



DON'T TRASH ARIZONA

LITTER EVALUATION SURVEY

September 2016

Prepared for:



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STUDY OVERVIEW

In August 2006, the Maricopa Association of Governments (MAG) launched a litter prevention and education program known as *Don't Trash Arizona*. The purpose of the program is to reduce litter on the regional freeway system by developing a strategy to increase public awareness and change behavior. The scope of work for the program additionally mandated that an evaluative process be included to measure the success of the program.

First, “secondary” research was conducted to review existing litter campaigns, not only in other regions and states, but globally. This was accomplished through online research and targeted interviews with managers of litter campaigns in other states.

The secondary research found that litterers were predominately single males, aged 18 to 24—with a secondary tier of litterers aged 25 to 34. They tend to be smokers, eat/buy fast food two times per week or more, frequent bars and nightclubs, and drive pickup trucks. According to the Transportation Research Board, 55 percent of littering is deliberate, while 45 percent occurs “accidentally” when items blow or fall off vehicles. Littering most often takes place when drivers are alone, and many reported that they did not consider small items like cigarettes and candy wrappers to be litter.

Following the secondary research, a benchmark survey was conducted in December 2006 to determine initial attitudes and awareness of litter issues in Arizona and to evaluate littering behavior.

A follow-up, evaluative survey was then conducted in July 2008 at the end of the first two years of the campaign in order to determine if any changes in awareness, attitudes or behavior were realized. Annual surveys have been conducted in subsequent years, focusing on Maricopa County residents. Follow up studies have been conducted in August for the past 9 years – 2008 to 2016 with the focus of this current report on data collected in August/September 2016.

Communication strategies are informed each year based on the survey results. These strategies primarily target the 18 to 34 male demographic, with a secondary demographic of key influencers to them, primarily women of varied ages. Messages targeted toward both accidental and deliberate littering are included, and a variety of strategies and tactics are employed utilizing public relations, paid advertising, special events, school outreach, distribution of informational materials and the development of value-added partnerships. The survey includes questions to help evaluate the effectiveness of various tactics and campaign messaging, so that outreach efforts can be refined each year for best results.

KEY FINDINGS AND RECOMMENDATIONS

- The proportion of residents who perceive litter along Maricopa County freeways as a “big” problem has experienced a steady decline over the last several years, dropping by 30 percent since 2008.
- Food and organic material continues to be the most common type of litter among Maricopa County motorists. Knowing that, educational messaging related to this type of litter should continue.
- Cigarette butt litter remains of concern. Although the percentage increase over the past year is not statistically significant, cigarette butt litter has steadily increased from 2012 to 2015 from 1 to 10 percentage points, or a 900 percent change.
- Roadside debris from vehicle trouble has seen an increase from 2012 to 2015 from 5 to 16 percent, a 220 percent change.
- The survey found that the anti-litter program is working to decrease the number of admitted litterers in the target demographic of males 18-35. There was a 30 percent increase among the target males reporting they had NOT littered in the past year (47 percent this year compared to 36 percent last year).
- While awareness of the *Don't Trash Arizona* campaign overall declined slightly from 2015 to 2016, within the target audience of males ages 18-34, awareness of the campaign increased by about five percent in 2016 compared to 2015.
- More people are recalling the main campaign slogan. Among the general population, recall of the advertising for *Don't Trash Arizona* increased by an overwhelming 450 percent from last year. Among the target demographic of males ages 18-34, recall of the advertising for the campaign experienced a 30 percent increase compared to last year, with overall recall among the target group double that of the general population.
- Familiarity of the *Don't Trash Arizona* campaign website (www.donttrashaz.com) among the general population increased by 44 percent this year as compared to last year. The target audience demonstrated a 39 percent increase in awareness of the campaign's website this year compared to last year, and familiarity with the website among this target group is, again, almost double that found among the general population.
- One disappointing finding in the survey was that the number of admitted litterers increased from 26 to 33 percent, reversing a downward trend seen in recent years. However, the number of those reporting “accidental littering” fell slightly (from 46 to 41 percent), while those who identified as non-litterers remained statistically consistent from prior years (at 25 percent).
- Opportunities for messaging include continued focus on cigarette butt and food litter, and new messaging regarding the problems with leaving roadside debris from vehicle trouble.



EXECUTIVE SUMMARY

The Maricopa Association of Governments (MAG), through its consultant, Fingerpaint, commissioned WestGroup Research of Phoenix to conduct a telephone study with adult residents of Maricopa County. The purpose of the study was to evaluate overall awareness of and attitudes toward litter issues, explore littering behavior, and to compare responses to previous annual studies.

In addition to interviewing a general representative respondent base for this survey, an oversample of males ages 18 to 34 was also conducted in 2016. Therefore, in the primary portion of this report, total data were weighted back to the demographic proportions achieved naturally in the general market data collection prior to oversampling the target group of 18 to 34 year old males. A supplemental, unweighted report of the target group compared to all others is provided in Appendix A. Unless otherwise specified, proportions and frequencies shown in the main report for 2016 are based on weighted data, while proportions and frequencies in Appendix A are based on unweighted data.

In 2016, results are based on n=470 fifteen-minute telephone interviews along with n=32 web-based interviews for a total of n=502 completed surveys. The margin of error for the survey is approximately $\pm 4.5\%$ at the 95% confidence level.

Below are some key findings of the general population survey.

Driver Characteristics

- A large majority of residents indicated either that they do not haul items in a pick-up truck or in an open-air trailer (44%) or that, if they do, they always secure their loads (42%). A smaller proportion indicated they only sometimes secure their loads (6%) while another 8% reported they never secure their loads.

Litter Awareness and Behavior

- Approximately three in five (62%) residents surveyed believe litter along Maricopa County freeways is a “big” or “moderate” problem, which is comparable to figures recorded in recent years. The proportion of residents who perceive litter as a “big” problem appears to be on a downward trend over the last several years.
- Approximately three in five (62%) residents reported they have not littered in the past year, reversing the increase seen from 2014 to 2015 (62%, up to 71%). Among those who reported littering items, food/organic material continues to be the most common type of litter mentioned by residents (39%), followed by small pieces of paper (24%) and other food wrappers (12%).
- Despite the downward trend overall in the percent of residents who report not littering in the past year, there was a significant increase in the percentage of the target group of males ages 18 to 34 reporting they had not littered in the past year (47% compared to 36% in 2015)
- Residents who admitted to littering in 2016 most often reported they did so while driving or riding in a vehicle (37%, compared to 45% in 2015). This is similar to figures recorded in recent years and is the predominant scenario mentioned by admitted litterers.



- Similar to recent years, the most common littering situation residents have experienced in the past three months is trash falling out of a vehicle (28%), followed by having problems with a vehicle and leaving debris on the roadside (16%).

Campaign Awareness

- Nearly one in four residents (24%) indicated they had seen advertising related to litter or littering in the past three months. This represents the lowest level of awareness recorded in the past several years, though it is only one percentage point lower than in 2012 and 2008.
- Among the target group of males 18 to 34, however, awareness of the campaign increased slightly from 37% to 39%. It was the lack of awareness among the non-target residents that led to the overall decrease in awareness.
- Among those who indicated they had seen or heard litter-related advertising in the past three months, the “slogan” residents were most likely to recall were do not litter (13%) and *Don’t Trash Arizona* (11%). Encouragingly, residents ages 18 to 34 were more likely than older residents to correctly recall *Don’t Trash Arizona*.
- Half (51%) of residents indicated they have heard the slogan “*Don’t Trash Arizona*” in either an aided or unaided fashion. Males and younger residents were more likely to have awareness of the slogan.
- More than one in ten (13%) residents surveyed reported familiarity with DontTrashArizona.com. This represents a statistically significant increase compared to 2015 (9%). Again, males and younger residents were more likely than their comparative groups to report being familiar with the website.

Profile of Litterers

- The proportion of admitted litterers increased to 33% this year (up from 26% last year). However, the proportion of accidental litterers was down, thus the proportion of non-litterers remained comparable to recent years (25% compared to a range of 24% to 29% in the past several years).



I. INTRODUCTION

A. Background and Methodology

The Maricopa Association of Governments (MAG), through its consultant, Fingerpaint, commissioned WestGroup Research of Phoenix to conduct a telephone study with adult residents of Maricopa County. The purpose of the study was to evaluate overall awareness of and attitudes toward litter issues, explore littering behavior, and to compare responses to previous annual studies.

