



Regional Air Quality Council Post-Campaign Public Awareness Survey

Report of Results

October 2005

Prepared by:



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Executive Summary

Study Background

- The Regional Air Quality Council (RAQC) contracted with National Research Center, Inc. (NRC) to conduct a public awareness survey before and after the implementation of a ground-level ozone awareness media campaign, which began in the summer of 2005. The RAQC Public Awareness Survey provides residents the opportunity to express their understanding of and opinions about ground-level ozone pollution. To evaluate the impact of the public awareness campaign, several questions tested change in resident attitudes and tested recognition of campaign messages.
- The Regional Air Quality Council Post-Campaign Public Awareness Survey was administered by telephone to a representative sample of 400 residents. Calls were made August 16 to August 23, 2005.
- Survey results were weighted so that respondent age, gender and tenure were represented in the proportions reflective of the entire metro-Denver area. The margin of error is plus or minus five percentage points around any given percent reported for the entire sample (400 completed interviews).

Perception of Air Pollution as a Problem

- The first question posed to respondents asked them which, of five issues named, they thought was the most important facing the metropolitan Denver area. Of these five issues, air pollution and the state budget deficit were both ranked as the third most important issue, each identified as the top issue by 13% of respondents. For air pollution, this represents slight increase compared to the pre-campaign survey results, when air pollution was selected as the top issue by only 9% of respondents, making it the issue chosen least often of the five.
- Respondents who did not choose air pollution as being of top importance were asked how much of a problem they believed air pollution was for the metro-Denver area. One-quarter of respondents on the pre-campaign survey felt that air pollution was a major problem; similarly, among those who did not rank air pollution as top importance at post-campaign, 23% said it was a major problem.
- Interviewers next asked those participating in the survey to rate the possible negative impacts of air pollution. For all questions, respondents gave lower ratings on the post-campaign survey than on the pre-campaign survey. Nearly two-thirds of respondents (63%) on the post-campaign survey said that air pollution negatively impacted the health of residents in the metro-Denver area to a “major” or “moderate extent,” down from 72% on the pre-campaign survey.
- Three in five respondents felt that air pollution had a negative impact on the reputation of the metro-Denver area (60%; 65% on the pre-campaign survey) and the quality of life in the metro-Denver area (60%; 64% on the pre-campaign survey). More than one-third of respondents (39%) considered air pollution to have a major or moderate negative impact on their own quality of life compared to 44% on the pre-campaign survey.

Ground-level Ozone Pollution – Current Knowledge and Behaviors

Awareness of the Problem of Ground-level Ozone Pollution

- Awareness of the problem of ground-level ozone pollution was higher post-campaign than it was pre-campaign; more than 4 in 10 respondents (44%) on the post-campaign survey said they were “somewhat” or “very” familiar with the problem of ground-level ozone, while a third (32%) of pre-campaign respondents reported that they were “somewhat” or “very” familiar with the problem.
- However, when asked how much of a problem they believed ground-level ozone pollution to be, 63% felt it was a “major” or “moderate” problem post-campaign which was similar to the pre-campaign survey where 66% felt it was at least a moderate problem.

Perceived Contributors to Ground-level Ozone Pollution

- Respondents who felt that ground-level ozone pollution was at least a “minor problem” (92%) were asked if they thought items from a prompted list contributed to ground-level ozone pollution. About 9 in 10 residents responding to the survey thought that auto emissions (99%), emissions from trucks and buses (95%) and gasoline vapors (91%) contributed to ground-level ozone pollution.
- Eighty-six percent of respondents reported that they thought gasoline-powered lawn equipment was a contributor to ground-level ozone pollution, which was an increase of 21% from the pre-campaign survey. The ad and copy, “if you breathe the air and mow your lawn,” seemed to have been effective.
- About two-thirds of participants felt that vapors from paints, stains and solvents (70%) and aerosol products (67%) were contributors to ground-level ozone pollution, and about half thought that dust particles (57%) and air conditioners (50%) were causes of ground-level ozone pollution.
- For other factors, respondents gave similar responses in the post-campaign survey as the pre-campaign survey. About 9 in 10 residents responding to the survey thought that auto emissions (99%), emissions from trucks and buses (95%) and gasoline vapors (91%) contributed to ground-level ozone pollution. About two-thirds of participants felt that vapors from paints, stains and solvents (70%) and aerosol products (67%) were contributors to ground-level ozone pollution, and about half thought that dust particles (57%) and air conditioners (50%) were causes of ground-level ozone pollution.

Behaviors in Which Respondents Engage to Reduce Ground-level Ozone Pollution

- When asked how often they did each activity from a prompted list of activities to reduce pollution, virtually all (95%) reported, both on the pre- and post-campaign survey, that they “almost always” make sure that their gas cap is sealed tightly on their gas tank. About 4 out of 5 respondents (82%) reported that they “keep their car well-maintained” and 72% said that they “stop pumping gasoline after the nozzle clicks off.”
- More than half of respondents reported that they “use low-polluting or water-based paints and stains” and 39% said they “mow their lawns only after 5 pm.” Fewer respondents (21% and

16%, respectively) said that they “use electric, battery-operated or low-polluting lawn equipment” and “limit driving or take alternative modes of transportation.”

- When asked if a change was made to their lifestyle to reduce ozone pollution, 37% of respondents to post-campaign survey said “yes.”
- Respondents who said they had made a change to reduce ozone pollution were then asked to report what changes they made. Of the 37% who reported making a change, 65% said they “reduced driving.” More than 1 in 10 residents stated that they refueled their vehicle after 5:00 pm (14%), mowed their lawn after 5:00 pm (13%) and kept their vehicle well-maintained (13%).
- Regardless of having made a change to their lifestyle to reduce ozone pollution, respondents were then asked whether or not they made a change this summer from a prompted list of activities. Of those responding to the survey, “reducing driving” (90%) and “keeping your vehicle well-maintained” (89%) were performed the most, followed by “avoiding unnecessary idling” and “recycling cans and bottles,” (76% and 75%, respectively).
- Nearly two-thirds of residents said they keep their lawn-care equipment well-maintained (65%) and about half of respondents said that refuel their vehicle after 5:00 pm (51%), mow their lawn after 5:00 pm (49%) and use stone instead of wood as a landscape material (47%). Forty-two percent of those surveyed said they use an earth-friendly mower or trimmer.

Motivators to Change Behavior

- When asked what kinds of things might convince them to change their behaviors to decrease ground-level ozone pollution, responses from pre- to post-campaign were similar. More than 9 in 10 respondents said they were “very” or “somewhat” likely to change their behaviors “knowing it would improve the health of adults and children with respiratory problems,” “knowing it would improve the quality of life in the metro-Denver area” and “knowing it would improve the environment” (95%, 93% and 92%, respectively).
- Eighty-five percent of residents said that “learning about the causes of ground-level ozone” might convince them to change their behaviors. About three-quarters of respondents believe that they would change their behavior “knowing it would improve Denver’s reputation for clean air” (80%), “seeing or hearing about an ozone action alert in the media” (79%) and “seeing that my friends and neighbors are trying to reduce ground level ozone” (76%).

