



LITTER EVALUATION SURVEY

August 2010



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EXECUTIVE SUMMARY

Background

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 Web research and targeted interviews with account 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. While 60 percent of littering is deliberate, 40 percent occurs “accidentally” when items blow or fall off vehicles. Littering most often takes place when drivers are alone, and small items like cigarettes and candy wrappers are not typically considered 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.

Based on the research results, a strategy was developed that would utilize a “pride” message; focus on the 18 to 24 male demographic; target both deliberate and “accidental” litter; and include a variety of strategies and tactics within the areas of public relations, paid advertising, media outreach, school outreach, and the development of value-added partnerships.

While the primary goal of the *Don't Trash Arizona* program is to reduce freeway litter by increasing awareness about the problems litter causes and to change littering behavior, it was recognized early on that it would be difficult to rapidly “move the needle” when it comes to changing behavior. The communication team outlined a strategy to achieve results through a three-stage process: 1) increase awareness; 2) change attitudes; and 3) change behavior.

A follow-up, evaluative survey was then conducted in July 2008, at the end of the first two years of the campaign, to determine if any changes in awareness, attitudes or behavior were realized. Two subsequent follow-up studies were conducted; however, these studies focused on Maricopa County residents. The 2010 survey is the focus of this report.

Evaluative Survey

RIESTER, on behalf of its client, the Maricopa Association of Governments (MAG), commissioned WestGroup Research of Phoenix to conduct a telephone study with residents in Maricopa County. The purpose of the study was to evaluate overall awareness of and attitudes toward litter issues and explore littering behavior, and compare responses to the benchmark study, which was conducted in December 2006. Subsequent studies were conducted in August 2008, August 2009 and July 2010. It is important to note, however, that the first two studies were conducted with Arizona residents. To accurately compare the data from these surveys to the 2009 and 2010 data, the 2006 and 2008 data shown in this report include only responses from Maricopa County residents.

Results are based on 601 fifteen-minute telephone interviews with Maricopa County residents. All respondents were randomly selected from a Random Digit Dial (RDD) database comprising phone numbers from the targeted zip codes. The margin of error for the survey is approximately $\pm 4.1\%$ at a 95% confidence level.

Below are some of the key findings of the survey.

Driver Characteristics

- In 2010, slightly more than two in five Valley residents (42%) reported driving or riding in a 4-door sedan. This is a slight increase from 2009 (three percentage points) and approaches the levels measured in 2008 (44%). An additional 7% report driving a two door coupe. About one in five Maricopa County residents indicated they drive an SUV (19%) or pickup truck (16%); this is essentially the same percentage reported since interviewing began in 2006.
- Maricopa County residents were more likely than last year to report having a litterbag or trash receptacle in their vehicle (69%; up from 66% in 2009 and 56% in 2008). There has been a 23% increase in residents who report having a litterbag or trash receptacle in their vehicle since 2008 (56% to 69%).
- Almost two thirds of the residents (64%) who do not currently have a litterbag or trash receptacle in their car indicated they would consider keeping one in their vehicle in the future (up from 50% in 2008).
- Similar to previous years, a little more than one in six Valley residents indicated they were smokers (18%). The majority of smokers reported that they use the ashtray in their vehicle (53%).
- Truck drivers reported that soda cans/bottles, water bottles and lawn debris were the most common types of litter that would be found in the back of their truck (mentioned by 10%, 8% and 7%, respectively).

- Almost half (48%) of truck drivers indicated they do not believe they put any type of litter in their truck bed; an additional 3% reported they were unsure if the items they put in the back of their truck were considered litter.
- This year, on average, fewer truck drivers indicated that they “always” secure items in the back of their pick-up truck (64%, down from 70% in 2009) while more truck drivers report they secure their load “most of the time” (17%, up from 11%). Slightly more than one in ten truck drivers (12%) do not frequently secure items in their truck bed, reporting that they “sometimes,” “rarely,” or “never” secure items (an improvement from 17% in 2009).
- Approximately one third (31%) of Maricopa County residents report driving in a vehicle that hauls items in an open air trailer or strapped to a luggage rack, with 21% of those stating they do so a few times a year, and 10% who reporting to do so more often, one to two times a month or more.
- More than three-quarters (77%) of drivers with open-air trailers or luggage racks indicated that on average they “always” secure items in their open air trailers or on their luggage racks.

Litter Awareness and Behavior

- Perceptions regarding the magnitude of the litter problem along Maricopa County freeways among residents have remained steady since 2009 (67% rate it as a “big” or “moderate” problem).
- When asked to itemize what items they thought they had littered in the past year, more Valley residents than in the past insisted that they had *not* littered this year (74%, up from 69% in 2009).
- The percentage of males aged 18 to 34 who indicated they “had not littered in the past year” continues to increase; from 40% in 2006, 44% in 2008, and 45% in 2009, to 51% in 2010. This represents a 13% increase among the target population. Despite this increase, however, males aged 18 to 23 still remain the most significant offenders.
- Among those who indicated they had littered in the past year, food or organic material was the most common type of litter (mentioned by 44%).
- As in prior years, the residents who indicated they had littered in the past year were most likely to report that the littering happened while they were driving and/or riding in a vehicle. This year, however, there was a decrease in the percentage of residents reporting they littered while traveling in a vehicle (48% vs. 53% in 2009).

- There has been a significant increase from 2009 in the percentage of residents who report littering food scraps that are biodegradable (17%, up from 3%); making it the most common reason cited for littering when driving. Lack of convenient trash receptacles is now the second most common reason cited for littering when driving (mentioned by 14% of residents who have littered in the past year).
- Similar to previous years, residents report that the first most common littering situation they have experienced is “trash falling out of the vehicle” (24% within the past 3 months).

Campaign Awareness

- Three in ten residents (30%) indicated they had seen advertising related to litter or littering in the past three months. Although this level is only slightly higher than 2009 (three percentage points), it is a 20% increase compared to the awareness levels for the 2006 benchmark wave (25% to 30%).
- Ad awareness is significantly higher for male litterers aged 18-34 than the total (42% vs. 30%).
- When those aware of litter-related advertising were specifically asked what they remembered about the ads, the most recalled information is about the fines (24%).
- Three in ten residents who remembered seeing litter-related advertising in the past three months were able to recall some type of slogan/message (30%). Two of the most commonly recalled “slogans” were actually messages – “do not litter” (mentioned by 5%) and “you will be fined” (mentioned by 4%).
- As in 2009, more than half of Maricopa County residents (51%) recall the *Don't Trash Arizona* slogan. Although awareness is not as high as 2008 levels (56%), it still remains significantly higher than the 43% reported in 2006. Overall awareness of the slogan was highest among males (57% vs. 45% for females), residents under 55 (54% vs. 43% for 55+).
- Residents who were familiar with the *Don't Trash Arizona* slogan reported seeing and/or hearing the slogan from a variety of sources – television (31%), radio (21%), billboards (20%), and street/highway signs (16%).
- Valley residents' awareness remains essentially unchanged for both the Litter Hotline (13%) and the “Don't Trash Arizona Website” (14%). This year, however, the significant increase in awareness of the Litter Hotline that occurred from 2008 to 2009 was sustained. Among the target group of males, aged 18 to 34, awareness remains steady from 2009 at 13%.

- Fourteen-percent (14%) of residents had heard of the *Don't Trash Arizona* website; this was up slightly from 2009 (12%). It is important to note that when comparing current awareness to the 2006 benchmark study, there has been a significant increase (from 10% to 14%). Awareness of the website among males between the ages of 18 and 34 is lower than the total (9% vs. 14%).
- As in 2009, seven percent (7%) of Valley residents aware of the *Don't Trash Arizona* website reported that they have visited the site.
- When Valley residents were asked how likely they would be to report littering behavior if they saw someone littering, more than three-fifths (62%) of residents indicated they would be at least "somewhat" likely to call (27% "very likely" and 35% "somewhat likely"). This is a significant increase compared to 2008 (53%).
- The Internet remains the top resource for Valley residents who want more information about litter or littering (mentioned by 49%).
- Approximately one in six residents specifically mentioned the *Don't Trash Arizona* website as a resource to go to if they wanted more information about littering (14%). Males between the ages of 18 to 34 indicated they would specifically go to www.DontTrashArizona.com significantly more often than the total (26% vs. 14%).

KEY FINDINGS AND RECOMMENDATIONS

Some of the most significant findings of the survey were many positive changes in awareness and behavior among the target demographic of males aged 18 to 34, with additional positive changes among the overall population in several areas.

Overall, the survey continues to show success in the program's first objective of increasing and maintaining awareness about litter issues, with half of Arizona residents indicating they have heard the slogan, *Don't Trash Arizona*. Overall awareness of the slogan increased from 43% in 2006 to 51% in 2010. Furthermore, awareness of the slogan was especially high among the target demographic of younger males, with 58% of males aged 18 to 34 stating awareness.

More than three in ten (30%) respondents indicated they had seen advertising related to litter in the past three months. Again, this was even higher among the target group (42%) of younger males. These findings are likely due to a strategic marketing, education and outreach campaign targeting males aged 18-34.

Awareness of litter resources stayed steady or increased. The significant increase in awareness of the Litter Hotline, which allows motorists to report someone littering from a vehicle, was maintained at 13%, which is an increase of 44% compared to 2008. Awareness of the litter Website, *DontTrashArizona.com*, increased significantly from 10% in the 2006 benchmark study to 14% (a 40% increase).

In a shift from prior years, it appears that the first sign of a change in littering behavior may be evident. Almost three-fourths of Maricopa County residents (74%) reported that they had not littered at all during the past year, which, for the first time, represents an increase from previous years (69% in 2009). In addition, positive changes continued to be reported among the target population, with the percentage of males aged 18 to 34 who stated they had not littered within the past year increasing for the third year in a row (to 51% from a reported 40% in 2006).

In addition, the percentage of Maricopa County residents classified as "Admitted Litterers" declined to 23%, the lowest recorded in the history of the tracking study.

Accidental littering remains a significant area of concern; however, there was a slight improvement this year. Twenty-four percent of Arizonans admitted to having trash blow out of or fall from their vehicle in 2010 in just the past three months, with another 21% reporting that occurrence in 3+ months, for a total of 45%. This compares to a total of 49% reporting accidental littering in 2009. Another area of concern continues to be the littering of cigarette butts, a circumstance cited by 23% of residents (8% in the past 3 months and 15% in 3+ months). A new area of concern appeared in 2010, however, with 17% of admitted litterers indicating that they "only litter food scraps, which are biodegradable" – apparently meaning they do not believe this is truly littering. This is up significantly from 3% in 2009.