For surveys prior to 2011, interviewing was conducted using a Random Digit Dial (RDD) database comprised of “landline” phone numbers from targeted zip codes. In each subsequent year, interviewing was conducted using both a Random Digit Dial (RDD) with landline phone numbers, as well as a supplemental cell phone database. Cell phone sample is necessary both to speak with cell-phone only residents and to ensure accurate representation in the sample from younger residents. It is reported that approximately 40% of residents in Maricopa County live in cell-phone only households and an additional 20 percent live in cell-phone-mostly households.

As in previous years, in addition to interviewing a general representative respondent base for this survey, an oversample of males ages 18 to 34 was also conducted in 2016. Therefore, in the primary portion of this report, total data were weighted to reflect desired age and gender breakdowns shown in the table below. These proportions were arrived at based on the distribution of residents obtained during the general market surveying, prior to the oversample of males ages 18 to 34.

With data weighting, the total sample is reflective of the representative demographic distribution. A supplemental, unweighted report with the 18 to 34 year old male demographic vs. all other demographics is provided in Appendix A. Unless otherwise specified, proportions and frequencies shown in the main report for 2016 are based on weighted data, while proportions and frequencies in the supplemental males ages 18 to 34 report are based on unweighted data.

In 2016, results are based on n=470 fifteen-minute telephone interviews along with n=32 web-based interviews for a total of n=502 completed surveys. The margin of error for the survey is approximately $\pm 4.5\%$ at the 95% confidence level.

Total Data Weighting Scheme

Age	% of sample
18 to 34 years old	34%
35 to 54 years old	32%
55+ years old	33%
Male	51%
Female	49%



B. Significance Testing and Sub-Group Analysis

Throughout this report, symbols (▼or▲) or superscript letters (^{ABC}) next to certain 2016 data indicate that the number is significantly different at the 95% confidence interval than the corresponding figure in 2015. For example, in the table below, the 15 percent for “yes” means that the percentage of 2016 residents who answered “yes” is significantly lower than the percentage of 2015 residents who gave that same answer.

In yearly tracking charts and tables, the current year’s results are only compared in this manner to the previous year’s results for the same question.

Response	2016 n=502	2015 n=401
Yes	15%▼	35%

Data was analyzed by the following demographic subgroups:

- Gender: male, female
- Age: < 35, 35-54, 55+



C. Demographics

Per established quotas, the gender composition of the survey was evenly split (49% females and 51% males). Overall, the demographic profile of respondents in 2016 was comparable to 2015.

Table 1: Respondent Demographics

Characteristic	2016 n=502	2015 n=401	2014 n=401	2013 n=451	2012 n=600
Gender					
Male	51%	50%	50%	50%	50%
Female	49%	50%	50%	50%	50%
Age					
18 to 34	34%	33%	33%	28%	28%
35 to 54	32%	33%	34%	43%	43%
55+	33%	34%	33%	30%	29%
Average	43.4 yrs	43.7 yrs	43.5 yrs	44.0 yrs	43.8 yrs
Language spoken at home					
English only	74%	71%	74%	72%	72%
Spanish only	--	<1%	--	1%	1%
Mostly Spanish but some English	1%	<1%	1%	2%	3%
Equally in both languages	7%	5%	5%	4%	3%
Mostly English but some Spanish	12%	12%	10%	11%	12%
English and other language	6%	8%	7%	9%	7%
Refused	<1%	3%	3%	1%	3%

▲▼ Indicates significant difference compared to 2015 at 95% confidence level.



II. DRIVER CHARACTERISTICS

A. Securing Loads

A large majority of respondents indicated either that they *do not haul* items in a pick-up truck or in an open-air trailer (44%) or that, if they do, they *always* secure their loads (42%). A smaller proportion indicated they only *sometimes* secure their loads (6%) while another 8% reported they *never* secure their loads.

Female residents were more likely than male residents to report *never* hauling items in this fashion (11% vs. 5%)

Table 2: How often Drivers Secure Loads

Frequency	2016 n=502
NET likely (Always + Most)	48%
Always	42%
Sometimes	6%
Never	8%
I don't haul	44%

Q10: On average, how often do you secure the load that you are hauling with ties, bungees, or a tarp when driving in a pick-up truck or when pulling an open-air trailer?

Note: in prior years, question was limited to drivers who reported primarily driving in pickup-trucks. Historical data, therefore, is not comparable and is not shown in Table 5.

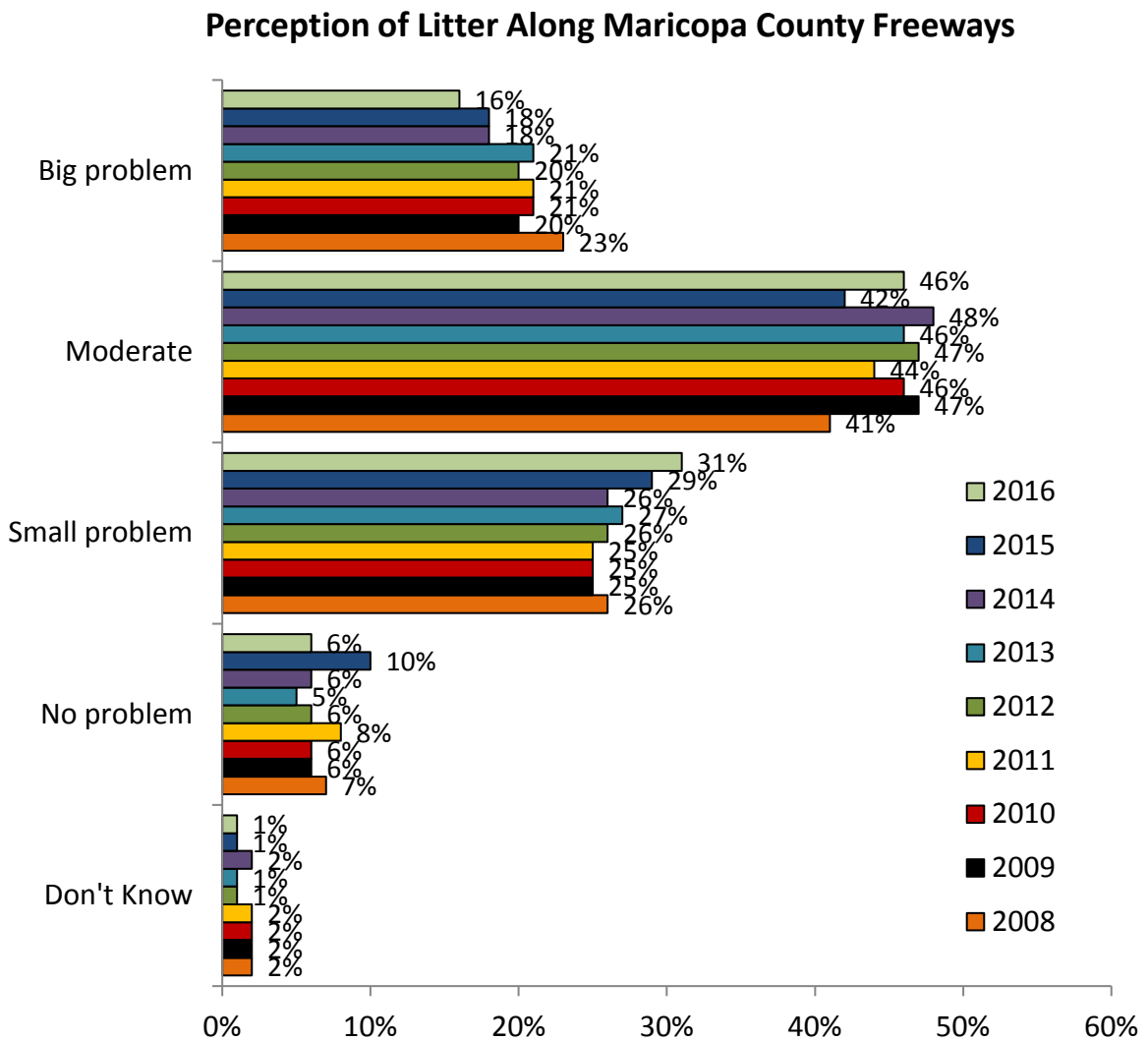


III. LITTER AWARENESS AND BEHAVIOR

A. Perception of Litter as Problem Along Freeways

Approximately three in five (62%) residents surveyed believe litter along Maricopa County freeways is a “big” or “moderate” problem, which is comparable to figures recorded in recent years. Zooming out, the proportion of residents who perceive litter as a “big” problem appears to be on a downward trend over the last several years (starting with 23% in 2008, down to 16% in 2016).