Awareness of Ground-Level Ozone Media Campaign and Alerts

- When respondents were asked if they had heard of advertising or public relations campaign phrases, the proportion who said they were “very sure” they had heard of each was:
 - “Click it or ticket”, 87%
 - “Call before you dig”, 81%
 - “Stop at the click”, 24%
 - “RideSmart Thursdays”, 23%
 - “If you breathe the air, this message is for you”, 18%
 - “Let's take care of our summer air”, 12%
 - “Mow down pollution”, 6%
- As might be expected, respondent familiarity was much higher for “Click it or ticket” and “Call before you dig,” than for the ground-level ozone pollution campaigns phrases. These other programs have been in existence for several years, while the ground-level ozone pollution media campaign has only been around for a few months. Nevertheless, “If you breathe the air, this message is for you” was familiar to 1 in 5 respondents, a similar proportion to the phrase “RideSmart Thursdays,” an RTD campaign that has been in place since 2004.
- About 2 in 5 respondents had heard of the Ozone Action Alert program post-campaign, compared to 1 in 5 on the pre-campaign survey. Of those who had heard of it, two-thirds said that they heard an Ozone Action Alert on the television, about one in five mentioned that they heard it on the radio, 9% said they read it on an electronic message board along the highway, 8% read it in a newspaper and very few (5%) learned about it from a Web site.
- Residents who had seen or heard of an Ozone Action Alert were also asked if they knew what an ozone alert was. Two-fifths of respondents said “yes.”
- When respondents were asked if they had seen a television ad this summer about ozone pollution 1 in 5 people reported “yes.” Nearly one-quarter of respondents said they had seen the ad that begins “If you drive and breathe the air, this message is for you” and 10% of residents had seen the ad that begins with “If you mow your lawn and breathe the air, this message is for you.”
- Respondents were asked to name up to three activities that could do to reduce ground-level ozone pollution if they drive. The most commonly mentioned were keeping your vehicle well maintained (32%), carpooling (29%) and using public transit (18%). Refueling in the evening, reducing speed and avoiding unnecessary idling were suggested by 11% to 12% of respondents.
- Those who had seen the television ad that begins “If you drive and breathe the air” were somewhat more likely to have indicated carpooling and refueling in the evening as ways to reduce ground-level ozone pollution than were those who had not seen the ad.
- Respondents were also asked to name up to three activities that could do to reduce ground-level ozone pollution if they mow their lawn. The most commonly mentioned were mowing your lawn after 5:00 pm (52%), using an earth-friendly mower or trimmer (45%) and keeping your equipment well-maintained (21%). Keeping your lawn mower gas tank half full was suggested by only 3% of respondents.

- Those who had seen the television ad that begins “If you mow your lawn and breathe the air” were somewhat more likely to have indicated mowing your lawn after 5:00 pm and keeping your equipment well maintained as ways to reduce ground-level ozone pollution than were those who had not seen the ad.
- Residents were asked if they had seen any news stories about ground-level ozone pollution. Of those responding to the post-campaign survey, only 15% said they had seen a news story. Of those who had seen or heard a news story about ground-level ozone pollution, more than three-quarters of respondents had seen a news story on the television, 40% had read a story in the newspaper, 32% had heard a story on the radio and 18% had read a story on the Internet about ground-level ozone pollution.
- Respondents were asked if they had heard of specific communication methods pertaining to the awareness campaign. More than a third of respondents (36%) had heard of radio traffic reports on ozone pollution. Twenty-six percent of residents had heard about communications on the backs or sides of buses and on electronic message billboards along the highways that provided Ozone Action Alerts.
- More than 1 in 10 had heard communications about ozone or ozone alerts on outdoor billboard and on the website www.OzoneAware.org (13% and 11%, respectively). Only 4% of those responding to the post-campaign survey had heard about the “Mow Down Pollution” lawnmower exchange event.

Survey Results

Background

The Regional Air Quality Council (RAQC) contracted with National Research Center, Inc. (NRC) to conduct a public awareness survey before and after the implementation of a ground-level ozone awareness media campaign rolled out in the summer of 2005. The RAQC Public Awareness Survey provided metro-Denver area residents the opportunity to express their understanding of and opinions about ground-level ozone pollution.

The pre-campaign survey asked some questions to help guide the media campaign on ground-level ozone pollution as well as to help determine awareness and knowledge of the problem. Post-campaign survey questions were used to measure awareness of the media campaign and communications and respondents' knowledge of the problem. Similar questions were asked on both the pre- and post-campaign surveys to gauge change in residents' awareness and knowledge about ground-level ozone pollution.

Survey Administration

The Regional Air Quality Council Post-Campaign Public Awareness Survey was administered by telephone to a representative sample of 400 residents. Calls were made August 16 to August 23, 2005. (The pre-campaign survey was administered from April 6 to April 10, 2005). A majority of the interviews was completed during the evening hours, although calls were made on the weekend. All phone numbers were attempted at least three times before replacing with another number.

The demographic characteristics of the survey sample were compared to those found in the 2000 Census estimates and other population norms for seven counties within the metro-Denver area (Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas and Jefferson counties) and were statistically adjusted to reflect the larger population when necessary.

“Don't Know” Responses

On many of the questions in the survey, respondents could answer, “don't know.” The proportion of respondents giving this reply is shown in the full set of responses included in Appendix B: Complete Set of Survey Frequencies. However, these responses have been removed from the analyses presented in the body of the report. In other words, the tables and graphs display the responses only from respondents who had an opinion about a specific item.