The above findings and observations indicate several approaches for continuing litter prevention and education efforts. The research confirms that males aged 18 to 34 continue to be among the most common litter offenders. The survey also indicates that the current campaign focusing on this demographic is having a positive impact in reducing littering behavior. The recall of the key messages in the ads appears to confirm that the current advertising messages are resonating with this audience, and may want to be pursued. The most recent messaging surrounding secure loads, Safe Loads = Safe Roads, appears to have made a slight impact with this audience, possibly due to its shorter time span. An opportunity exists to continue educational efforts that roadway debris can pose serious safety hazards and to use this awareness to encourage motorists to secure items with tarps or tie-downs when hauling vehicle loads. Also, an opportunity exists to continue educational efforts encouraging motorists to always carry a litter bag in their vehicle. Based on the significant account of tossing biodegradable items out of the window of a vehicle, there is an opportunity to communicate that nothing is to be tossed out of a window, biodegradable or not. Another opportunity exists to continue efforts to encourage people to report littering and find out more information about littering by visiting the website, DontTrashAZ.com.

In conclusion, there seems to be momentum in terms of increasing awareness of litter issues and perhaps the beginning indicators of changing behaviors. There were even a number of positive results in changing litter behavior among the targeted portion of the population who are historically the worst offenders. These results would seem to indicate that the current strategy of combining paid advertising efforts with public relations efforts and other targeted messaging is appropriate.

I. INTRODUCTION

A. Background and Methodology

RIESTER, on behalf of its client Maricopa Association of Governments (MAG), commissioned WestGroup Research of Phoenix to conduct a telephone study with residents age 18 and older living in Maricopa County. The purpose of the study was to evaluate overall awareness of and attitudes toward litter issues and explore littering behavior, and compare responses to the benchmark study, which was conducted in December 2006, July/August 2008, and August 2009.

Results are based on 601 fifteen-minute telephone interviews conducted with 301 male and 300 female residents. Respondents were randomly selected from a Random Digit Dial (RDD) database comprised of phone numbers from targeted zip codes. The margin of error for the survey is approximately $\pm 4.1\%$ at a 95% confidence level. Seventeen interviews (3%) were conducted in Spanish.

It is important to note that the 2006 and 2008 two telephone studies were conducted with Arizona residents: those living in Maricopa County, Pima County, and outlying areas. The 2009 and 2010 studies were only conducted with Maricopa County residents. To accurately compare the data from previous studies to the current year, the 2006 and 2008 data shown in this report only includes responses from Maricopa County residents.

B. Demographics

Per established quotas, 50% of Maricopa County residents interviewed were males and 50% were females. The average age of the residents was 46 and 58% were married. The majority had at least some college experience (74%), 55% were employed either full or part-time. Almost one in seven (13%) are unemployed, which represents a significant increase from 2009 (8%). One-third (31%) reports a household income of more than \$75,000. Fewer report being white-collar professionals than in 2009 (23% vs. 32%) and more report being tradesmen (10% vs. 6%). Approximately three in four residents are Caucasian (71%), while 72% report that “only English” is spoken in their home.

Additional detail on the demographic profile of the respondents is provided in Tables 1a and 1b while Table 2 provides a breakdown of the city of residence represented in the sample.

Table 1a: Respondent Demographics

Characteristic	2010 Maricopa (n=601)	2009 Maricopa (n=637)	2008 Maricopa (n=744)	2006 Maricopa (n=748)
Male	50%	50%	50%	50%
Female	50	50	50	50
Age				
18-24	9%	10%	10%	9%
25-34	19	16	16	23
35-44	20	20	20	24
45-54	23	23	25	16
55-65	13	14	12	12
66+	16	17	16	16
Average	45.9 yrs	46.3 yrs	46.1 yrs	44.3 yrs
Marital Status				
Married	58%	59%	56%	61%
Single	25	25	27	26
Widowed	7	7	7	6
Divorced	7	6	8	5
Separated	-	1	-	1
Refused	3	2		2
Education				
Less than high school	5%	4%	8%	7%
High school graduate	18	19	19	16
Some college	33	33	31	35
College graduate	23	29	24	27
Graduate degree	18	13	17	13
Ethnicity				
White	71%	76%	72%	79%
Hispanic	14	13	15	9
African American	5	2	4	3
Native American	2	1	2	--
Asian	1	2	2	2
Other/Refused	7	6	5	4

***Bold** indicates significantly higher percentages at the 95% confidence level

Table 1b: Respondent Demographics

Characteristic	2010 Maricopa (n=601)	2009 Maricopa (n=637)	2008 Maricopa (n=744)	2006 Maricopa (n=748)
Household Income				
<\$10,000	7%	7%	5%	3%
\$10-\$20,000	7	7	5	6
\$20-\$30,000	8	6	7	8
\$30-\$40,000	7	6	7	7
\$40-\$50,000	5	7	8	8
\$50-\$60,000	6	6	8	7
\$60-\$75,000	6	8	10	9
\$75-\$100,000	13	12	12	12
\$100,000+	18	20	18	18
Refused	23	21	21	22
Average	\$63,477	\$66,530	\$66,420	\$66,620
Employment Status				
Full-time	48%	50%	55%	51%
Part-time	7	9	8	10
Unemployed	13	8	7	4
Retired	19	21	20	21
Homemaker	6	7	6	8
Student	4	3	3	4
Profession				
White collar/mgmt	23%	32%	24%	16%
Professional (medical/legal)	23	20	22	10
Blue collar	14	15	14	9
Education	12	7	8	6
Trade	10	6	6	7
Self-employed	5	8	12	5
Clerical/admin	6	8	10	5

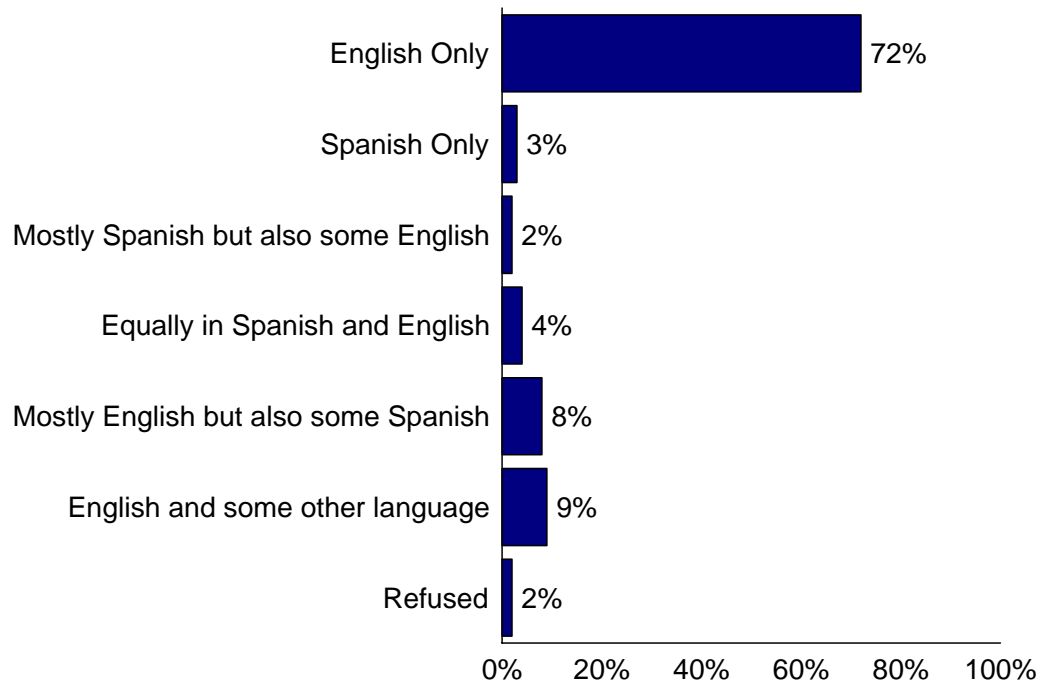
***Bold** indicates significantly higher percentages at the 95% confidence level

Table 2: Sample Breakdown by City

City	2010 Maricopa (n=601)	2009 Maricopa (n=637)	2008 Maricopa (n=744)	2006 Maricopa (n=748)
Phoenix	32%	29%	32%	28%
Mesa	14	15	12	14
Glendale	7	9	8	8
Chandler	6	8	6	7
Peoria	5	7	4	6
Scottsdale	5	6	6	7
Gilbert	4	6	4	5
Surprise	4	3	3	4
Tempe	3	3	3	3
Sun City	3	2	2	3
Buckeye	1	1	1	-
Goodyear	2	-	-	2
Avondale	1	-	1	-
Queen Creek	1	-	3	-
Laveen	-	-	1	-
Apache Junction	-	-	1	-
Other (includes 1% or less of consensus)	9%	8%	11%	13%
Refused	3	2	2	2

The majority of Maricopa County residents interviewed (72%) reported speaking English only while one in seven Maricopa County residents interviewed (14%) reported that at least some Spanish was spoken in their home. No significant changes occurred from 2009 regarding language use in the home.

Language Use in Home



II. DRIVER CHARACTERISTICS

A. Driving Habits

In 2010, slightly more than two in five Valley residents (42%) reported driving or riding in a 4-door sedan. This is a slight increase from 2009 (three percentage points) and approaches the levels measured in 2008 (44%). As in the past, sports utility vehicles (SUV) and pick-up trucks were the next most frequently mentioned vehicles driven by residents (19% and 16%).

Table 3: Type of Vehicle

Items	2010 Maricopa (n=601)	2009 Maricopa (n=637)	2008 Maricopa (n=744)	2006 Maricopa (n=748)
Sedan (4-door)	42%	39%	44%	38%
Sports utility	19	20	18	21
Pick-up truck	16	16	15	15
Van/mini-van	7	11	8	12
Coupe (2-door)	7	7	8	8
Motorcycle	1	1	1	--
Other	1	1	1	1
Don't drive	6	5	4	4
Don't know/ refused	1	--	1	1

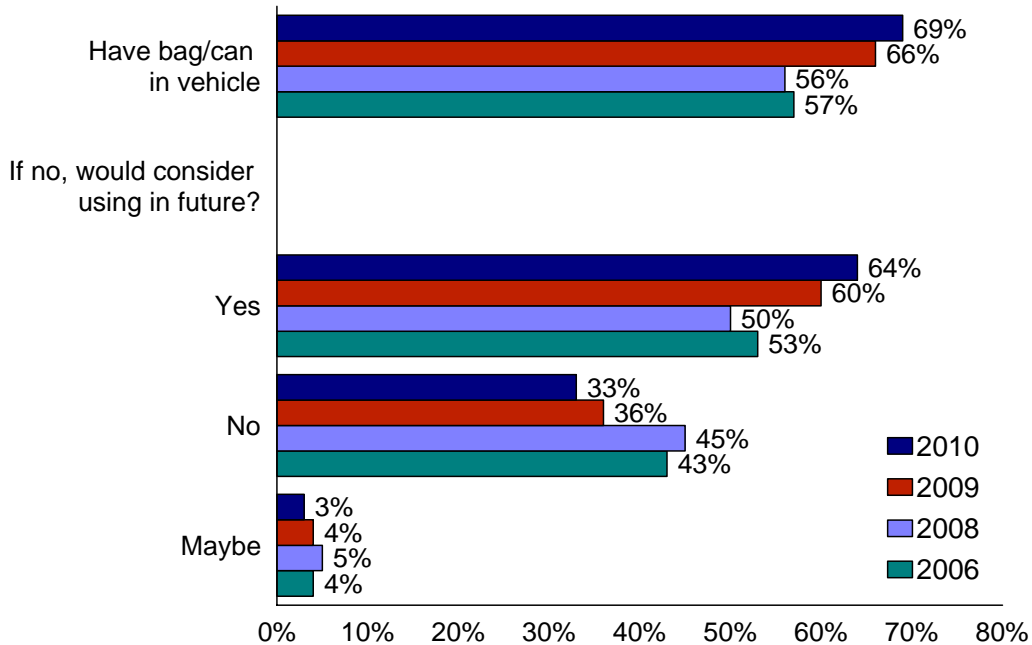
Q8: Which of the following best describes the type of vehicle you drive or ride in...