Neither gender nor age group differentiation showed significant differences in terms of perceptions of litter among Maricopa County freeways.



2016 n=502; 2015 n=401; 2014 n=401; 2013 n=451; 2012 n=600; 2011 n=602; 2010 n=601; 2009 n=637; 2008 n=744; Note: In 2009 question was changed to “Maricopa County” where previously it was “in your county.”



Table 3: Freeway Litter as a Problem in Maricopa County

Rating	2016 n=502	2015 n=401	2014 n=401	2013 n=451	2012 n=600	2011 n=602
Big + Moderate problem	62%	60%	66%	67%	67%	65%
Big problem	16%	18%	18%	21%	20%	21%
Moderate problem	46%	42%	48%	46%	47%	44%
Small problem	31%	29%	26%	27%	26%	25%
Not a problem at all	6%	10%	6%	5%	6%	8%
Don't know	1%	1%	2%	1%	1%	2%

Q6: In your opinion, how big of a problem is litter along freeways in Maricopa County? Would you say it is a...



B. Personal Littering

Approximately three in five (62%) residents surveyed indicated they have not littered in the past year, reversing the bump seen from 2014 to 2015 (62%, up to 71%). Among those who reported littering items, food/organic material continues to be the most common type of litter mentioned by residents (39%), followed by small pieces of paper (24%) and other food wrappers (12%).

Residents ages 35 and older were more likely than younger residents to report *never littering in the past year* (61% of 35 to 54 year olds and 79% of those ages 55 and older vs. 46% of those ages 18 to 34). *In fact, there was an increase in the percentage of males ages 18 to 34 who reported that they had not littered in the past year* (See Appendix for details).

Table 4: Items Personally Discarded as Litter – Total Responses

Top Items Mentioned	2016 n=502	2015 n=401	2014 n=401	2013 n=451	2012 n=600
Have not littered in past year.	62%▼	71%	62%	61%	65%
	(n=191)	(n=115)	(n=151)	(n=176)	(n=211)
Food/organic material	39%	50%	39%	36%	40%
Small pieces of paper	24%	27%	25%	31%	31%
Cigarette butts	12%	6%	3%	7%	5%
Other food wrappers	10%	12%	12%	8%	13%
Paper/newspaper/napkins	3%	4%	3%	1%	--
Don't know	5%	11%	23%	9%	8%

Q8: Can you think of items that you yourself might have discarded as litter (by litter we mean items you did not put in a trash receptacle) in the past year? (Multiple responses allowed.)

Note: items with less than 3% responses in 2016 not included in this table

▲▼ Indicates significant difference compared to 2015 at 95% confidence level.



C. Littering Circumstances

A statistically comparable proportion of residents who admitted to littering in 2016 reported they did so while driving or riding in a vehicle (37%, compared to 45% in 2015). This is similar to figures recorded in recent years and is the predominant scenario mentioned by admitted litterers.

Male admitted litterers were more likely than female admitted litterers to report littering while driving or in a vehicle (46% vs. 27%).

Table 5: Littering Situation – Total Responses
Among those who indicated they have littered in the past year

Top situations	2016 n=191	2015 n=115	2014 n=151	2013 n=176	2012 n=211
Driving/riding/traveling in vehicle.	37%	45%	46%	52%	46%
Opened door/window–flew out	11%	6%	5%	4%	4%
Just threw it/got rid of it anywhere I could	10%	8%	10%	3%	6%
Walking outside	7%	10%	7%	14%	10%
In a parking lot	6%	6%	3%	--	1%
No trash can around	6%	4%	5%	5%	6%
Cleaning out car	4%	3%	1%	4%	8%
Camping/hiking	3%	2%	1%	--	1%
Don't consider it litter if it's biodegradable	2%	3%	1%	1%	--
Don't know/can't remember	14%	15%	18%	10%	15%

Q9: To the best of your knowledge, what were the general circumstances in terms of where and what you were doing when you discarded litter? Any other circumstances?

▲▼ Indicates significant difference compared to 2015 at 95% confidence level.

Note: items with less than 2% responses in 2016 not included in this table.



D. Personal Experience with Specific Littering Situations

Residents were read a list of nine specific littering situations and were asked to indicate if they had personally experienced that littering situation in the past three months, more than three months ago, or had never experienced that specific situation. **Similar to recent years, the most common littering situation residents have experienced in the past three months is trash falling out of a vehicle (28%), followed by having problems with a vehicle and leaving debris on the roadside (16%).** No significant differences were observed compared to 2015.

As seen in past studies, residents aged 18 to 34 are generally more likely than older residents to report experiencing these scenarios.

Table 6a: Personal Experience with Littering Scenarios

Scenario	Past 3 months	3+ months	Never
Someone in a vehicle you were in threw trash out in an area that had no litter – 2016	6%	11%	83%
2015	7%	10%	83%
2014	7%	12%	81%
2013	6%	12%	82%
2012	6%	10%	84%
You or someone you were with got a ticket or warning for littering – 2016	<1%	<1%	99%
2015	1%	1%	98%
2014	1%	2%	97%
2013	8%	14%	78%
2012	9%	10%	81%
Rather than keep a beverage container in the car, you, or someone in a vehicle you were in, threw out a can or bottle – 2016	4%	7%	89%
2015	3%	8%	89%
2014	4%	8%	88%
2013	13%	9%	78%
2012	14%	10%	76%
Someone in a vehicle you were in threw trash out in an area that already had lots of litter – 2016	7%	13%	80%
2015	7%	11%	82%
2014	8%	12%	80%
2013	8%	11%	81%
2012	7%	14%	79%

Q7: I am going to read you a few statements pertaining to your litter awareness. For each of the following statements, please respond by telling me if this is something you "Have experienced within the past 3 months," "Have experienced over 3 months ago," or "Have never experienced."

No statistically significant differences observed between 2016 and 2015.



Table 6b: Personal Experience with Littering Scenarios (Continued)

Rating	Past 3 months	3+ months	Never
Someone in a vehicle you were in threw a can, bottle or litter out onto the side of the road – 2016	6%	10%	84%
2015	5%	13%	82%
2014	4%	10%	86%
2013	5%	12%	83%
2012	5%	13%	82%
Rather than keep a cigarette butt in the car, you or someone in the vehicle you were in threw the cigarette butt out the window – 2016	10%	13%	77%
2015	8%	14%	78%
2014	8%	10%	82%
2013	<1%	2%	98%
2012	1%	2%	97%
You threw out a small item from your vehicle like a candy wrapper, scrap paper, etc. – 2016	10%	11%	79%
2015	6%	11%	83%
2014	10%	9%	81%
2013	2%	10%	88%
2012	4%	8%	88%
You had problems with a vehicle and left debris like tire, part of a tire, or other stuff on the roadside – 2016	16%	10%	74%
2015	13%	8%	79%
2014	13%	12%	75%
2013	5%	12%	83%
2012	5%	13%	82%
You noticed that some trash fell out of a pickup or other vehicle you were driving or riding in – 2016	28%	22%	50%
2015	26%	20%	53%
2014	31%	20%	49%
2013	25%	20%	55%
2012	28%	21%	52%

No statistically significant differences observed between 2016 and 2015.