Confidence Intervals

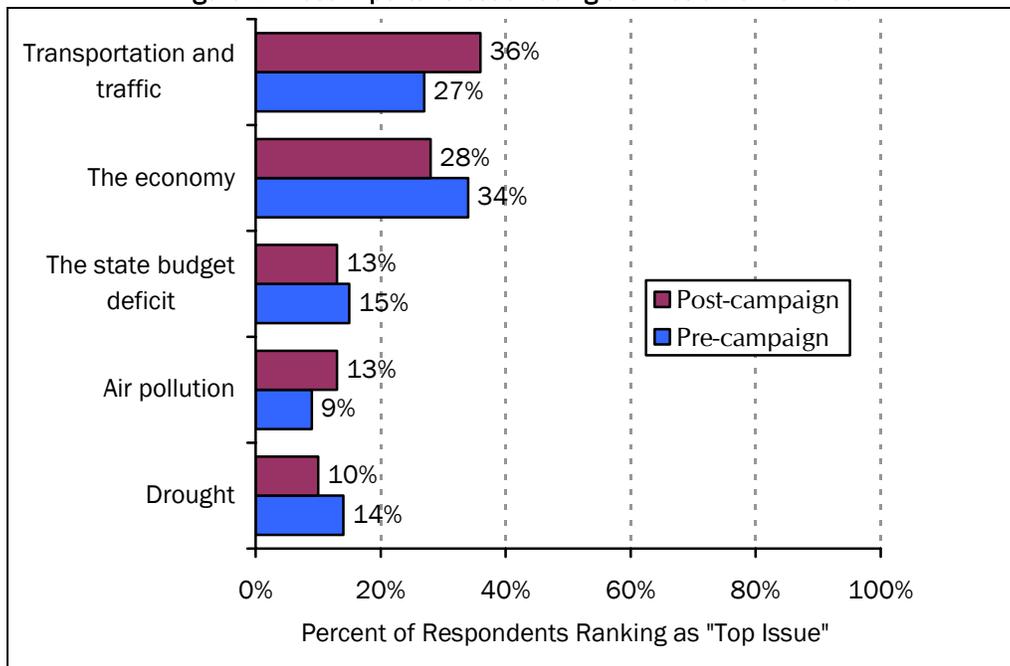
It is customary to describe the precision of estimates made from surveys by a “level of confidence” (or margin of error). The 95 percent confidence level for the survey is generally no greater than plus or minus five percentage points around any given percent reported for the entire sample (400 completed interviews). Where differences between pre-campaign and post-campaign results are statistically significant ($p < 0.05$), they are so indicated.

Perception of Air Pollution as a Problem

The first question posed to respondents asked them what they thought was the most important issue of five issues which were read to them facing the metropolitan Denver area. Air pollution was one of the items on the list, as well as the economy, transportation and traffic, the state budget deficit and drought. Of these five issues, air pollution and the state budget deficit were both ranked as the third most important issue. A slightly greater proportion of respondents, 13%, named air pollution as the top issue in the post-campaign survey compared to the pre-campaign survey, where air pollution was considered the most important of the five issues by 9% of respondents. However, these differences were not statistically significant.

The issue perceived to be the most important facing the metro-Denver area by respondents on the post-campaign survey was transportation and traffic, selected by over a third of those interviewed. The economy followed closely, identified as the most important issue by 28% of respondents. About 1 in 10 of respondents felt that the state budget deficit (13%) or drought (10%) were top issues. Interviewing took place before Hurricane Katrina struck the Gulf Coast; therefore responses were not impacted by the destruction of property and increases in gas prices that might have caused “the economy” to be of greater concern.

Figure 1: Most Important Issue Facing the Metro-Denver Area



When both the first most important and second most important issues were examined, air pollution was third among the five ranked, with 30% choosing it as the most important or next most important issue, similar to 27% on the pre-campaign survey, but rising in the rank order of the list (air pollution was ranked least important among the five issues in the pre-campaign survey).

Almost two-thirds of respondents (65%) ranked transportation and traffic as one of the top two most important issues facing the metro-Denver area. Of those surveyed, 50% said the economy was the first or second most important issue. About one-quarter of respondents ranked the state budget deficit or drought as the most important or second most important issue facing the Denver area (29% and 23%, respectively).

Table 1: First or Second Most Important Issue Facing the Metro-Denver Area

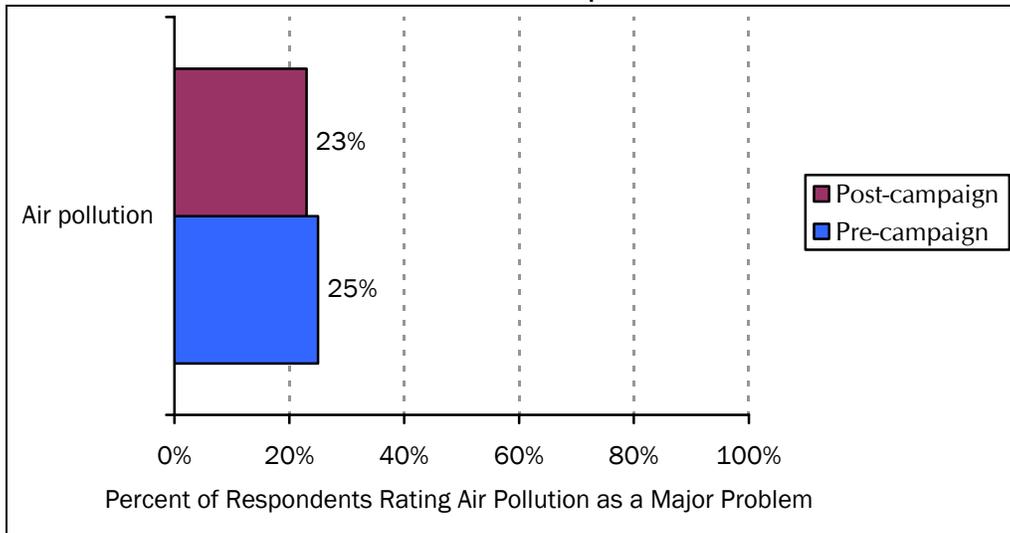
I'd like to start by having you rank 5 issues, by telling me what you think is the most important issue facing the metropolitan Denver area. Which of the following 5 issues is the most important issue facing the metropolitan Denver area? What about . . .	Percent of Respondents Choosing Each as First or Second Most Important Issue	
	Post-Campaign	Pre-Campaign
Transportation and traffic	65%	52%
The economy	50%	56%
Air pollution	30%	27%
The state budget deficit	29%	31%
Drought	23%	32%

Table 2: Rank Importance of Issues Facing Metro-Denver (Post-Campaign Survey)

I'd like to start by having you rank 5 issues, by telling me what you think is the most important issue facing the metropolitan Denver area. Which of the following 5 issues is the most important issue facing the metropolitan Denver area? What about . . .	Percent of respondents					
	Drought	Transportation and traffic	Air pollution	The economy	The state budget deficit	Total
Top Issue	10%	36%	13%	28%	13%	100%
Second Issue	13%	30%	18%	23%	16%	100%
Third Issue	17%	16%	21%	21%	26%	100%
Fourth Issue	23%	11%	26%	17%	23%	100%
Last Issue	37%	8%	22%	11%	22%	100%

Respondents who did not choose air pollution as being of top importance were asked how much of a problem they believed air pollution was for the metro-Denver area. One-quarter of respondents on the pre-campaign survey felt that air pollution was a major problem; similarly, 23% of respondents said it was a major problem on the post-campaign survey.