B. Litterbag Use

This year, Maricopa County residents were more likely to report having a litterbag or trash receptacle in their vehicle (69%; up from 66% in 2009 and 56% in 2008). Although the increase is not significant, there has been a steady increase in residents who report having a litterbag or trash receptacle in their vehicle since 2008 (increase from 56% to 69%). Those most likely to report having a litterbag were women (77% vs. 62% for men) and residents over the age of 55 (80% vs. 65% for under 55).

Almost two thirds of the residents (64%) who do not currently have a litterbag or trash receptacle in their car indicated they would consider keeping one in their vehicle in the future. Again, this increase is not significant yet there has been an upward trend since 2008 when 50% of Maricopa County residents were likely to consider it. Females are more agreeable to putting a litterbag or trash receptacle in their vehicle (75% vs. 58% for males).

Litter Bag or Trashcan Use in Vehicle



2010 Maricopa n=601; 2009 Maricopa n=637; 2008 Maricopa n=744; 2006 Maricopa n=748

C. Smokers

Similar to previous years, a little more than one in six Valley residents indicated they were smokers (18%). Residents with household incomes of less than \$50,000 were more likely than those with incomes over \$50,000 to admit they were smokers (27% vs. 11%). Residents without a college degree were also significantly more likely to smoke than residents with some exposure to college (20% for some high school or less, 27% for some college vs. 7% for college graduates)

The majority of smokers reported that they use the ashtray in their vehicle (53%). Significantly fewer smokers report using something else in their car (13% vs. 19% in 2009) and not smoking in their vehicle (7% vs. 13%). Residents under the age of 35 were significantly less likely than residents older than 55 to report using an ashtray in their car (41% vs. 69%).

Table 4: Smoking Habits and Disposing of Cigarette Butts
Among those indicating they smoke

Response	2010 Maricopa (n=105)	2009 Maricopa (n=97)	2008 Maricopa (n=109)	2006 Maricopa (n=121)
Smoker	18%	15%	15%	16%
	(n=105)	(n=97)	(n=109)	(n=121)
Ashtray in vehicle	53%	49%	55%	46%
Something else in vehicle	13	19	11	13
Don't smoke in the car	7	13	12	16
It varies	9	9	6	12
Throwing out window	5	7	6	5
Other (<1% consensus)	1	-	2	2
Don't know/refused	12	3	8	5

Q11: When you are in a vehicle, do you USUALLY dispose of cigarette butts...?

***Bold** indicates significantly higher percentages at the 95% confidence level

D. Truck Drivers

One in six Maricopa County residents indicated they drive a pickup truck (16%); this is essentially the same percentage reported since interviewing began in 2006. Truck drivers are most likely to be male (25% vs. 7%) and under 55 (18% vs. 10% for 55+). Sports utility drivers are most likely to be female (23% vs. 16%) and between the ages of 35-44 (24%).

Table 5: Pick-Up Truck Drivers

Response	2010 Maricopa (n=601)	2009 Maricopa (n=637)	2008 Maricopa (n=744)	2006 Maricopa (n=748)
Drive a pick-up truck	16%	16%	15%	15%

Q8: Drive a pick-up truck.

Truck drivers reported that soda cans/bottles, water bottles and lawn debris were the most common types of litter that would be found in the back of their truck (mentioned by 10%, 8% and 7%). Non-biodegradable trash and small pieces of paper are both mentioned by 5% of truck drives.

Almost half (48%) of truck drivers indicated they do not believe they put any type of litter in their truck bed; an additional 3% reported they were unsure if the items they put in the back of their truck were considered litter. The combined 51% is only slightly higher than the percentages from previous years (49% in 2009, 40% in 2008 and 39% in 2006). However, the significant increase in truck drivers who reported putting “nothing in their truck bed” that occurred in 2009 was sustained this year (17% in 2008, 44% in 2009 and 48% in 2010).

Table 6: Litter via Truck Bed – Total Responses
Among those who indicate they drive a truck

Items	2010 Maricopa (n=94)	2009 Maricopa (n=97)	2008 Maricopa (n=107)	2006 Maricopa (n=97)
Nothing	48%	44%	17%	14%
Soda cans/bottles	10	10	11	16
Water bottles	8	3	6	1
Lawn debris	7	11	9	9
Trash/non biodegradable (unspecified)	5	7	5	--
Small pieces of paper	5	--	4	6
Plastic bags/other plastic	3	5	11	7
Construction debris	3	4	9	9
Construction debris	3	4	--	9
Food/organic material	2	5	4	4
Cardboard	2	3	5	2
Paper/ newspaper/ napkins	2	--	2	4
Beer cans/bottles	1	4	2	4
Car parts/ batteries	1	--	1	2
Fast food wrappers	1	1	6	8
Other food wrappers	1	1	2	3
Cups (Styrofoam, plastic, paper)	--	5	--	--
Wood	--	--	1	1
Furniture	--	--	1	--
Litter that falls out accidentally	--	--	--	2
Tires	--	--	--	1
Other	6%	5%	8%	8%
Don't know	3	5	23	25

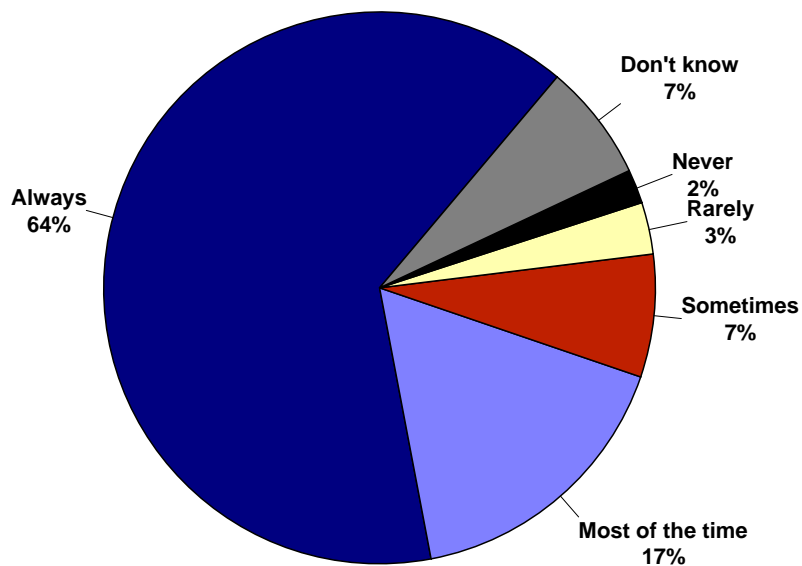
Q18: What types of items do you ever put into your truck bed that you consider to be litter or trash? What else?

This year, fewer truck drivers indicated that on average they “always” secure items in the back of their pick-up truck (64%, down from 70% in 2009) while more truck drivers report they secure their load “most of the time” (17%, up from 11%). Conversely, slightly more than one in ten truck drivers (12%) do not frequently secure items in their truck bed, reporting that they “sometimes,” “rarely,” or “never” secure items. Females were more likely to indicate they always secure their load (82% vs. 60%).

Among the small number of truck drivers (7) who reported “never” or “rarely” securing their load, reasons provided include the items are heavy enough to stay in, items are not large enough to be tied down and they do not have a tarp to cover the items.

How Often Truck Drivers Secure Load

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.)?



Truck drivers: n=97

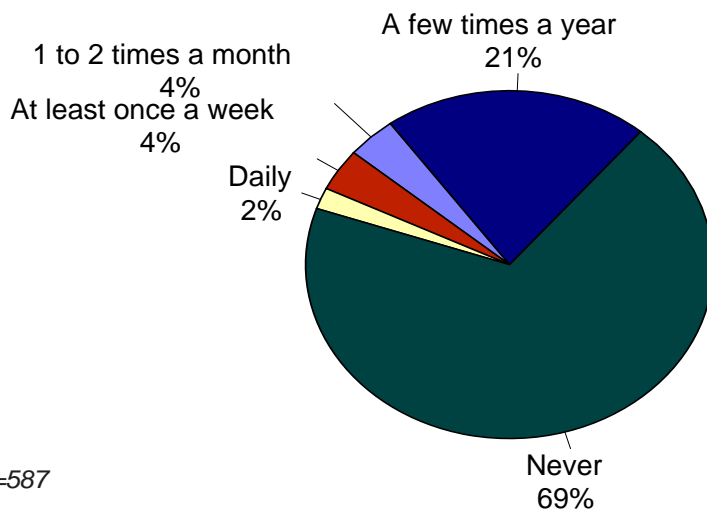
More than two thirds (69%) of Maricopa Country residents do not report driving in a vehicle that hauls items in an open-air trailer or strapped to a luggage rack. Of the remaining one third (31%) who do report driving in a vehicle that hauls items in an open air trailer or strapped to a luggage rack claim, 21% claim to do so a few times a year, and 10% claim to do so one to two times a month or more.

Those most likely to haul items include:

- Males vs. females; 1-2 times a month (6% vs. 2%), and a few times a year (29% vs. 14%).
- Those under the age of 35 vs. those 35 and older; a few times a year (30% vs. 18%).
- Male litterers between the ages of 18 and 34 vs. all respondents; 1-2 times a month (11% vs. 4%) and a few times a year (41% vs. 22%).

Frequency of Traveling with trailers or luggage racks

How often do you drive or ride in a vehicle that transports items that are not carried within the vehicle or trunk, such as hauling items in an open-air trailer or strapped to a luggage rack?