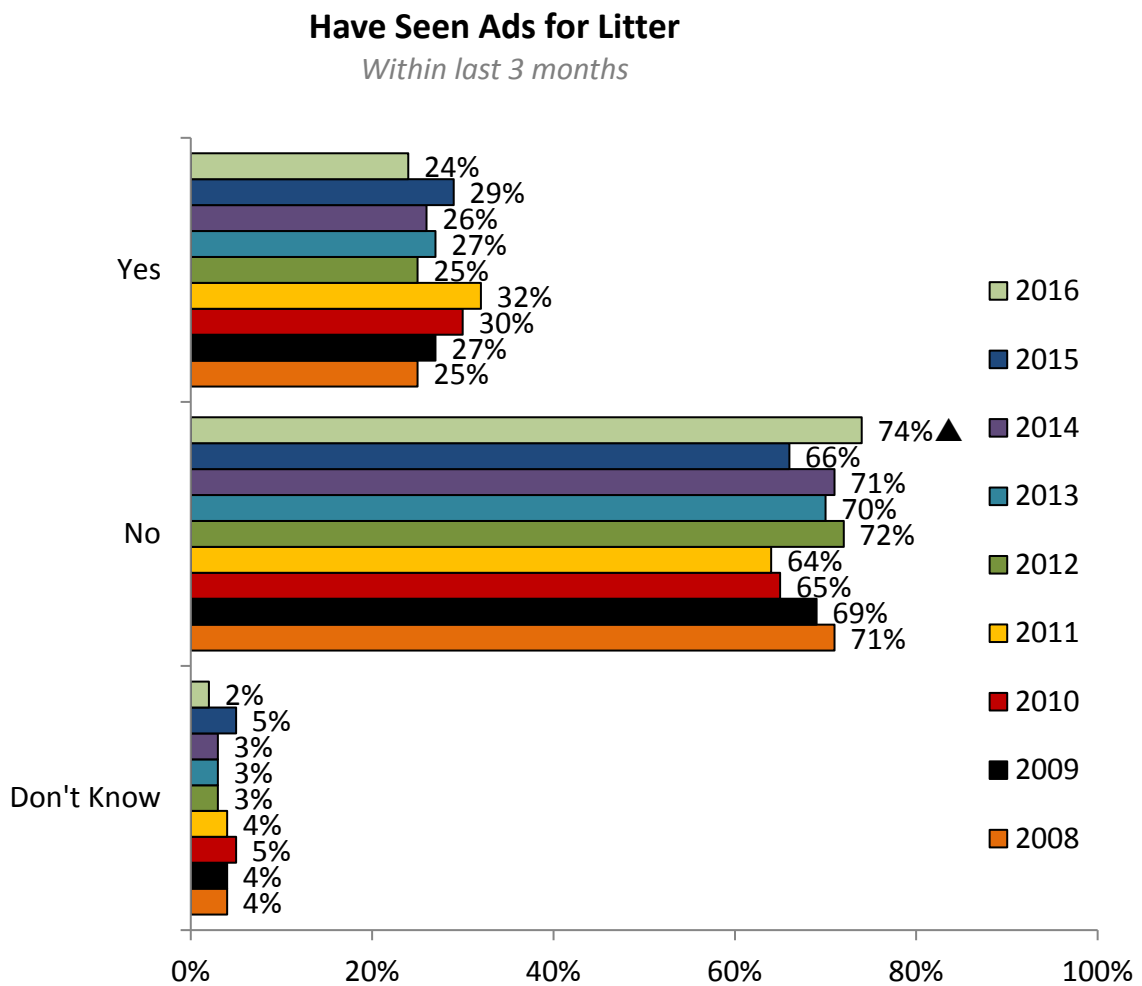


IV. CAMPAIGN AWARENESS

A. Awareness of Campaign

1. General Awareness

One fourth (24%) of residents indicated they had seen advertising related to litter or littering in the past three months. This represents the lowest level of awareness recorded in the past several years, though it is only one percentage point lower than in 2012 and 2008 (25% aware of advertising). However, as shown in Appendix A, awareness of the campaign among the target group of males 18 to 34 increased slightly from 37% in 2015 to 39% currently.



2016 n=502; 2015 n=401; 2014 n=401; 2013 n=451; 2012 n=600; 2011 n=602; 2010 n=601; 2009 n=637; 2008 n=744; Q11: *In the past three months, have you seen, heard or read any advertisements related to litter or littering?*



Among those who indicated they had seen or heard litter-related advertising in the past three months, the “slogans” residents were most likely to recall were *do not litter* (mentioned by 13%) and *Don’t Trash Arizona* (11%). Mentions of *Don’t Trash Arizona* were up from 2015 (11%, up from 2%), reversing a decline seen in the prior year. Encouragingly, residents ages 18 to 34 were more likely than older residents to correctly recall *Don’t Trash Arizona* (22% vs. 3% of those ages 35 to 54 and 0% of those ages 55 and older).

A lower proportion of residents than in prior years indicated they *don’t know* or *could not recall* (41%, down from 53% in 2015).

Table 7: Main Slogan of Recalled Advertising
Among those who indicated they remember seeing ads related to litter or littering in the past 3 months

Top Responses	2016 n=118	2015 n=118	2014 n=104	2013 n=121	2012 n=150
Do not litter	13%	12%	12%	12%	15%
Don’t Trash Arizona	11% [▲]	2%	12%	3%	3%
You will be fined	8%	5%	5%	2%	5%
Littering is unlawful	6%	3%	1%	2%	4%
Keep Arizona Beautiful/Arizona Clean and beautiful	6%	5%	4%	2%	4%
Adopt a highway	5%	--	--	--	--
\$500 fine for a hamburger wrapper	3%	2%	1%	1%	1%
Keep our freeways clean.	2%	3%	2%	2%	5%
Don’t know	41% [▼]	53%	52%	57%	55%

Q12: [If yes in Q11] What was the main slogan used in the ads?

Note: response categories with less than 2% mentions in 2015 not listed in this table, unless relevant to tracking or campaign.

▲▼ Indicates significant difference compared to 2015 at 95% confidence level.

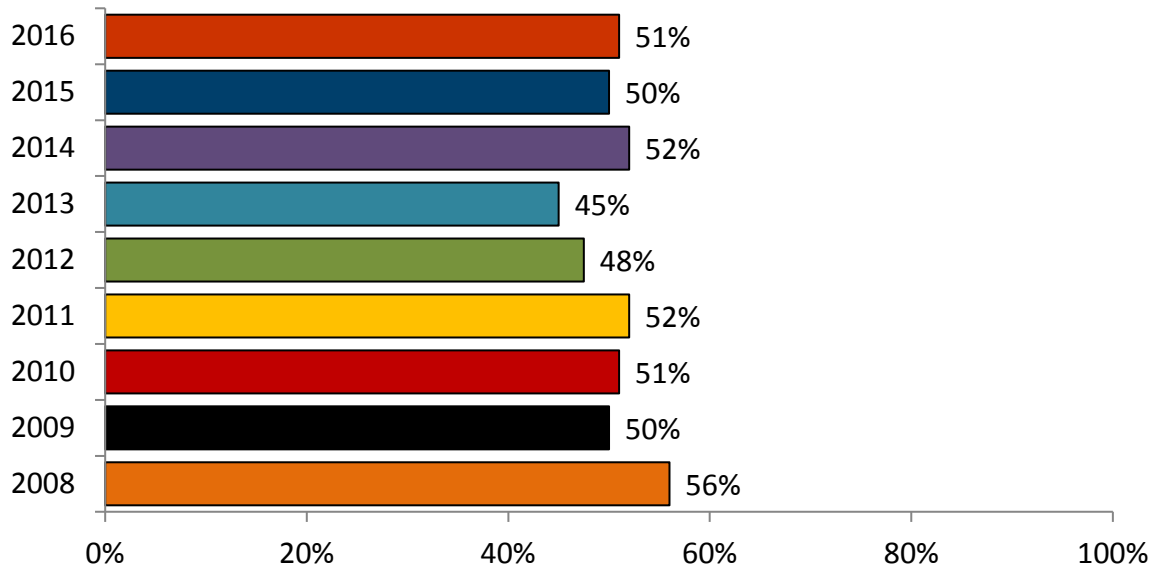


B. “Don’t Trash Arizona” Awareness

Half (51%) of residents surveyed indicated they have heard the slogan “Don’t Trash Arizona” in either an aided or unaided fashion. While this is comparable to figures recorded in recent years, it should be pointed out that male residents were more likely to be aware of the slogan (60% Net aware vs. 42%). Likewise, younger residents were more likely than those ages 55 or older to be aware (60% net awareness of those ages 18 to 34 and 56% of those ages 35 to 54 vs. 38% of those ages 55 and older).

Net Awareness of Don't Trash Arizona

Unaided + Aided



2016 n=502; 2015 n=401; 2014 n=401; 2013 n=451; 2012 n=600; 2011 n=602; 2010 n=601; 2009 n=637; 2008 n=744

Q12: [if yes in Q11] What was the main slogan used in the ads?