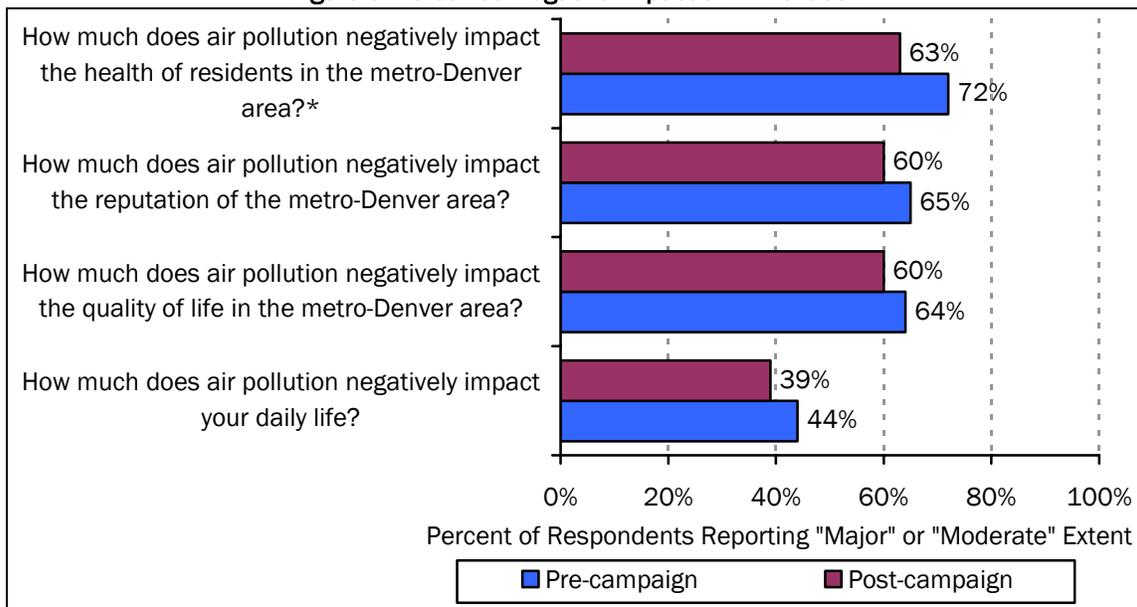
Figure 2: Perception of Air Pollution as a Problem in the Metro-Denver Area Among Those Not Choosing Air Pollution as Their Top Issue



Interviewers next asked those participating in the survey to rate the possible negative impacts of air pollution. For all questions, respondents gave lower ratings on the post-campaign survey than on the pre-campaign survey, although differences were statistically significant for only one of the items. Nearly two-thirds of respondents (63%) on the post-campaign survey said that air pollution negatively impacted the health of residents in the metro-Denver area to a “major” or “moderate extent,” which was down from 72% on the pre-campaign survey.

Three in five respondents felt that air pollution had a negative impact on the reputation of the metro-Denver area (60% on the pre-campaign survey) and the quality of life in the metro-Denver area (60% on the pre-campaign survey). More than one-third of respondents (39%) considered air pollution to have a major or moderate negative impact on their own quality of life.

Figure 3: Perceived Negative Impact of Air Pollution



* Differences between pre-campaign and post-campaign responses are statistically significant.

Table 3: Perceived Negative Impact of Air Pollution (Post-campaign survey)

	Percent of respondents				
	Major extent	Moderate extent	Minor extent	Not at all	Total
How much does air pollution negatively impact your daily life?	10%	29%	34%	27%	100%
How much does air pollution negatively impact the quality of life in the metro-Denver area?	18%	42%	31%	9%	100%
How much does air pollution negatively impact the health of residents in the metro-Denver area?	23%	40%	31%	6%	100%
How much does air pollution negatively impact the reputation of the metro-Denver area?	21%	39%	28%	11%	100%

Ground-Level Ozone: Knowledge and Behaviors

Awareness of the problem of ground-level ozone was higher post-campaign than it was pre-campaign; more than 4 in 10 respondents (44%) on the post-campaign survey said they were “somewhat” or “very” familiar with the problem of ground-level ozone, while a third (32%) of pre-campaign respondents had reported that they were “somewhat” or “very” familiar with the problem. These data provide the strongest evidence for campaign effectiveness.

Figure 4: Familiarity with the Problem of Ground-level Ozone

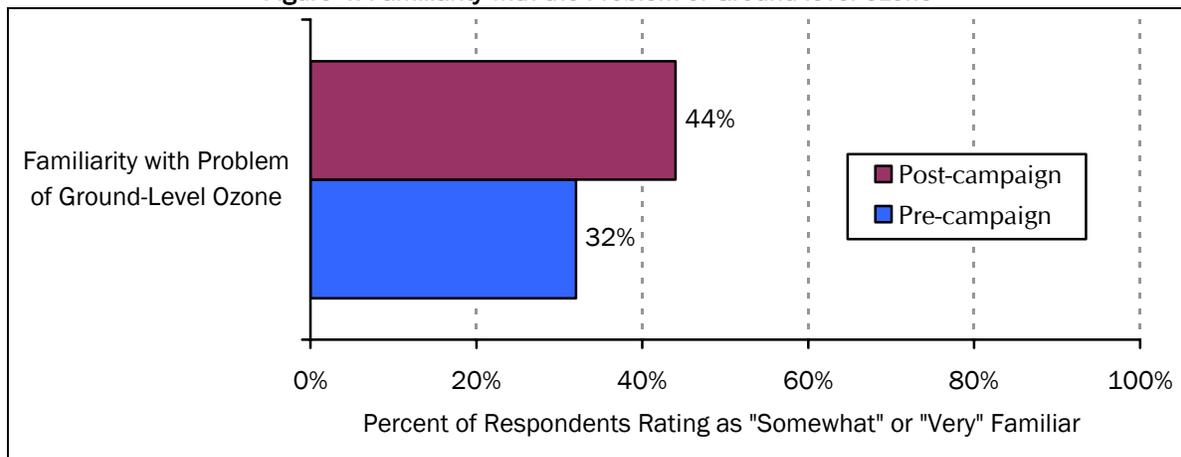


Table 4: Familiarity with Ground-Level Ozone Pollution Pre- and Post-Campaign

How familiar would you say you are with the problem of ground-level ozone?	Percent of Respondents	
	Post-Campaign	Pre-Campaign
Very familiar	13%	7%
Somewhat familiar	31%	25%
A little familiar	29%	35%
Not at all familiar	27%	33%
TOTAL	100%	100%

However, when asked how much of a problem they believed ground-level ozone to be, 63% felt it was a “major” or “moderate” problem post-campaign, which was similar to the pre-campaign survey when 66% felt it was at least a moderate problem.