2010: n=587

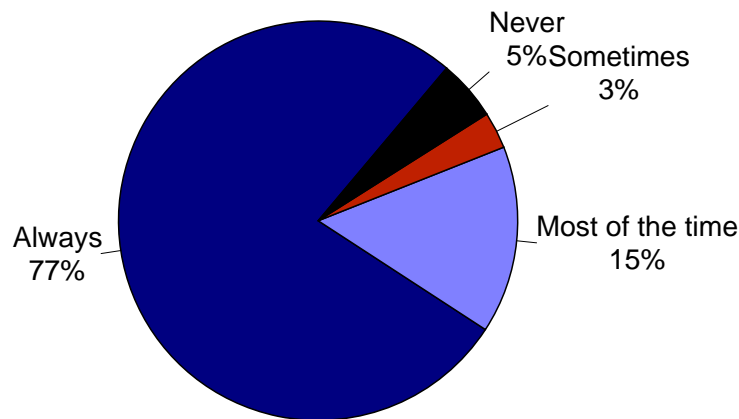
Note: New question added in 2010

More than three-quarters (77%) of drivers with open-air trailers or luggage racks indicated that on average they “always” secure items in their open air trailers or on their luggage racks. Less than one in six (15%) report securing items “most of the time.” Less than one in ten (8%) report securing items “sometimes” or “never”.

Among the small number of drivers (7) who reported “never” or “rarely” securing their load, reasons provided were mainly “don’t know” and the items are concealed.

How Often Drivers Secure Load

On average, how often do you secure the loads that you are hauling (either with ties, bungees, a tarp, etc.)?



Open-air trailer/luggage rack users: n=184

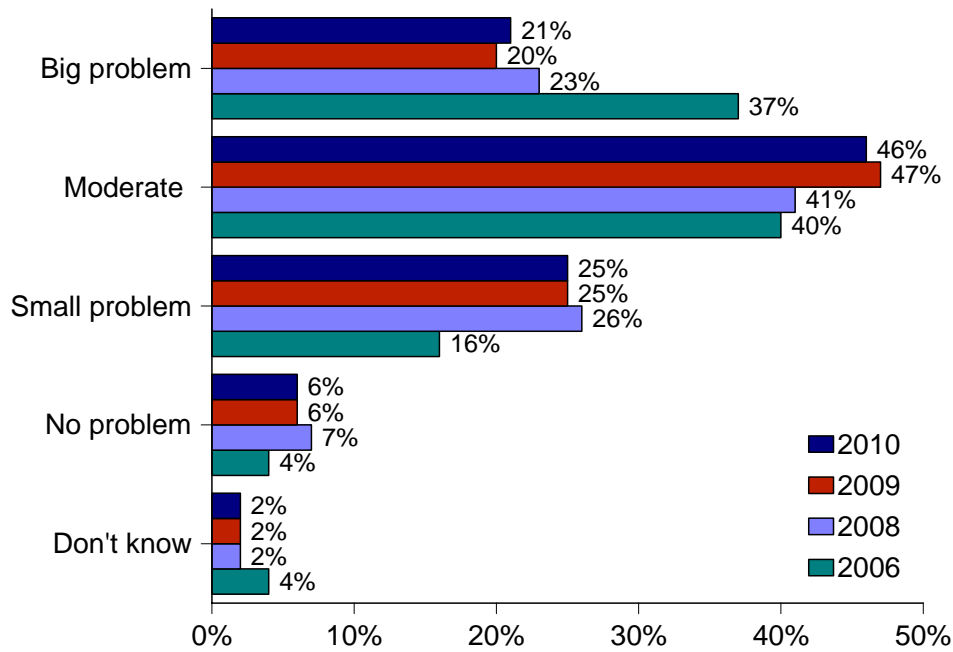
Note: New question added in 2010

III. LITTER AWARENESS AND BEHAVIOR

A. Perception of Litter as Problem along Freeways

Perceptions regarding the magnitude of the litter problem along Maricopa County freeways among residents have remained steady since 2009 (67% rate it as a “big” or “moderate” problem). Approximately one in three Maricopa residents continues to feel that litter along “their county” freeways are either a “small” problem or not a problem at all (31%).

Perception of Litter along Maricopa County Freeways



2010 Maricopa n=601; 2009 Maricopa n=637; 2008 Maricopa n=744; 2006 Maricopa n=748

Table 7: Freeway Litter as a Problem in Maricopa County

Rating	2010 Maricopa (n=601)	2009 Maricopa (n=637)	2008 Maricopa (n=744)	2006 Maricopa (n=748)
Big problem	21%	20%	23%	37%
Moderate problem	46	47	41	40
Small problem	25	25	26	16
Not a problem at all	6	6	7	4
Don't know	2	2	2	4

Q9: *In your opinion, how big of a problem is litter along freeways in Maricopa County? Would you say it is a...*

***In 2009 question was changed to "Maricopa County" where previously it was "in your county."*

B. Personal Littering

When asked to itemize what items they thought they had littered in the past year, more Valley residents than in the past insisted that they had *not* littered this year (74%, up from 69% in 2009). A small number (2%) of residents said they "did not know" if they had littered or not.

The percent of males aged 18 to 34 who indicated they "had not littered in the past year continues to increase; 40% in 2006, 44% in 2008, 45% in 2009 and 51% in 2010.

Overall, residents most likely to claim they have not littered included females (78% vs. 71% for males) and older residents (56% under 35, 77% aged 35-54 and 89% for 55+).

Among those who indicated they had littered in the past year, food or organic material was the most common type of litter (mentioned by 44%). This was also the most common type of litter listed in past studies (mentioned by 48% in 2009, 39% in 2008 and 41% in 2006). Small pieces of paper were the second most common items discarded (mentioned by 23%); this was also similar to 2009, 2008 and 2006 (mentioned by 22%, 26% and 21%, respectively).

Those most likely to list food and organic materials as items they have personally discarded were:

- Residents younger than 35 (13% vs. 3% for those 55+).
- Those with some college experience (12% vs. 5% of those with high school diploma or less).
- Those with household incomes of \$50K+ (12% vs. 7% for those with household incomes of <\$50K).

Table 8: Items Personally Discarded as Litter – Total Responses

Items	2010 Maricopa (n=601)	2009 Maricopa (n=637)	2008 Maricopa (n=744)	2006 Maricopa (n=748)
Have not littered in past yr.	74%	69%	67%	69%
	(n=141)	(n=180)	(n=209)	(n=206)
Food/organic material	44%	48%	39%	41%
Small pieces of paper	23	22	26	21
Cigarette butts	11	8	10	15
Other food wrappers	11	8	8	8
Soda cans/bottles	4	4	5	7
Plastic bags/other plastic	4	4	5	1
Paper/newspaper/napkins	2	3	6	4
Wood	2	2	-	2
Fast food wrappers/paper bags	1	1	4	2
Beer cans and beer bottles	1	1	2	1
Cups (Styrofoam, plastic, paper)	1	2	2	-
Lawn debris	1	1	1	-
Water bottles	1	3	2	2
Hair/dog hair	1	3	-	-
Thread, string	-	2	-	-
Cardboard, boxes	-	1	1	-
Rocks/dirt	-	1	-	-
Bottles (unspecified)	-	1	1	-
Other (<1% consensus)	4	4	7	12
Don't know	2%	3%	-	13%

Q13: 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?

C. Littering Circumstances

As in prior years, the residents who indicated they had littered in the past year were most likely to report that the littering happened while they were driving and/or riding in a vehicle. This year, however, there was a decrease in the percentage of residents reporting they littered while traveling in a vehicle (48% vs. 53% in 2009). Other admitted litterers reported they littered while walking outside or because there was no trashcan around (11% and 6%).

Table 9: Littering Situation – Total Responses
Among those who indicated they have littered in the past year

Items	2010 Maricopa (n=149)	2009 Maricopa (n=195)	2008 Maricopa (n=247)	2006 Maricopa (n=231)
Driving/riding/traveling in vehicle	48%	53%	34%	47%
Walking outside	11	8	12	16
No trashcan around	6	5	15	8
Opened door/window – flew out	5	4	5	3
In a parking lot	3	4	2	--
Cleaning out car	3	2	--	1
Just threw it/anywhere I could	3	3	2	--
Don't consider it litter/biodegradable stuff	1	2	--	--
I didn't litter	1	3	3	1
In the desert/ middle of nowhere	1	2	1	1
Camping/hiking	1	--	2	--
Leaving it for animals	1	2	--	--
In the park	--	1	2	--
At home	--	1	1	1
Eating food/chewing gum	--	--	1	2
Flew out of truck bed	--	--	2	2
Other (<1% consensus)	9%	9%	8%	7%
Don't know/can't remember	13%	11%	19%	15%

Q14: To the best of your knowledge, what were the general circumstances in terms of where and what you were doing when you discarded litter?

D. Reasons for Littering when Driving

There has been a significant increase from 2009 in the percent of residents who report littering food scraps that are biodegradable (**17%**, up from 3%); making it the most common reason cited for littering when driving. Lack of convenient trash receptacles is now the second most common reason cited for littering when driving (mentioned by 14% of residents who have littered in the past year).