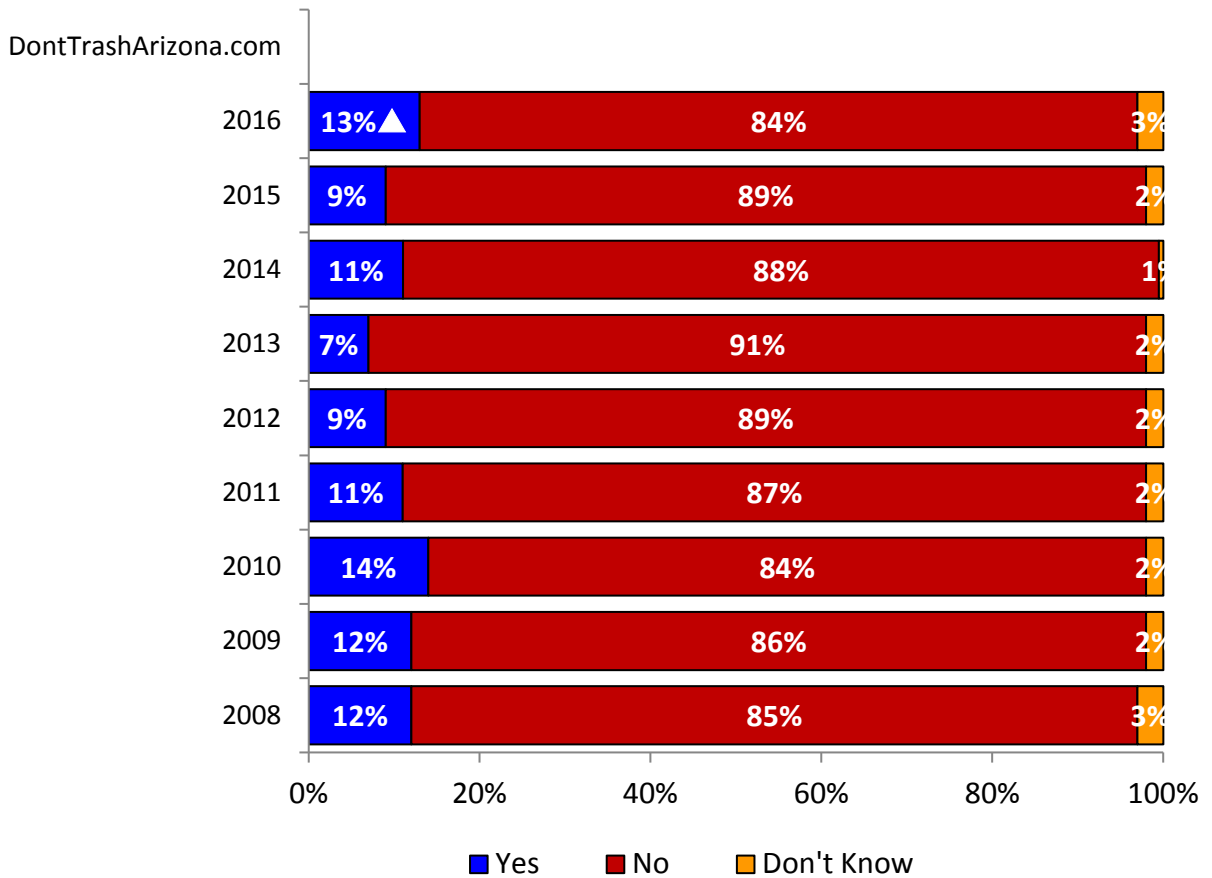
Q13: [if not mentioned in Q12] Have you seen or heard the slogan, “Don’t Trash Arizona?”



C. Awareness of Website

More than one in ten (13%) residents surveyed reported familiarity with DontTrashArizona.com. This represents a statistically significant increase compared to 2015 (9%). Male residents were more likely than female residents to report awareness (19% vs. 8%) and younger residents were more likely than older residents to report awareness (22% of those ages 18 to 34 and 15% of those ages 35 to 54 vs. 4% of those ages 55 and older).

Aided Awareness – DontTrashArizona.com



2016 n=502; 2015 n=401; 2014 n=401; 2013 n=451; 2012 n=600; 2011 n=602; 2010 n=601; 2009 n=637; 2008 n=744

Q14: Have you heard of www.DontTrashArizona.com?

▲▼ Indicate significant difference compared to 2015 at 95% confidence level



V. PROFILES OF LITTERERS

Residents were segmented into three categories based on their reported littering behavior.

- **“Admitted Litterers”** are defined as those who specifically mentioned items that they recall littering in the past year.
- **“Accidental Litterers”** are defined as residents who indicated they had never littered themselves, but reported being in a vehicle when littering occurred.
- **“Non-Litterers”** are those who indicated they had never littered themselves and also indicated they had never experienced other littering situations.

The proportion of admitted litterers among the total sample increased this year (33%, reversing a downward trend seen in recent years). The proportion of accidental litterers was down, however, so the proportion of non-litterers remained comparable (25% compared to a range of 24% to 29% in the past several years).

A breakdown of littering behavior demographics follows on the next page.

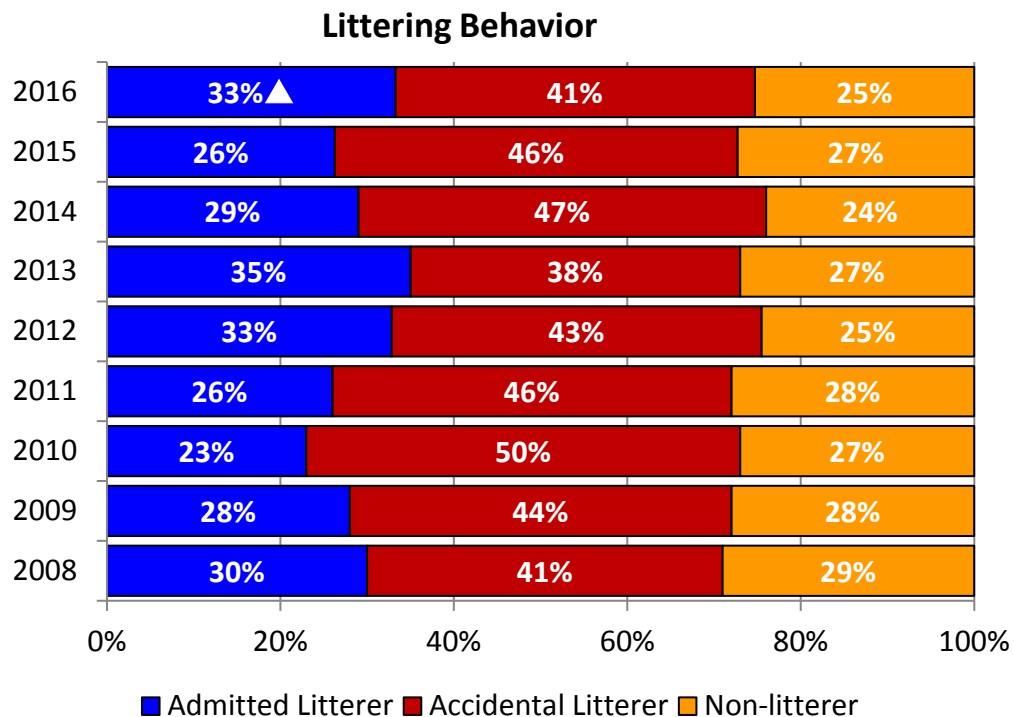


Table 8: Demographic Comparison Based on Littering Behavior

Characteristic	2016			2015		
	Admitted Litterers n=167 A	Accidental Litterers n=208 B	Non-Litterers n=127 C	Admitted Litterers n=106 A	Accidental Litterers n=185 B	Non-Litterers n=110 C
Gender						
Male	59% ^{C▲}	51%	41%	41%	55% ^A	51%
Female	41%	49%	59% ^A	59% ^B	45%	49%
Age						
18 to 34	52% ^{BC}	31% ^C	16%	59% ^{BC}	29% ^C	15%
35 to 54	35%	32%	30%	26%	37%	33%
55+	13%	37% ^A	54% ^{AB}	15%	34% ^A	52% ^{AB}
Average	36.9 yrs	44.6 yrs ^A	50.0 ^{AB}	36.0 yrs	44.5 yrs ^A	49.7 yrs ^{AB}
Household Language*						
English only	76%	70%	80%	69%	72%	73%
Spanish only	--	--	--	--	--	1%
Mostly Spanish + some English	2%	--	1%	1%	1%	--
Equally in Spanish and English	6%	8% [▲]	6%	9% ^B	3%	4%
Mostly English + some Spanish	12%	13%	10%	15%	12%	9%
English + Other	4%	9%	3%	5%	9%	7%
Refused	<1%	--	--	1%	3%	6%

^{ABC} Indicates significantly higher than corresponding sub-group in the same year

▲▼ Indicates significant difference compared to 2015 at 95% confidence level.