Figure 5: Perception of Ground-level Ozone as a Problem

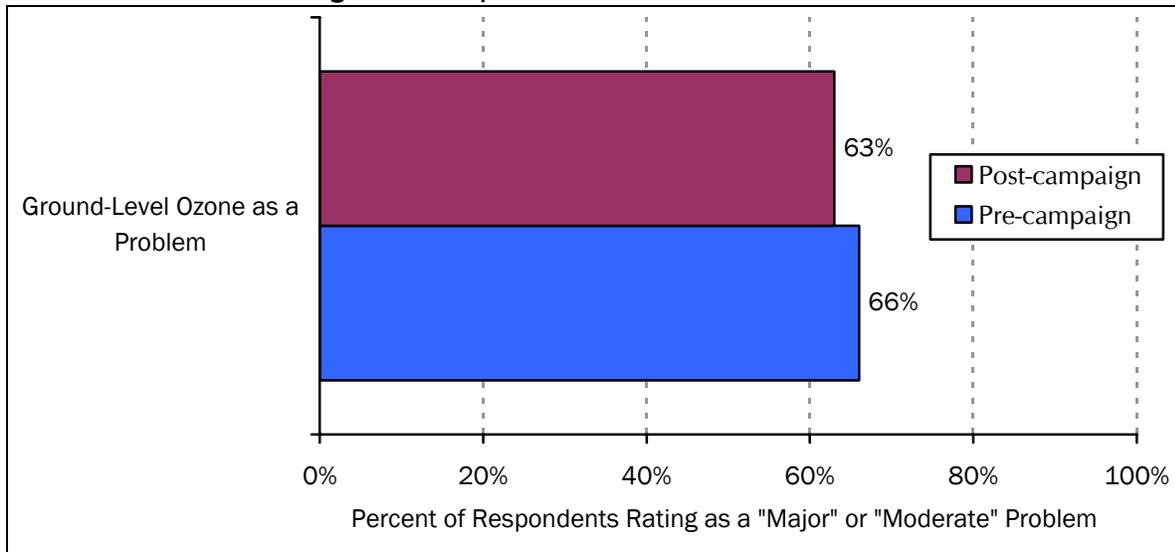


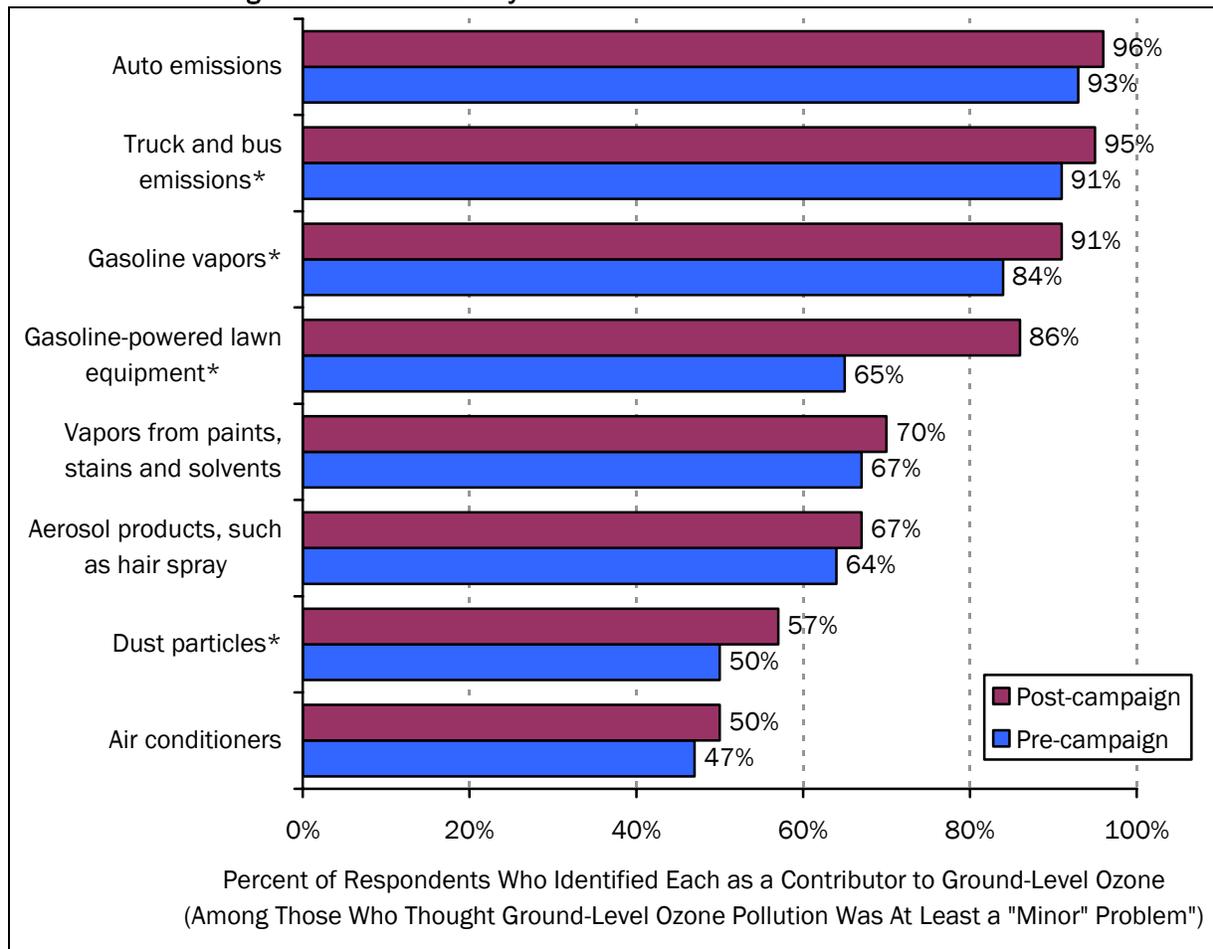
Table 5: Perception of Ground-Level Ozone Pollution as a Problem Pre- and Post-Campaign

How much of a problem do you think ground-level ozone is? Would you say it is . . .	Percent of Respondents	
	Post-Campaign	Pre-Campaign
Major problem	22%	17%
Moderate problem	41%	49%
Minor problem	29%	32%
Not a problem at all	8%	2%
TOTAL	100%	100%

Respondents who felt that ground-level ozone was at least a “minor problem” (92%) were asked if they thought items from a prompted list contributed to ground-level ozone pollution. For every one of the listed items, a larger percent of respondents at post-campaign identified the source as a contributor to ground-level ozone pollution. By far the biggest change was for gasoline-powered lawn equipment. Eighty-six percent of respondents reported that they thought gasoline-powered lawn equipment was a contributor to ground-level ozone pollution post campaign, which was an increase of 21% from the pre-campaign survey. The ad and copy, “if you breathe the air and mow your lawn,” seemed to have been effective.

For other factors, respondents gave similar responses in the post-campaign survey as the post-campaign survey. About 9 in 10 residents responding to the survey thought that auto emissions (99%), emissions from trucks and buses (95%) and gasoline vapors (91%) contributed to ground-level ozone pollution. About two-thirds of participants felt that vapors from paints, stains and solvents (70%) and aerosol products (67%) were contributors to ground-level ozone pollution, and about half thought that dust particles (57%) and air conditioners (50%) were causes of ground-level ozone pollution.