Residents who claimed they littered while driving because they simply did not want it in their car is down from 2009 (3% vs. 11%) while the number of people who litter because cigarette butts stink up their cars has increased slightly (3%, up from 1% in 2009). Others littered because they felt it was easy to do (3%), they do not consider small wrappers or cigarette butts litter (3%), or they were lazy (3%). **More than one third of those who litter claim they do not litter when driving (32%).**

Table 10: Reasons for Littering when Driving – Total Responses
Among those who indicated they have littered in the past year

Items	2010 Total (n=147)	2009 Total (n=195)
I don't litter when driving	32%	36%
I only litter food scraps – they are biodegradable	17	3
No trash receptacles are convenient	14	16
It was an accident/unintentional	5	5
I don't want to keep it in my car	3	11
It's easy	3	8
I don't consider throwing out gum, small wrappers, cigarette butts litter	3	5
I'm lazy	3	3
Cigarettes stink up car, easier to throw out window	3	1
I litter when I'm in a hurry/a rush	-	1
Other	5%	3%
Don't know	13%	10%

Q15: *Why do you litter WHEN DRIVING?*

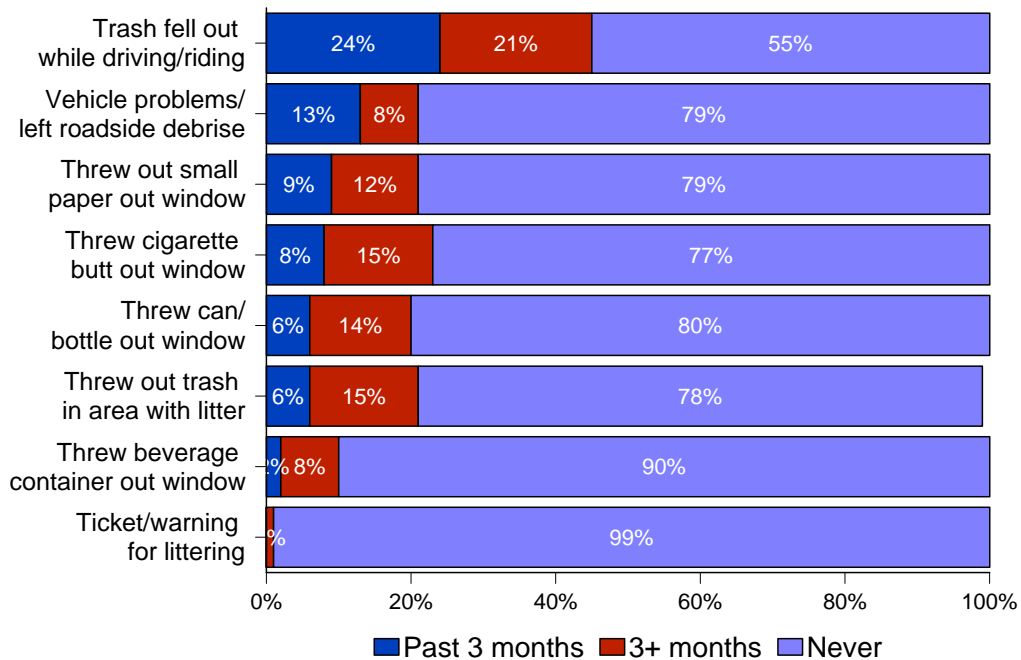
***Bold** indicates significantly higher percentages at the 95% confidence level

E. Personal Experience with Specific Littering Situations

Residents were read a list of eight specific littering situations and were asked to indicate if they personally had experienced that littering situation in the past three months, more than three months ago, or had never experienced that specific situation.

Similar to previous years, residents report that the first most common littering situation they have experienced is “trash falling out of the vehicle” (24% within the past 3 months). Mentions for the second most common litter experience, problems with a vehicle and left debris like a tire, etc, have increased significantly from 2009 (13% within the past 3 months vs. 9% in 2009). Throwing a small item such as a candy wrapper or a piece of scrap paper, rounds out the list for the third most frequently experienced litter situation (9% within the past 3 months).

2010 Experience with Littering Situations



2010 n=601

Residents most likely to experience trash falling out of the vehicle within the last three months were:

- Younger residents (28% for those under 55 vs. 12% for those 55+).
- Male litterers aged 18-34; (35% vs. 24% for total).

Residents most likely to experience problems with throwing a small item (i.e. candy wrapper, scrap paper) within the last three months were:

- Younger residents (11% for those under 55 vs. 2% for those 55+).
- Some college vs. college educated residents (12% vs. 6%).
- Non-Caucasian residents (15% vs. 7%).

Residents were least likely to have been in a vehicle where a beverage container was thrown out (10% reported having ever experienced) or to have received a warning or ticket for littering (only 1% reported having ever experienced over 3 months ago).

In general, residents under age 35 and those with a household income below \$50,000 were more likely than those in comparative groups to report having experiences with the specific littering situations that were queried.

**Table 11: Personal Experience with Littering Circumstances
Past 3 Months**

Circumstance	2010 Maricopa (n=601)	2009 Maricopa (n=637)	2008 Maricopa (n=744)	2006 Maricopa (748)
You noticed that some trash fell out of a pick-up or other vehicle you were driving in.	24%	26%	23%	19%
You had problems with a vehicle and left debris like tire, part of a tire, or other stuff on the roadside.	13%	9%	9%	7%
You threw out a small item from your vehicle like a candy wrapper, scrap paper, etc.	9%	8%	8%	7%
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.	8%	8%	10%	11%
Someone in a vehicle you were in threw out a can, bottle or litter out onto the side of the road.	6%	7%	9%	6%
Someone in a vehicle you were in threw trash out in an area that already had lots of litter.	6%	7%	6%	6%
Rather than keep a beverage container in the car, you, or someone in a vehicle you were in, threw out a can or bottle.	2%	3%	5%	4%

Q12: 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 in the past 3 months,” “Have experienced over 3 months ago,” or “have never experienced.”

***Bold** indicates significantly higher percentages at the 95% confidence level

IV. CAMPAIGN AWARENESS

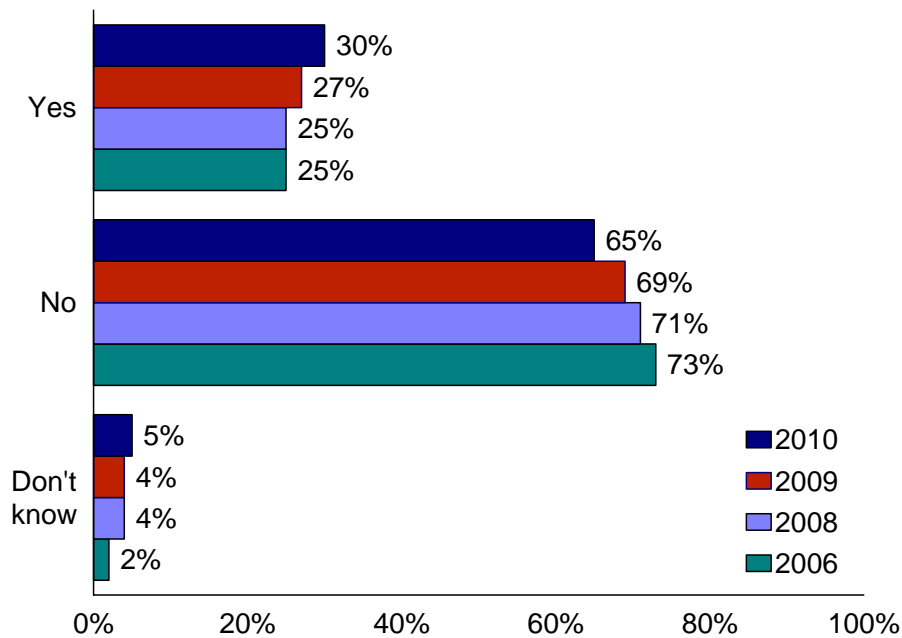
A. Awareness of Campaign

1. General Awareness

Three in ten residents (30%) indicated they had seen advertising related to litter or littering in the past three months. Although this level is only slightly higher than 2009 (three percentage points), it is significantly higher than the awareness levels for the benchmark wave (five percentage points). Ad awareness is significantly higher for male litterers aged 18-34 than the total (42% vs. 30%). Almost two of five (38%) of those under the age of 35 are aware of litter advertising. “Don’t know” levels are significantly higher for residents aged 55+ than for their younger counterparts (10% vs. 3%).

Have Seen Ads for Litter

Within last 3 months



2010 Maricopa n=601; 2009 Maricopa n=637; 2008 Maricopa n=744; 2006 Maricopa n=748

2. *Recalled Messages and Slogans*

When those aware of litter-related advertising were specifically asked what they remembered about the ads, the most recalled information is about the fines (24%; see Table 13). Recall levels are slightly lower than those registered in 2009 (27%) yet higher than those measured in 2006 (17%). The percentage of residents citing the second most frequently mentioned message, “Don’t litter” or “Keep Arizona clean,” was slightly higher than in 2009 (21%, up from 16%) but lower than 2008 levels (28%). Recall for both of these messages is at parity.

Other messages recalled included information about hamburger wrappers being a \$500 fine (9%), keeping highways clean (7%), and using ashtrays because cigarettes can cause fires (6%).

There are no differences among subgroups except residents under the age of 35 were more likely to recall the hamburger wrappers message (15%).

Table 13: Recalled Messages of Litter-Related Advertising
Among those who indicated they remember seeing ads
related to litter or littering in the past 3 months

Responses	2010 Maricopa (n=183)	2009 Maricopa (n=170)	2008 Maricopa (n=186)	2006 Maricopa (n=188)
The fines	24%	27%	24%	17%
Don't litter/keep Arizona clean	21	16	28	29
A hamburger wrapper being a 500 dollar fine/ a five hundred dollar burger	9	4	-	-
Keep highways clean	7	4	1	-
It was a sign along the road/billboard	6	15	15	11
Use ashtray/cigarettes cause fires	6	4	2	-
Littering is unlawful/can get a ticket	4	4	7	9
Recycling	4	2	4	-
Litter is bad for the environment/bad for wildlife	3	3	4	2
Heard on radio	3	4	-	4
Clean up efforts/Adopt a highway	3	3	4	4
People littering out of their vehicle	2	2	-	-
Tires coming apart on the road/tires along the road way	3	-	-	-
Call a number to report littering	2	1	-	2
Cost of cleaning up/tax dollars	2	-	2	4
Make the earth greener/go green	2	-	-	-
Don't be a litter bug	2	-	-	-
Littering is unsightly/litter is ugly	1	2	-	-
Littering/dumping things in desert by illegal immigrants	1	1	-	3
Read article in newspaper	1	1	1	2
Saw on TV/commercial/public service announcement	1	8	4	5
It's a big problem/becoming an issue	1	1	-	2
A funny commercial where the guy is addicted to littering	1	3	-	-
Prisoners picking up trash	1	2	-	8
Litter causes car accidents	-	2	-	-
Man following man/shows litter, makes pyramid/tree/robot	-	1	2	-
Washes/Trash ends up in washes	-	1	-	-
Indian crying	-	-	2	2
Other (1% or less of consensus)	6%	14%	13%	13%
Don't know	15	10	19	10

Q23? *What specifically do you remember about the ads related to litter or littering?*

***Bold** indicates significantly higher percentages at the 95% confidence level

Three in ten residents who remembered seeing litter-related advertising in the past three months were able to recall some type of slogan/message (30%). Two of the most commonly recalled “slogans” were actually messages – “do not litter” (mentioned by 5%) and “you will be fined” (mentioned by 4%). Actual slogans recalled were *Don’t Trash Arizona* (4%) and “Keep Arizona Beautiful” (2%). There is no longer any recall for “Arizona Clean and Beautiful”

Table 14: Main Slogan of Recalled Advertising
Among those who indicated they remember seeing ads related to litter or littering in the past 3 months