APPENDIX A

SUPPLEMENTAL RESULTS FOR MALES AGED 18 TO 34



BACKGROUND

Beginning in 2013, WestGroup Research oversampled the target audience (males ages 18 to 34) until a threshold of n=200 was achieved. Those results were pulled out separately in order to monitor changes within the target audience as well as to compare the target audience to the non-target audience.

In 2016 and 2015, the oversample of the target group was achieved by collecting data both over the phone and via a web survey. In 2014, the web methodology was not offered and thus comparisons to 2014 are shown only for reference. The 2016 and 2015 results are directly comparable because the same methodology was employed.

DRIVER CHARACTERISTICS

Table A1: How often Truck Drivers Secure Loads – Target vs. Non-Target

Frequency	2016 Target n=194	2016 Non-Target n=308
Always	52%	39%
Sometimes	5%	7%
Never	5%	8%
I don't haul	39%	45%
Don't Know	--	<1%

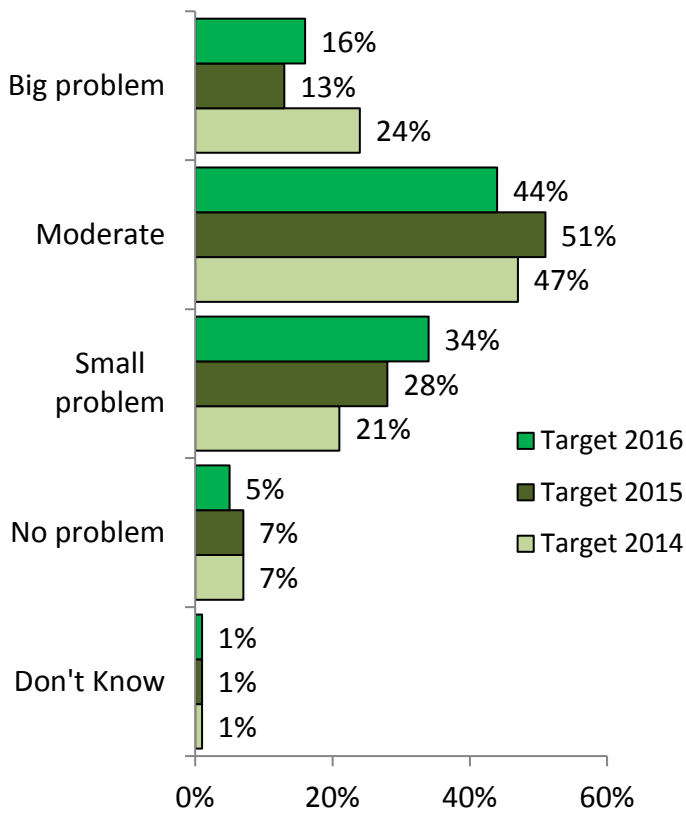
Q10: When putting items into the bed of your truck, how often, on average, do you secure your load (either with ties, bungees, a tarp, etc.)?

Note: in prior years, question was limited to drivers who reported primarily driving in pickup-trucks. Historical data, therefore, is not comparable and is not shown in Table A1.

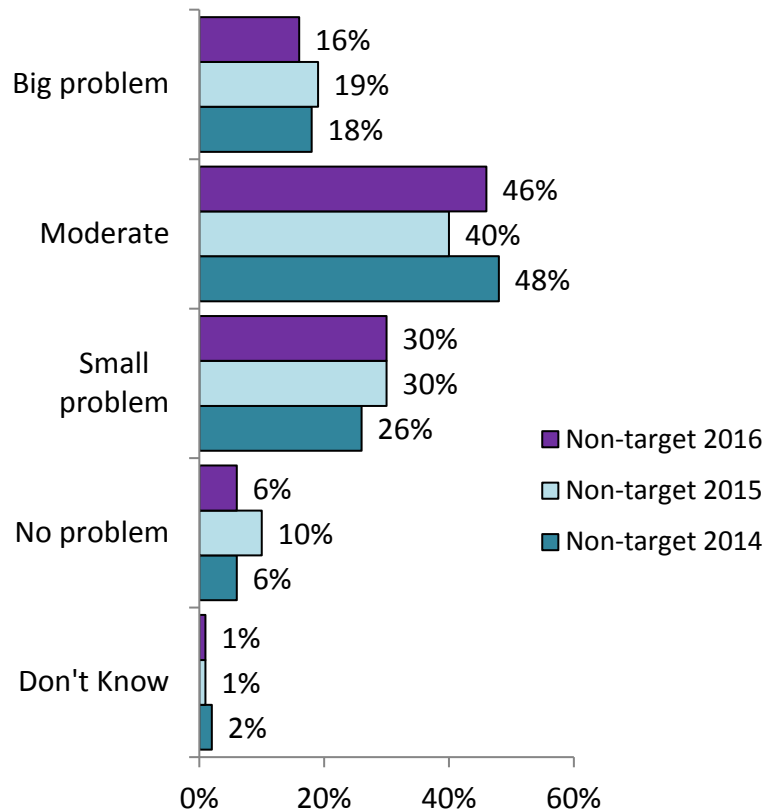


LITTER AWARENESS AND BEHAVIOR

Target Audience Perceptions



Non-Target Audience Perceptions



Q6: In your opinion, how big of a problem is litter along freeways in Maricopa County? Would you say it is a...

Target 2016 n=194; 2015 n=200; 2014 n=202

Non-Target 2016 n=308; 2015 n=353; 2014 n=325

▲▼ Indicates significant difference compared to 2015 at 95% confidence level.



Table A2: Items Personally Discarded as Litter – Target vs. Non-Target

Top Items Mentioned	2016 Target n=194	2015 Target n=200	2014 Target n=202	2016 Non-Target n=308	2015 Non-Target n=353	2014 Non-Target n=325
Have not littered in past year.	47%▲	36%	40%	66%▼	74%	66%
Food/organic material	19%	24%	14%	14%	14%	14%
Small pieces of paper	20%	22%	21%	6%	6%	7%
Cigarette butts	9%	8%	9%	3%	1%	<1%
Other food wrappers	9%	6%	10%	2%	4%	4%
Don't know	2%	2%	10%	5%	2%	8% ^E

Q8: Can you think of items that you yourself might have discarded as litter (by litter we mean items that you did not put in a trash receptacle) in the past year?

▲▼ Indicates significant difference compared to 2015 at 95% confidence level.

Table A3: Littering Situation – Target vs. Non-Target
Among those who indicated they have littered in the past year

Top situations	2016 Target n=103	2015 Target n=127	2014 Target n=121	2016 Non-Target n=106	2015 Non-Target n=93	2014 Non-Target n=110
Driving/riding/traveling in vehicle.	48%	41%	36%	32%	50%	44%
Walking outside.	11%	13%	13%	6%	8%	7%
Opened door/window–flew out.	16%	12%	4%	8%	5%	4%
In a parking lot.	11%	10% ^C	9%	3%	4%	1%
No trash can around.	11%	9% ^C	9%	3%	4%	6%
Just threw it/anywhere I could.	12%	7%	6%	9%	8%	10%
Cleaning out car.	5%	3%	3%	4%	2%	2%
Don't know/can't remember.	7%	6%	19%	16%	16%	19%

Q9: To the best of your knowledge, what were the general circumstances in terms of where and what you were doing when you discarded litter? Any other circumstances?

▲▼ Indicates significant difference compared to 2015 at 95% confidence level.