Figure 6: Factors that May Contribute to Ground-level Ozone Pollution

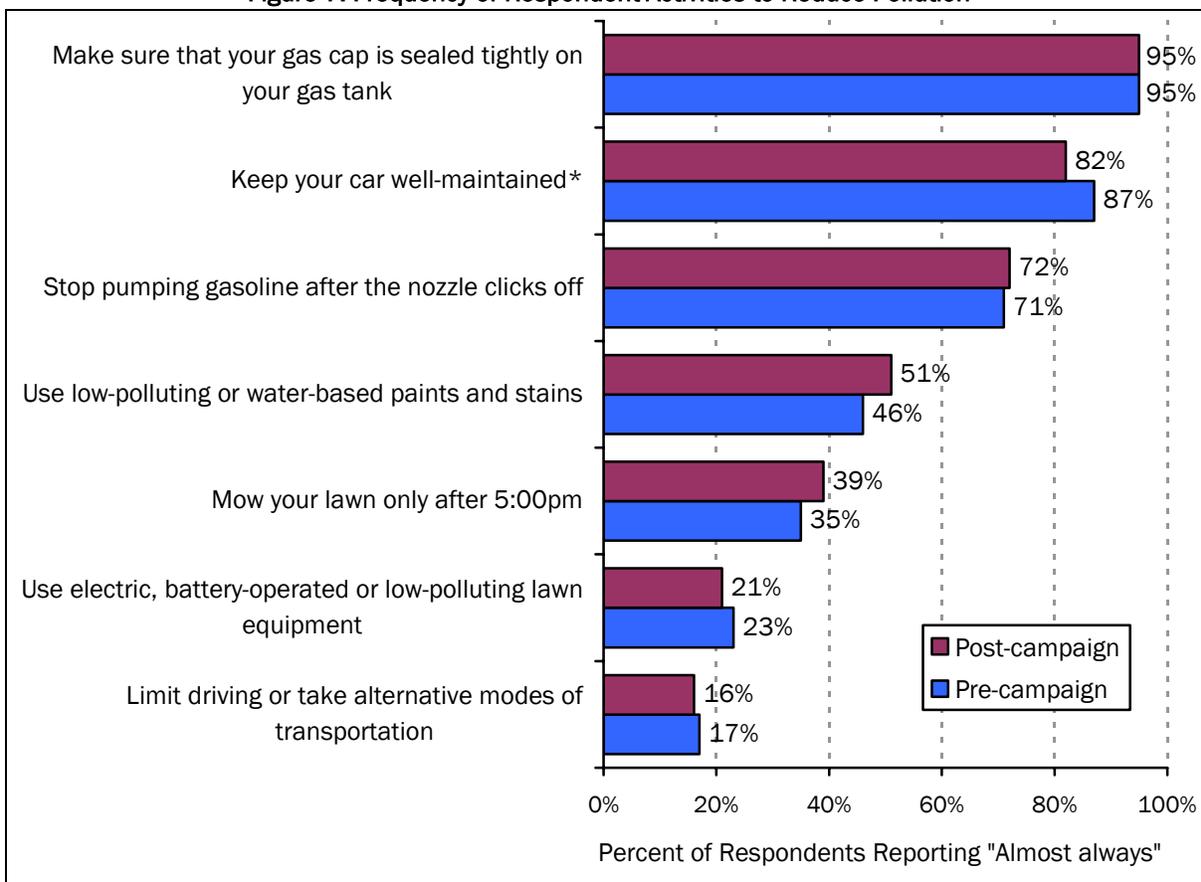


* Differences between pre-campaign and post-campaign responses are statistically significant.

Given that dust particles are not a contributor to ground-level ozone, and 57% of respondents believed they are, it appears that respondents were ready to believe that all named possible sources were causes of ground-level ozone pollution. In fact, the proportion identifying this as a source of ground-level ozone pollution increased somewhat from the pre-campaign survey. Vehicle emissions are contributors to metro-Denver’s winter-time pollution, and thus also may have figured prominently in residents’ perceptions of the causes of ground-level ozone. Gasoline vapors were recognized as a contributor by four in five respondents, but paint, stain and solvent vapors, gasoline-powered lawn equipment and aerosol products were identified as sources by only two-thirds of respondents.

When asked how often they did each activity from a prompted list of activities to reduce pollution, residents reported two desirable but small behavior changes from pre- to post-campaign. A slightly larger percent of residents reported using water based solvents and mowing after 5:00 pm post campaign compared to pre-campaign, although these differences were not statistically significant. On the opposite side, a slightly reduced percentage of respondents reported keeping their cars well maintained in order to reduce ground-level ozone pollution after the campaign (82%) than before (87%).

Figure 7: Frequency of Respondent Activities to Reduce Pollution



* Differences between pre-campaign and post-campaign responses are statistically significant.

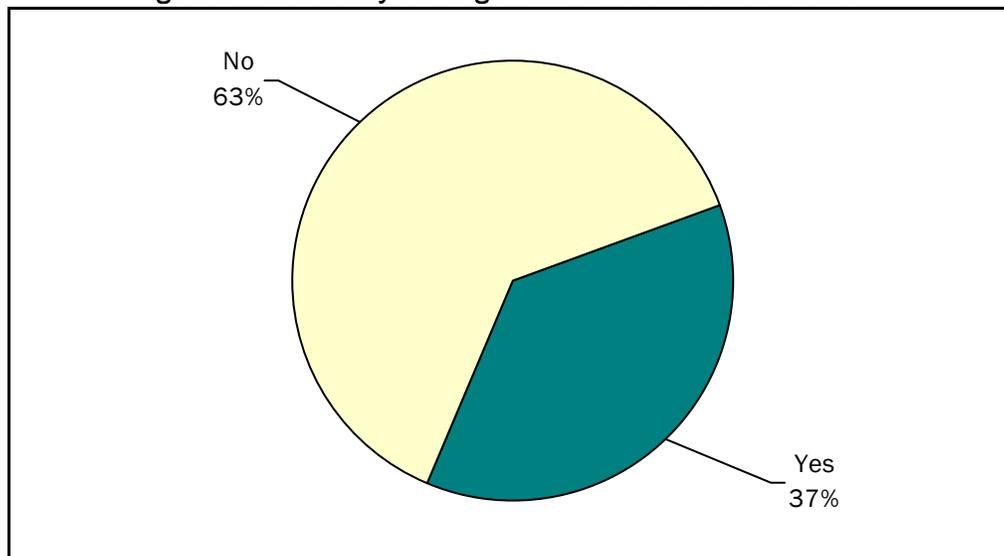
Virtually all (95%) reported, both on the pre- and post-campaign survey that they “almost always” make sure that their gas cap is sealed tightly on their gas tank. About 4 out of 5 respondents (82%) reported that they “keep their car well-maintained” and 72% said that they “stop pumping gasoline after the nozzle clicks off.” More than half of respondents reported that they “use low-polluting or water-based paints and stains” and 39% said they “mow their lawns only after 5 pm.” Fewer respondents (21% and 16%, respectively) said that they “use electric, battery-operated or low-polluting lawn equipment” and “limit driving or take alternative modes of transportation.” As seen on pre-campaign survey, respondents still showed that they were less likely to perform more expensive activities or activities requiring greater sacrifice of convenience.