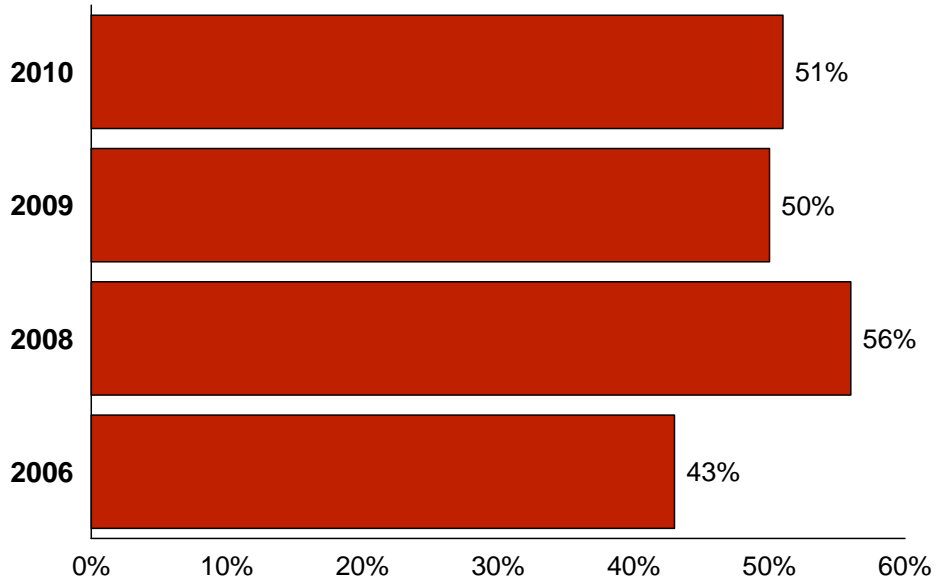
Responses	2010 Maricopa (n=183)	2009 Maricopa (n=170)	2008 Maricopa (n=186)	2006 Maricopa (n=188)
Do not litter	5%	9%	12%	13%
You will be fined	4	6	3	6
Don't Trash Arizona	4	2	6	5
Littering is unlawful	3	4	3	3
Keep our freeways clean	3	1	1	1
Go Green	2	2	-	-
Adopt a highway	2	2	-	1
Keep Arizona Beautiful	2	1	2	3
There was no slogan/ it was a sign/ gave information	2	1	3	2
\$500 fine for throwing out hamburger wrapper	2	1	-	-
Don't be a litterbug	1	3	-	-
Litter hurts everyone	1	1	-	2
Litter costs everyone	1	-	-	3
Recycle, reduce, reuse	-	-	2	-
Don't mess with Texas	-	-	1	1
Arizona Clean and Beautiful	-	1	3	2
Give a hoot, don't pollute	-	-	-	1
Other	2%	5%	6%	3%
Don't know	70	65	62	70

Q24? What was the main slogan used in the ads?

B. Don't Trash Arizona Awareness

As in 2009, more than half of Maricopa County residents (51%) recall the *Don't Trash Arizona* slogan. Although awareness is not as high as 2008 levels (56%), it still remains significantly higher than the 43% reported in 2006. Overall awareness of the slogan was highest among males (57% vs. 45% for females), residents under 55 (54% vs. 43% for 55+) and those who have seen advertising related to littering in the past three months (61% vs. 45%). A slight decrease occurred among males between the ages of 18 and 34 who were aware of the *Don't Trash Arizona* slogan (58%, down from 62%).

**Total Awareness
Have Heard Slogan "Don't Trash Arizona"
(Aided + Unaided)**



2010 Maricopa n=601; 2009 Maricopa n=637; 2008 Maricopa n=744; 2006 Maricopa n=748

Residents who were familiar with the *Don't Trash Arizona* slogan reported seeing and/or hearing the slogan from a variety of sources – television (31%), radio (21%), billboards (20%), and street/highway signs (16%).

Females were more likely to recall seeing the slogan on TV (38% vs. 25%). Younger residents were more likely than those over age 55 to remember seeing the slogan on billboards (23% vs. 10% for those 55+).

Table 15: Where Saw *Don't Trash Arizona* Slogan
Total responses among those indicating they had heard the slogan

Media	2010 Maricopa (n=308)	2009 Maricopa (n=319)	2008 Maricopa (n=417)	2006 Maricopa (n=322)
Television	31%	34%	30%	26%
Radio	21	22	21	14
Billboards	20	18	24	20
Street/highway signs	16	14	16	12
Newspaper	4	6	6	5
Magazines	-	2	2	-
Internet	2	2	-	-
Other (1% or less of consensus)	7%	5%	5%	6%
Don't know	24	20	25	25

Q26: Where have you seen, heard or read the slogan "Don't Trash Arizona?"

Seven in ten residents were unable to name a sponsor for the *Don't Trash Arizona* slogan (69%). This year, slightly fewer correctly identified the Arizona Department of Transportation (7% vs. 9%) and slightly more generically cited the “state” or “local” government (17% vs. 14%). Residents between the ages of 35-54 were most likely to mention ADOT (9%) as were those with some college or a college degree (9% vs. 1%). Residents in the 35-54 age group were also most likely to mention the state and local government as the sponsor (25%). Females were significantly more likely to not be able to recall a source (76% vs. 63% for males) along with those over 55 (88% vs. 62% for <55).

Table 16: Who Sponsors *Don't Trash Arizona* Slogan
Among those indicating they had heard the slogan

Sponsor	2010 Maricopa (n=308)	2009 Maricopa (n=319)	2008 Maricopa (n=417)	2006 Maricopa (n=322)
State/local government	17%	14%	17%	14%
ADOT	7	9%	9%	12%
Sanitation department/ department of waste	3	-	-	-
City of Phoenix	2	-	-	-
Other (<1% consensus)	3	6%	6%	5%
Don't know	69%	70%	65%	70%

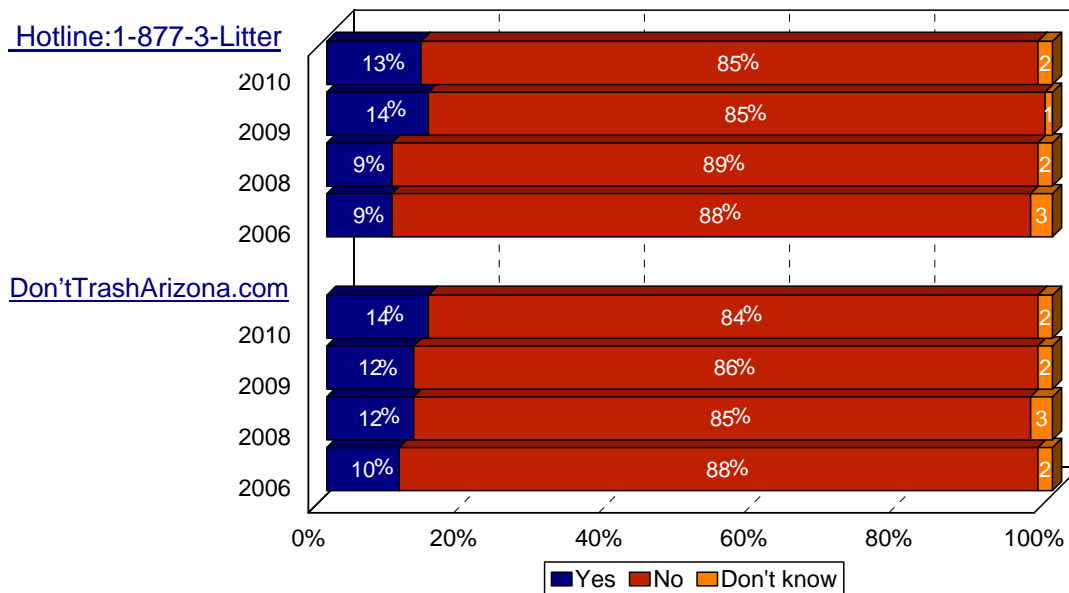
Q27: Who sponsors the *Don't Trash Arizona* advertisements?

C. Awareness of Litter Resources

Valley residents' awareness remains essentially unchanged for both the Litter Hotline (13%) and the "Don't Trash Arizona Website" (14%). This year, however, the significant increase in awareness of the Litter Hotline that occurred from 2008 to 2009 was sustained. Awareness of the hotline was highest among residents earning < \$50K (16%) and those who have seen litter advertising in the past three months (24%). Among the target group of males, aged 18 to 34, awareness remains steady from 2009 at 13%.

Fourteen-percent (14%) of residents had heard of the *Don't Trash Arizona Website*; this was up slightly from 2009 (12%). It is important to note that when comparing current awareness to the benchmark wave, there has been a significant increase (from 10% to 14%). Awareness of the Website is highest among those aware of litter advertising (28%) and Non-Caucasians (20%). Awareness of the Website among males between the ages of 18 and 34 is lower than the total (9% vs. 14%) and down 14 percentage points from 2009 awareness levels (23%).

Aided Awareness - Litter Resources

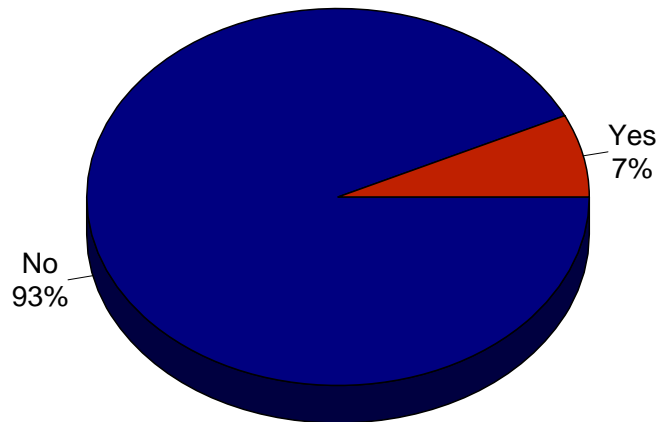


2010 Maricopa n=601; 2009 Maricopa n=637; 2008 Maricopa n=744; 2006 Maricopa n=748

As in 2009, seven-percent (7%) of Valley residents aware of the *Don't Trash Arizona* Website reported that they have visited the site.

Don't Trash Arizona Website Visitation

Have you ever visited the "Don't Trash Arizona" web site?



Among those aware of web site: n=83

D. Likelihood to Report Littering

When Valley residents were asked how likely they would be to report littering behavior, if they saw someone littering, more than three-fifths (62%) of residents indicated they would be at least "somewhat" likely to call (27% "very likely" and 35% "somewhat likely"). This continues the upward trend from 2009 when a significant increase occurred among those indicating they would be at least "somewhat" likely to report it. Female residents and those between the ages of 35 and 54 were most likely to report they were "very likely" or "somewhat likely" to report a violation (67% and 69%, respectively). Those who have seen litter advertising in the last three months were also more likely to report a violation (69%).

Likelihood to Report Littering

If you were to see someone litter, how likely would you be to report this behavior to the Litter Hotline or the Web site in the future?

