DK

D4. What is the highest level of schooling that you've completed? (READ LIST)

- 1 Grade school
- 2 Some high school
- 3 High school grad
- 4 Some college
- 5 College graduate or higher
- 7 DK / NA
- 8 Refused

D5. What is your zip code? (IF DON'T KNOW, RECORD PHONE NUMBER FOR CODING)

\_\_\_\_\_ **Record Zip Code**  
99997 DK

D5A. Record or verify first name

**Record** \_\_\_\_\_

D5B. Verify Phone Number

**Record** \_\_\_\_\_

D6. RECORD GENDER (DO NOT ASK)

- 1 Male
- 2 Female

**Thank you for your time.**