Table 6: Frequency of Respondent Activities to Reduce Pollution (Post-campaign survey)

How often would you say that you do each of the following things to reduce pollution? How about . . .	Percent of respondents					Total
	Almost always	Often	Sometimes	Rarely	Almost never	
Make sure that your gas cap is sealed tightly on your gas tank	95%	2%	1%	0%	2%	100%
Keep your car well-maintained	82%	12%	5%	1%	0%	100%
Stop pumping gasoline after the nozzle clicks off	72%	7%	6%	2%	13%	100%
Use low-polluting or water-based paints and stains	51%	11%	11%	10%	18%	100%
Mow your lawn only after 5:00 PM	39%	14%	17%	8%	23%	100%
Use electric, battery-operated or low-polluting lawn equipment	21%	9%	18%	9%	43%	100%
Limit driving or take alternative modes of transportation	16%	18%	28%	14%	25%	100%

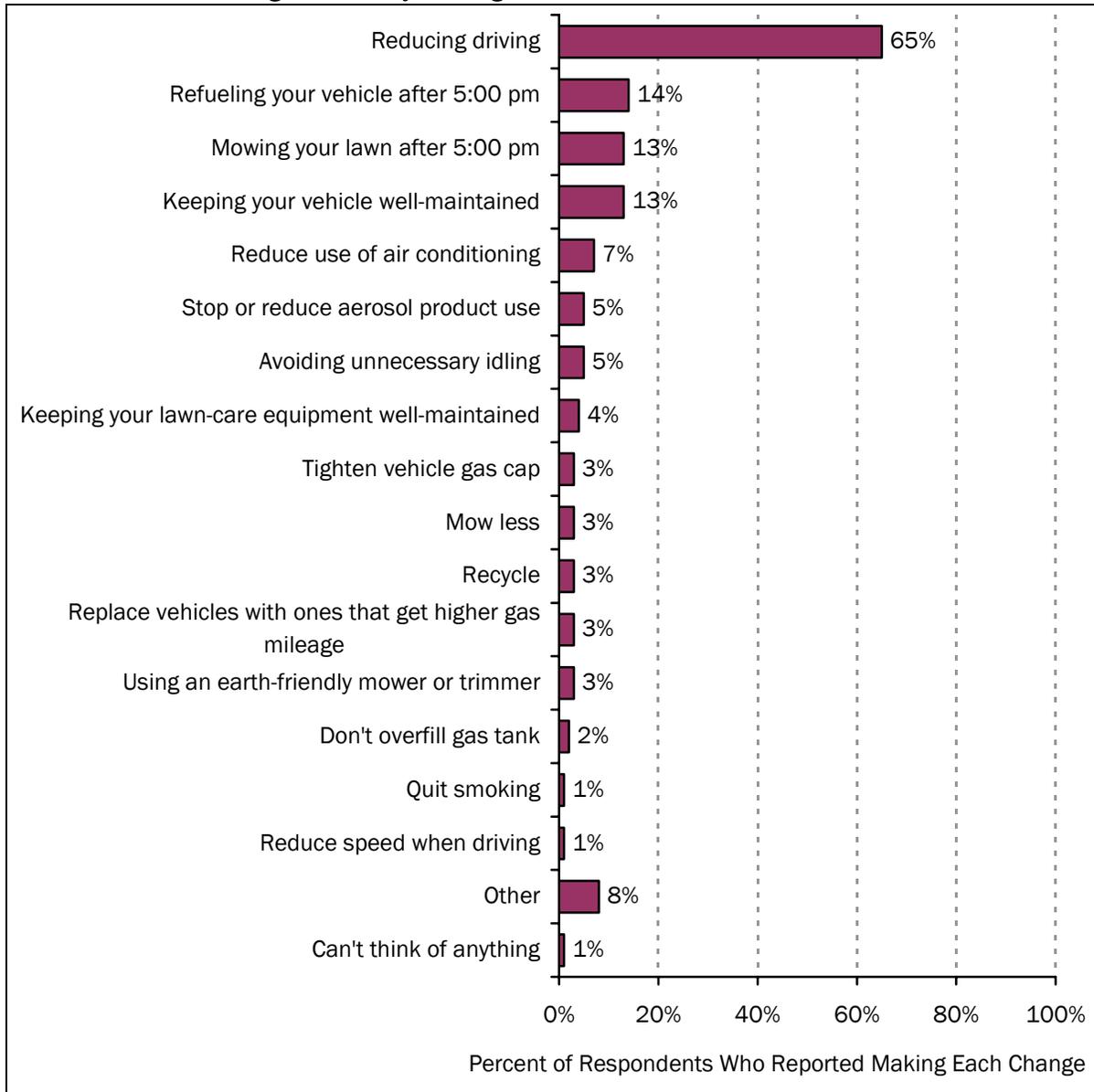
When asked if a change was made to their lifestyle to reduce ozone pollution, 37% of respondents to post-campaign survey said “yes.”

Figure 8: Was a Lifestyle Change Made to Reduce Ozone Pollution?



Respondents who said they had made a change to reduce ozone pollution were then asked to report what changes they made. Of the 37% who reported making a change, 65% said they “reduced driving.” More than 1 in 10 residents stated that they refueled their vehicle after 5:00 pm (14%), mowed their lawn after 5:00 pm (13%) and kept their vehicle well-maintained (13%). Seven percent of respondents noted a reduction in the used of air conditioning and 5% of respondents said they stop or reduce aerosol product use and avoid unnecessary idling. For a complete list of “other” responses, see Appendix C: Verbatim Responses for Open-Ended Questions.