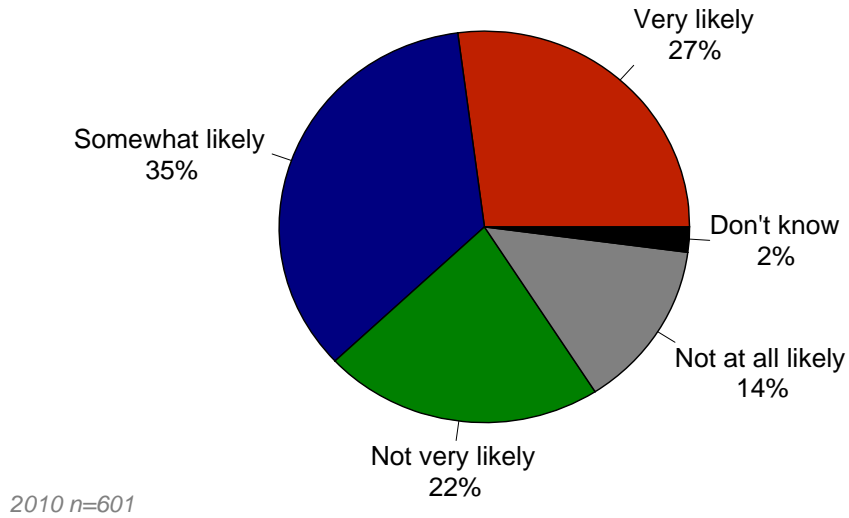


Table 17: Likelihood to Report Littering

Likelihood	2010 Maricopa (n=601)	2009 Maricopa (n=637)	2008 Maricopa (n=744)	2006* Maricopa (n=748)
NET likely (Very + somewhat)	62%	60%	53%	62%
Very likely	27%	23%	24%	27%
Somewhat likely	35	37	29	35
Not very likely	22	27	26	22
Not at all likely	14	11	16	13
Don't know	2	2	5	3

Q31: *If you were to see someone litter, how likely are you to report this behavior to the Litter Hotline or the Website in the future?*

In 2006 and 2008, the question asked how likely they would be to report littering by calling the litter hotline.

***Bold** indicates significantly higher percentages at the 95% confidence level

E. Additional Litter Resources

The Internet remains the top resource for Valley residents who want more information about litter or littering (mentioned by 49%). Approximately one in six residents specifically mentioned the *Don't Trash Arizona* Website as a resource to go to if they wanted more information about littering (14%); this is significantly lower than the 35% mentioned in 2008. However, it is important to note that in 2009 the format of the question from the interviewer perspective changed – a pre-coded list was provided (specifically listing “Internet” and the *Don't Trash Arizona* Website – whereas in previous years no pre-coded categories were provided and in all likelihood the response “Internet” was probed for the specific name of the Website visited.

Males between the ages of 18 to 34 indicated they would specifically go to www.DontTrashArizona.com significantly more than the total (26% vs. 14%). Residents under the age of 55 were more likely than older residents to go to the Internet to find information about littering (56% vs. 33%).

One in five (19%) claim they do not know where they would go for additional information on litter.

Table 18: Source for Litter/Littering Information

Source	2010 Maricopa (n=601)	2009 Maricopa (n=637)	2008 Maricopa (n=744)	2006 Maricopa (n=748)
Internet	49%	49%	26%	59%
Don't Trash AZ Website	14	18	35	-
Litter hotline	5	5	6	4
The “city”	5	5	5	5
Police/ highway patrol/DPS	3	3	1	4
ADOT/highway dept.	2	2	4	2
Phonebook/ yellow pages	2	2	2	4
The state/governor	2	2	3	3
Friend/ neighbor/ family member/ teacher	1	2	2	1
Waste Management/ garbage company	2	1	1	2
I wouldn't need that information/ wouldn't contact anyone	3	2	3	3
City council/councilmen	-	-	-	1
Newspaper	-	-	-	1
Other (<1% consensus)	3%	5%	7%	8%
Don't know	19	16	12	13

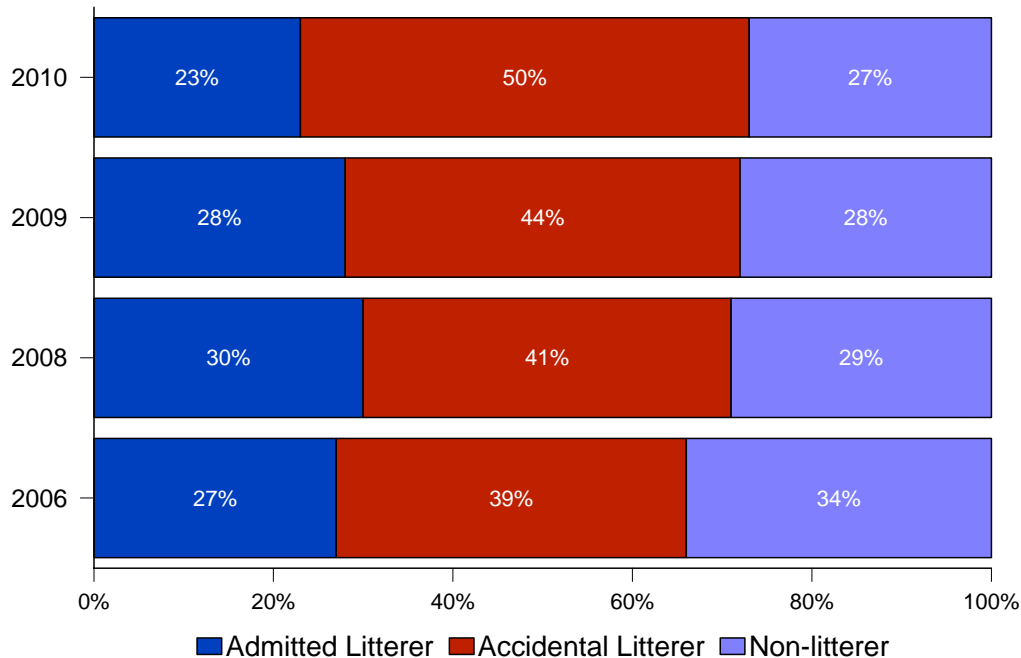
*Q32: If you wanted to find out more information about litter or littering, where would you go or who would you contact to find that information? *all mentions less than 1%*

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 (23% of the total population). **“Accidental Litterers”** are defined as residents who indicated that they had never littered themselves, but reported being in a vehicle when littering occurred (50% of the total population). **“Non-Litterers”** are those who indicated they had never littered themselves and also indicated they had never experienced other littering situations (27% of the total population).

This year, a significant drop has occurred among Maricopa County residents who are categorized as “Admitted Litterers” (23%, down from 28% in 2009).

Littering Behavior



More than half of the males aged 18 to 34 are admitted litterers (51%); however, this number has declined from 56% in 2006.

In addition, in 2010, Admitted Litterers were most likely to be:

- Younger residents (average age 38 yrs. old vs. 46 and 52 for the other two groups).
- Single residents (36% vs. 24% and 18% of the other two groups).
- Students (9% vs. 3% and 1% of the other two groups)

- Those that spoke mostly English but also some Spanish (14% vs. 6% and 8% of the other two groups).

Unemployed residents fall into the Admitted and Accidental Litterer categories significantly more than into the Non-Litterer group (16% and 14% vs. 7%).

Interestingly, significantly more residents who have been exposed to litter advertising in the last 3 months classify themselves as Accidental Litterers (59% vs. 46%).

Tables 19a and 19b show the demographic characteristics of each of these groups.

Table 19a: Demographic Comparison based on Littering Behavior

Characteristic	2010			2009		
	Admitted Litterers (n=141)	Accidental Litterers (n=298)	Non-Litterers (n=162)	Admitted Litterers (n=180)	Accidental Litterers (n=280)	Non-Litterers (n=177)
Gender						
Male	57%	47%	49%	52%	50%	50%
Female	43	53	51	48	50	50
Age						
18-24	18%	8%	3%	22%	8%	1%
25-34	31	17	13	21	15	14
35-44	21	21	18	22	23	15
45-54	19	27	18	20	25	23
55-65	8	13	18	8	15	17
66+	3	14	30	7	14	30
Average	37.7 yrs	46.2 yrs	52.4 yrs	39.3 yrs	46.5 yrs	53.2 yrs
Marital Status						
Married	55%	59%	59%	58%	56%	66%
Single	36	24	18	31	29	10
Widowed	4	5	12	3	6	12
Divorced	4	9	6	5	6	7
Separated	-	-	-	2	-	1
Don't know or Refused	1	3	5	1	3	4
Education						
Less than high school	4%	6%	6%	5%	3%	5%
High school graduate	16	19	19	19	19	18
Some college	40	31	31	33	34	32
College graduate	22	25	20	31	29	26
Graduate degree	17	16	22	12	12	16

***Bold** indicates significantly higher percentages at the 95% confidence level

Table 19b: Demographic Comparison based on Littering Behavior

Characteristic	2010			2009		
	Admitted Litterers (n=141)	Accidental Litterers (n=298)	Non-Litterers (n=162)	Admitted Litterers (n=180)	Accidental Litterers (n=280)	Non-Litterers (n=177)
Ethnicity						
White	71%	72%	71%	70%	75%	77%
Hispanic	19	13	13	18	11	11
African-American	5	6	4	3	1	2
Asian	-	1	1	2	2	3
Native American	2	2	3	-	2	-
Other	2	2	4	6	3	3
Refused	1	4	4	1	6	4
Household Income						
<\$10,000	12%	6%	5%	7%	7%	7%
\$10-\$20,000	3	9	8	6	7	6
\$20-\$30,000	10	7	7	5	6	8
\$30-\$40,000	6	8	9	9	5	6
\$40-\$50,000	4	5	6	9	8	5
\$50-\$60,000	5	7	5	6	6	6
\$60-\$75,000	8	6	3	8	8	8
\$75-\$100,000	11	14	12	12	14	8
\$100,000+	25	16	14	23	18	22
Refused**	16	22	31	14	22	25
Employment						
Full-time	56%	46%	45%	52%	53%	44%
Part-time	6	8	6	15	8	6
Retired	6	19	32	8	20	35
Homemaker	6	7	6	9	6	6
Student	9	3	1	6	2	1
Unemployed	16	14	7	9	10	6
Household Language*						
English only	68%	72%	75%	69%	74%	80%
Spanish only	2	3	4	3	5	3
Mostly Spanish + some English	1	3	1	3	2	2
Equally in Spanish and English	4	3	4	7	3	3
Mostly English + some Spanish	14	6	8	9	8	5
English + Other	9	11	6	9	7	6
Refused	2	2	2	-	1	1

*Question worded differently in 2009

** 2010 Income Mean: Admitted Litterers, \$69K, Accidental Litterers, \$63K, Non Litterers, \$61K

Bold indicates significantly higher percentages at the 95% confidence level

APPENDIX A

QUESTIONNAIRE

Benchmark Study

Client: Maricopa Association of Governments
Subject: Telephone Survey
Date: June 2010
Version: FINAL

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
 - b. 18 to 24
 - c. 25 to 34
 - d. 35 to 44
 - e. 45 to 54
 - f. 55 to 65
 - g. 66 or older
 - h. Refused (DO NOT READ)
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 Arizona...? READ LIST; ALLOW ONLY ONE RESPONSE
 - a. Full time, 12 months a year CONTINUE WITH Q6
 - b. Part time or seasonally, less than 12 months a year - ASK Q5
 - c. Do not live in Arizona (DO NOT READ) - ASK Q5
 - d. Refused (DO NOT READ) THANK AND TERMINATE
5. IF b or c in Q4: May I please speak to someone in the household who lives in Arizona full-time, 12 months a year?