Table A4a: Personal Experience With Littering Scenarios – Target vs. Non-Target

Scenario	Past 3 months	3+ months	Never
Someone in a vehicle you were in threw trash out in an area that had no litter – Target 2016	12%	22%	66%
Target 2015	17%	26%	57%
Target 2014	21%	23%	56%
Non-target 2016	5%	7%	88%
Non-target 2015	4%	9%	87%
Non-target 2014	6%	10%	84%
You or someone you were with got a ticket or warning for littering – Target 2016	2%	3%	95%
Target 2015	<1%	2%	97%
Target 2014	4%	4%	92%
Non-target 2016	<1%	-	99%▲
Non-target 2015	1%	1%	98%
Non-target 2014	<1%	2%	98%
Rather than keep a beverage container in the car, you, or someone in a vehicle you were in, threw out a can or bottle – Target 2016	9%	17%	74%
Target 2015	8%	20%	72%
Target 2014	19%	18%	64%
Non-target 2016	4%	4%	92%
Non-target 2015	3%	6%	91%
Non-target 2014	3%	7%	91%
Someone in a vehicle you were in threw trash out in an area that already had lots of litter – Target 2016	13%	20%	67%
Target 2015	14%	23%	63%
Target 2014	18%	21%	61%
Non-target 2016	6%	11%	83%
Non-target 2015	6%	11%	83%
Non-target 2014	8%	10%	82%
Someone in a vehicle you were in threw a can, bottle or litter out onto the side of the road – Target 2016	10%	21%	69%
Target 2015	12%	28%	60%
Target 2014	20%	25%	55%
Non-target 2016	6%	6%▼	88%
Non-target 2015	4%	12%	84%
Non-target 2014	3%	7%	90%

Q7: I am going to read you a few statements pertaining to your litter awareness. For each of the following statements, please respond by telling me if this is something you "Have experienced within the past 3 months," "Have experienced over 3 months ago," or "Have never experienced."

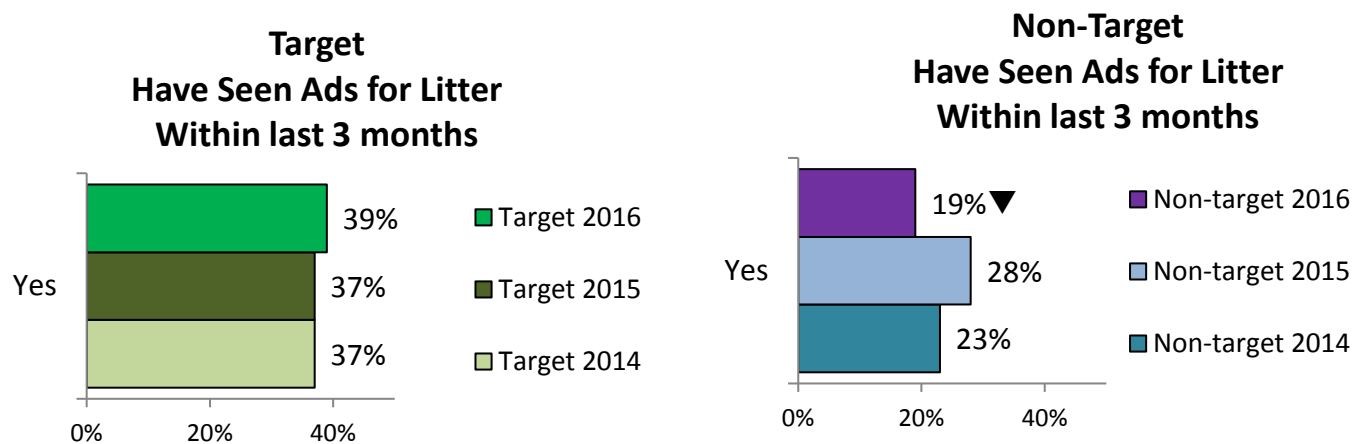
▲▼ Indicates significant difference compared to 2015 at 95% confidence level.

Table A4b: Personal Experience With Littering Scenarios – Target vs. Non-Target

Scenario	Past 3 months	3+ months	Never
Rather than keep a cigarette butt in the car, you or someone in the vehicle you were in threw the cigarette butt out the window – Target 2016	15%	16%	69%
Target 2015	21%	16%	63%
Target 2014	28%	17%	55%
Non-target 2016	9%	12%	79%
Non-target 2015	6%	14%	80%
Non-target 2014	5%	10%	85%
You threw out a small item from your vehicle like a candy wrapper, scrap paper, etc. – Target 2016	19%	23%	58%
Target 2015	16%	21%	63%
Target 2014	30%	20%	50%
Non-target 2016	7%	7%	86%
Non-target 2015	6%	9%	85%
Non-target 2014	7%	7%	86%
You had problems with a vehicle and left debris like tire, part of a tire, or other stuff on the roadside – Target 2016	22%	11%	67%
Target 2015	17%	16%	67%
Target 2014	22%	12%	66%
Non-target 2016	14%	10%	76%
Non-target 2015	13%	7%	80%
Non-target 2014	12%	12%	76%
You noticed that some trash fell out of a pickup or other vehicle you were driving in – Target 2016	29%	33%	38%
Target 2015	36%	33%	31%
Target 2014	44%	19%	37%
Non-target 2016	28%	18%	52%
Non-target 2015	26%	19%	56%
Non-target 2014	30%	19%	51%

▲▼ Indicates significant difference compared to 2015 at 95% confidence level.

CAMPAIGN AWARENESS



Q11: In the past three months, have you seen, heard or read any advertisements related to litter or littering?

Target 2016 n=194; 2015 n=200; 2014 n=202

Non-Target 2016 n=308; 2015 n=353; 2014 n=325

▲ ▼ Indicates significant difference compared to 2015 at 95% confidence level.

Table A5: Main Slogan of Recalled Advertising – Target vs. Non-Target
Among those who indicated they remember seeing ads
related to litter or littering in the past 3 months

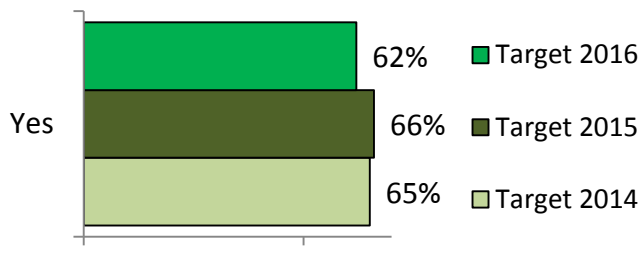
Top Responses	2016 Target n=75	2015 Target n=75	2014 Target n=74	2016 Non-target n=58	2015 Non-target n=98	2014 Non-target n=75
Don't Trash Arizona.	25%	19%	12%	2%	2%	11%
You will be fined.	12%	5%	--	5%	5%	7%
Do not litter.	9%	11%	7%	16%	13%	13%
Adopt a highway.	9%	8%	--	--	--	--
Arizona Clean and Beautiful/Keep Arizona Clean	9%	4%	7%	5%	6%	3%
Keep our freeways clean.	5%	15%	--	1%	1%	3%
Littering is unlawful.	5%	9%	--	5%	4%	1%
No cups cans or butts.	3%	8%	8%	2%	--	1%
Don't know.	35%	37%	50%	43%	52%	52%

Q12: What was the main slogan used in the ads?

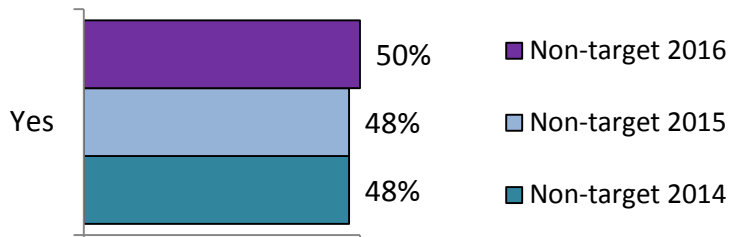
▲ ▼ Indicates significant difference compared to 2015 at 95% confidence level.

Table A6: Awareness of Litter Resources – Target vs. Non-Target

Net Awareness of Slogan - Target



Net Awareness of Slogan - Non-Target



0 Target 2016 n=194; 2015 n=200; 2014 n=202

Non-Target 2016 n=308; 2015 n=353; 2014 n=325

Q12: [If yes in Q20] What was the main slogan used in the ads?

Q13: [if not mentioned in Q22] Have you seen or heard the slogan, "Don't Trash Arizona?"