6. RECORD GENDER (DO NOT ASK; RECORD BY OBSERVATION)
- Male
 - Female
7. For classification purposes, may I have the Zip Code in which you live?

8. Which of the following best describes the type of vehicle you drive or ride in...?
- Sedan
 - Pick-up truck
 - Sports utility vehicle
 - Coupe
 - Van / Minivan
 - Motorcycle
 - Other _____
 - Don't drive
 - Don't know / Refused (DO NOT READ)

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.

9. In your opinion, how big of a problem is litter along freeways in Maricopa County?
Would you say it is a....
- Big problem
 - Moderate problem
 - Small problem
 - Not a problem at all
 - Don't know / Refused (DO NOT READ)
10. Do you smoke?
- yes
 - No
 - Don't know / Refused

11. IF YES in Q10: When you are in a vehicle, do you USUALLY dispose of cigarette butts...? READ LIST – ONE RESPONSE ONLY

- a. By using an ashtray inside the vehicle
- b. By using something else you have inside the vehicle
- c. By throwing it out the window
- d. Or does it vary
- e. DO NOT READ: Other means of disposal _____
- f. Don't know / Refused (DO NOT READ)

12. 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 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 a can, bottle, or other litter out onto the side of the road.
- d. You had problems with a vehicle and left debris like a tire, part of a tire, or other stuff on the roadside
- e. Rather than keep a beverage container in the car, you, or someone in a vehicle you were in, threw out a can or bottle.
- f. You threw out a small item from your vehicle, like a candy wrapper, scrap paper or something like that.
- g. You or someone you were with got a ticket or warning for littering.
- h. 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

13. 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.

- a. Beer cans and beer bottles
- b. Soda cans and soda bottles
- c. Water cans and water bottles
- d. Small pieces of paper (receipts, lottery tickets, gum wrappers)
- e. Plastic bags / other plastic
- f. Cigarette butts
- g. Construction debris
- h. Fast food wrappers
- i. Other food wrappers (chip bags/candy)
- j. Cardboard
- k. Food / organic material, raw food
- l. Litter that falls out of pickup trucks accidentally

- m. Other _____
 - n. Have not littered in past year – SKIP TO: Q16
 - o. Don't know
14. To the best of your knowledge, what were the general circumstances in terms of where and what you were doing when you discarded litter? PROBE: Any other circumstances? DO NOT READ. MULTIPLE RESPONSES ALLOWED UP TO THREE.
- a. Driving / riding in / traveling in vehicle
 - b. Walking outside
 - c. Opened door and it flew out / flew out of window / flew out of cab
 - d. No trash can around (not while in car)
 - e. Flew out of truck bed
 - f. Partying / drinking
 - g. Other _____
 - h. Don't know/Can't remember / don't recall
15. Why do you litter WHEN DRIVING? (Do **not** read list, mark all that apply)
- a. I'm lazy
 - b. It's easy
 - c. No trash receptacles are convenient
 - d. Cigarettes stink up car, easier to throw out window
 - e. Only litter food scraps – they are biodegradable
 - f. Someone else can pick it up
 - g. I don't care
 - h. Gives someone else something to do
 - i. I won't get into trouble for littering so I do it
 - j. I litter only in areas where there already is a lot of litter, so it does not matter
 - k. I don't consider throwing out gum, small wrappers, cig butts litter
 - l. It was an accident/unintentional
 - m. I only litter when I'm alone
 - n. I don't litter when driving
16. TRUCK DRIVERS ONLY: What types of items do you ever put into your truck bed that you consider to be litter or trash? PROBE: What else? MULTIPLE RESPONSES ALLOW UP TO THREE. DO NOT READ LIST.
- a. Beer cans and beer bottles
 - b. Soda cans and soda bottles
 - c. Water cans and water bottles
 - d. Small pieces of paper (receipts, lottery tickets, gum wrappers)
 - e. Plastic bags / other plastic
 - f. Cigarette butts
 - g. Construction debris
 - h. Fast food wrappers
 - i. Other food wrappers (chip bags/candy)
 - j. Cardboard
 - k. Food / organic material, raw food

- l. Litter that falls out of pickup trucks accidentally
 - m. Other _____
 - n. Don't know
17. TRUCK DRIVERS ONLY: 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)?
- a. Always
 - b. Most of the time
 - c. Only sometimes
 - d. Rarely
 - e. Never
 - f. If rarely or never – WHY NOT? _____

ASK ALL:

18. How often do you drive or ride in a vehicle that transports items that are not carried within the vehicle or trunk, such as hauling items in an open-air trailer or strapped to a luggage rack or trunk?
- a. Daily
 - b. At least once a week
 - c. 1-2 times a Month
 - d. A few times a year
 - e. Never
- SKIP TO Q20
19. (If selected a, b, c, d on question 18) On average, how often do you secure the load that you are hauling (either with ties, bungees, a tarp, etc)?
- a. Always
 - b. Most of the time
 - c. Only sometimes
 - d. Rarely
 - e. Never
 - f. If rarely or never – WHY NOT? _____
20. Do you have a litterbag or trashcan in your vehicle?
- a. Yes
 - b. No
 - c. Don't know / Refused
21. IF NO IN Q20: Would you consider keeping a litter bag or trash can in your vehicle?
- a. Yes
 - b. No
 - c. Don't know / Refused

Litter Campaign Awareness

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

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

23. IF YES in Q22: What specifically do you remember about the ads related to litter or littering? PROBE THOROUGHLY AND RECORD VERBATIM

24. IF YES IN Q22: What was the main slogan used in the ads? DO NOT READ LIST. MULTIPLE RESPONSES ALLOWED.

- a. Don't Trash Arizona
- b. Keep Arizona Beautiful
- c. Arizona Clean and Beautiful
- d. Other _____
- e. Don't know / Refused

25. IF NOT MENTIONED IN Q24 "a": Have you seen or heard the slogan, "Don't Trash Arizona?"

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

26. IF mentioned in Q24a or YES IN Q25: Where have you seen, heard or read the slogan, "Don't Trash Arizona?" PROBE: Where else? DO NOT READ LIST. MULTIPLE RESPONSES ALLOWED.

- a. Television
- b. Radio
- c. Billboards
- d. Street or highway signs
- e. Newspaper
- f. Bus signs
- g. Trash cans
- h. Litter bags
- i. Online
- j. Other _____
- k. Don't know / Refused

27. IF mentioned in Q24a or YES IN Q25: Who sponsors the *Don't Trash Arizona* advertisements? DO NOT READ LIST. ONE RESPONSE ONLY.

- a. State / Local Government
- b. Arizona Department of Transportation
- c. Maricopa Association of Governments (MAG)
- d. Other _____

- e. Don't know / Refused
28. Have you heard about the Litter Hotline, 1-877-3-Litter, where you can report someone who litters?
- a. Yes
 - b. No
 - c. Don't know / Refused
29. Have you heard of www.donttrasharizona.com?
- a. Yes
 - b. No
 - c. Not sure/DK
30. If YES IN Q29 "a": Have you ever visited the "Don't Trash Arizona Website?"
- a. Yes
 - b. No
 - c. Don't know
31. If you were to see someone litter, how likely would you be to report this behavior to the Litter Hotline or the Website in the future?
- a. Very likely
 - b. Somewhat likely
 - c. Not very likely
 - d. Not at all likely
 - e. Don't know / Refused (DO NOT READ)
32. If you wanted to find out more information about litter or littering, where would you go or who would you contact to find that information? DO NOT READ LIST, SELECT ALL THAT APPLY.
- a. Don't Trash AZ website
 - b. Internet
 - c. Litter hotline
 - d. The "city"
 - e. I wouldn't need that information/ wouldn't contact anyone
 - f. ADOT/highway dept.
 - g. Police/ highway patrol/DPS
 - h. Phonebook/ yellow pages
 - i. The state/governor
 - j. Waste Management/ garbage company
 - k. Friend/ neighbor/ family member/ teacher

Demographics

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

D1. *What is your present marital status? (ASK AS OPEN END; ACCEPT ONE MENTION)*

- a. *Single*
- b. *Married*
- c. *Divorced*
- d. *Separated*
- e. *Widowed*
- f. *Don't know*
- g. *Refused/NA*

D2. *What was the last year of education you have completed?*

- a. Grammar school (8 years or less)
- b. Some high school (9-11 years)
- c. Graduated high school (12 years)
- d. Some post-high school training/some college
- e. Graduated from four-year college (B.A./B.S.)
- f. Graduate Degree
- g. Don't Know
- h. Refused

D3. *Are you employed full-time, employed part-time, retired, a housewife, a student or unemployed?*

- a. Full-time
- b. Part-time
- c. Retired
- d. Housewife
- e. Student
- f. Unemployed
- g. Refused/NA

D4. *Which of the following best classifies your profession?*

- a. White collar/management
- b. Blue collar
- c. Trade profession
- d. Professional (medical/legal)
- e. Educational
- f. Clerical/administrative
- g. Homemaker
- h. Self-employed
- i. Retired
- j. Student
- k. Unemployed
- l. Other (SPECIFY) _____
- m. Don't know
- n. Refused

D5. How would you describe your ethnic heritage? Would you say you are... (READ CODES 1-5; ACCEPT ONE MENTION)

- a. White
- b. African-American
- c. Hispanic
- d. Asian, or
- e. Something Else [SPECIFY]: _____
- f. Refused

D6. 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. Don't know/refused

D7. Was your annual household income before taxes last year:

- a. Less than \$10,000
- b. \$10,000 to less than \$20,000
- c. \$20,000 to less than \$30,000
- d. \$30,000 to less than \$40,000
- e. \$40,000 to less than \$50,000
- f. \$50,000 to less than \$60,000
- g. \$60,000 to less than \$75,000
- h. \$75,000 to less than \$100,000
- i. More than \$100,000
- j. No answer

Thank you very much – those are all my questions.