▲▼ Indicates significant difference compared to 2015 at 95% confidence level.

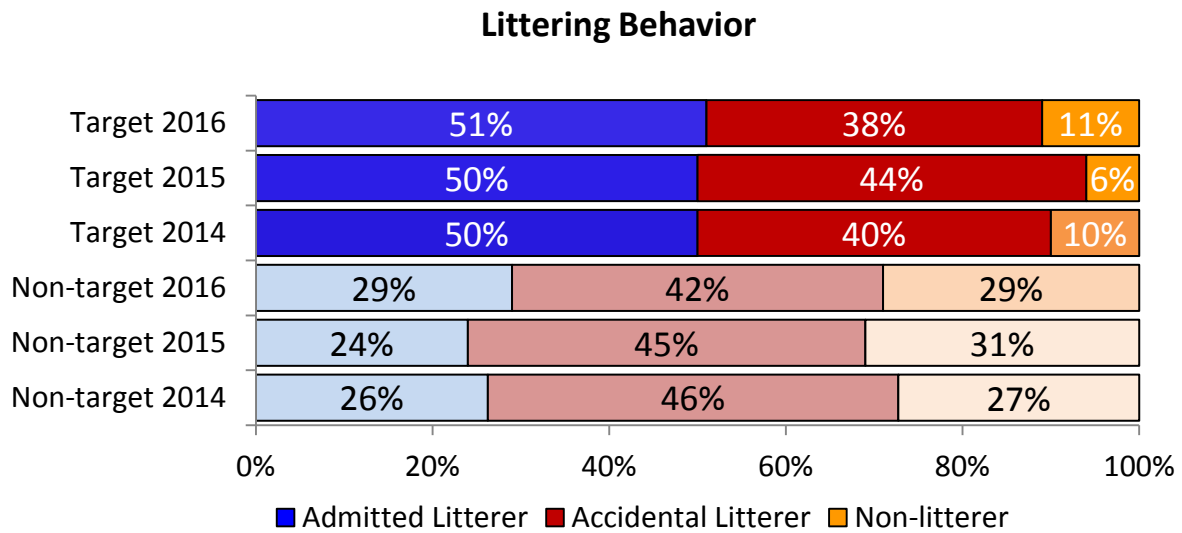
	2016 Target n=194	2015 Target n=200	2014 Target n=202	2016 Non-target n=308	2015 Non-target n=353	2014 Non-target n=325
Aided awareness						
<i>www.donttrasharizona.com</i>						
Yes	25%	18%	17%	11%	8%	9%
No	72%	78%	80%	87%	89%	91%
Don't know / No answer	4%	4%	3%	2%	3%	<1%

Q14: Have you heard of *www.DontTrashArizona.com*?

▲▼ Indicates significant difference compared to 2015 at 95% confidence level.



PROFILES OF LITTERERS



APPENDIX B

QUESTIONNAIRE



Client: Maricopa Association of Governments
Subject: Litter Survey 2016
Date: July 2016

Introduction

Hello, my name is _____, and I am calling from WestGroup Research an independent research company. We are conducting a brief survey on the topic of litter and would appreciate your input. All information given will remain confidential. No sales calls will result from this interview.

1. First, are you or is any member of your family currently employed in any of the following...? READ LIST; IF YES TO ANY: THANK AND TERMINATE
 - a. Advertising or marketing research
 - b. Arizona Department of Transportation
 - c. Maricopa Association of Governments
 - d. A professional waste collection or recycling company
 - e. The waste management industry

2. Please tell me which of the following age categories includes your age? Please stop me when I read the correct category. READ LIST; ALLOW ONLY ONE RESPONSE
 - a. Under 18 TERMINATE
 - b. 18 to 34
 - c. 35 to 54
 - d. 55+
 - e. Refused TERMINATE

3. *If "Under 18" or "Refused," continue with:* May I please speak to someone in the household who is between the ages of 18 and 65?

4. Do you live in Maricopa County? If no, ask to speak to someone who does.

5. RECORD GENDER (DO NOT ASK; RECORD BY OBSERVATION)
 - a. Male
 - b. Female



Litter Awareness

Today, I would like to talk to you specifically about the topic of litter. When answering the following questions, please be open and accurate about your opinions and actions. We are trying to understand what people really think about litter. All of your responses will remain confidential.

6. In your opinion, how big of a problem is litter along freeways in Maricopa County? Would you say it is a...
 - a. Big problem
 - b. Moderate problem
 - c. Small problem
 - d. Not a problem at all
 - e. Don't know / Refused (DO NOT READ)

7. I am going to read you a few statements pertaining to your litter awareness. For each of the following statements, please respond by telling me if this is something you "Have experienced within the past 3 months," "Have experienced over 3 months ago," or "Have never experienced."
 - a. You noticed that some trash fell out of a pick-up truck or other vehicle you were driving or riding in.
 - b. Someone in a vehicle you were in threw out trash in an area that already had lots of litter
 - c. Someone in a vehicle you were in threw out trash in an area that did not have any litter
 - d. Someone in a vehicle you were in threw out a can, bottle, or other litter out onto the side of the road.
 - e. You had problems with a vehicle and left debris like a tire, part of a tire, or other stuff on the roadside

 - f. Rather than keep a beverage container in the car, you, or someone in a vehicle you were in, threw out a can or bottle.
 - g. You threw out a small item from your vehicle, like a candy wrapper, scrap paper or something like that.
 - h. You or someone you were with got a ticket or warning for littering.
 - i. Rather than keep a cigarette butt in the car, you or someone in the vehicle you were in threw the cigarette butt out the window.

Littering Behavior



8. Can you think of items that you yourself might have discarded as litter (by litter we mean items that you did not put in a trash receptacle) in the past year? MULTIPLE RESPONSES ALLOW UP TO THREE. DO NOT READ LIST.
- Small pieces of paper (receipts, lottery tickets, gum wrappers)
 - Cigarette butts
 - Other food wrappers (chip bags/candy)
 - Food / organic material, raw food
 - Other
 - Have not littered in past year – TRUCK DRIVERS SKIP TO Q15, ALL OTHERS SKIP TO: Q16
 - Don't know
9. To the best of your knowledge, what were the general circumstances in terms of where and what you were doing when you discard litter? PROBE: Any other circumstances? DO NOT READ. MULTIPLE RESPONSES ALLOWED UP TO THREE.
- Driving / riding in / traveling in vehicle
 - Walking outside
 - Opened door and it flew out / flew out of window / flew out of cab
 - No trash can around (not while in car)
 - Cleaning out car
 - In parking lot
 - Just threw it out / got rid of it anywhere I could
 - Other
 - Don't know/Can't remember / don't recall
10. On average, how often do you secure the load that you are hauling with ties, bungees, or a tarp when driving in a pick-up truck or when pulling an open-air trailer?
- Always
 - Sometimes
 - Never
 - I don't haul.

Litter Campaign Awareness

11. In the past three months, have you seen, heard or read any advertisements related to litter or littering?
- Yes
 - No
 - Don't know / Refused
12. IF YES IN Q11: What was the main slogan used in the ads? DO NOT READ LIST. MULTIPLE RESPONSES ALLOWED.



- a. Don't Trash Arizona
- b. No cups cans or butts
- c. Trash Talk
- d. Keep Arizona Beautiful
- e. Do not litter
- f. You will be fined
- g. Littering is unlawful
- h. Go green
- i. Grow up. Don't Litter
- j. Adopt a highway
- k. It is your environment
- l. Keep our freeways clean
- m. None
- n. Other _____
- o. Don't know / Refused

13. IF NOT MENTIONED IN Q12: Have you seen or heard the slogan, "Don't Trash Arizona?"

- a. Yes
- b. No
- c. Don't know / Refused

14. Have you heard of www.DontTrashArizona.com?

- a. Yes
- b. No
- c. Not sure/DK

Demographics

Now I have a few final questions that are for classification purposes only.

15. Thinking about your personal language use including in home and away from home, would you say you speak...? READ LIST; ALLOW ONLY ONE RESPONSE)

- a. English Only
- b. Only Spanish
- c. Mostly Spanish, but also some English
- d. Equally in Spanish and English
- e. Mostly English, but also some Spanish
- f. English plus some other language
- g. Don't know/refused

Thank you very much – those are all my questions.