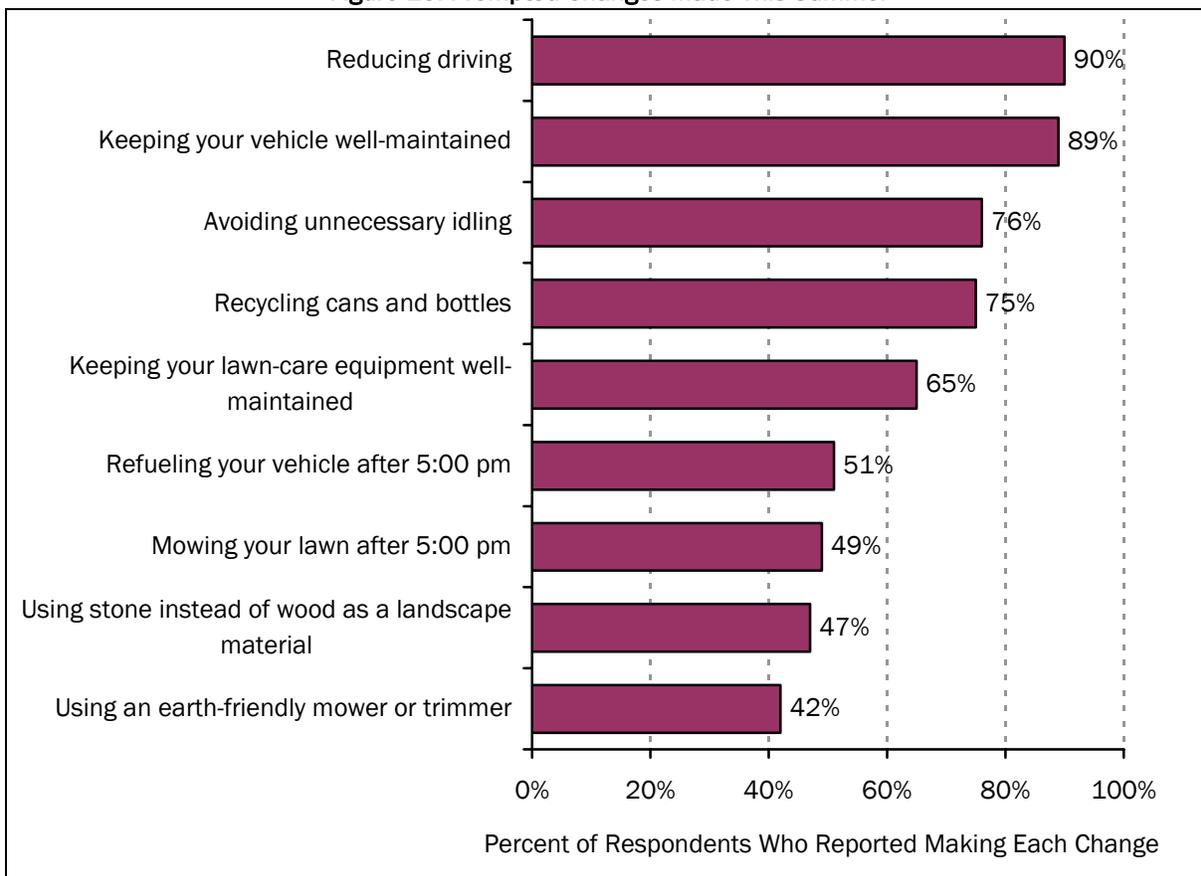
Figure 9: Lifestyle Change Made to Reduce Ozone Pollution



Regardless of whether they said they had made a change to their lifestyle to reduce ground-level ozone pollution, respondents were then asked whether or not they made a change this summer from a prompted list of activities. Of those responding to the survey, “reducing driving” (90%) and “keeping your vehicle well-maintained” (89%) were performed the most, followed by “avoiding unnecessary idling” and “recycling cans and bottles,” (76% and 75%, respectively). Nearly two-thirds of residents said they keep their lawn-care equipment well-maintained (65%) and about half of respondents said that refuel their vehicle after 5:00 pm (51%), mow their lawn after 5:00 pm (49%) and use stone instead of wood as a landscape material (47%). Forty-two percent of those surveyed said they use an earth-friendly mower or trimmer.

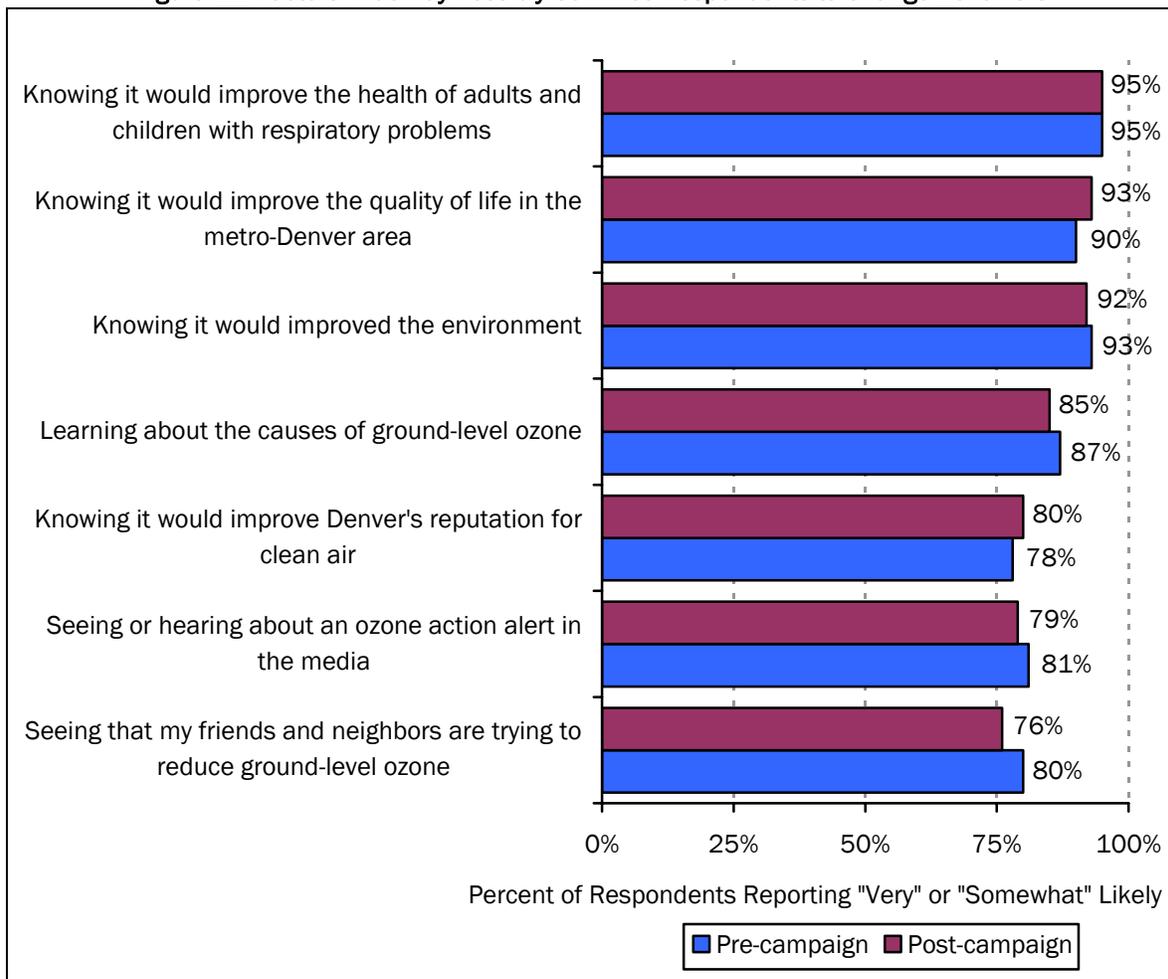
These responses are most probably inflated compared to actual behaviors as respondents would unconsciously give “socially desirable” responses, especially in a phone interviewer. Two behaviors were included that in actuality have no impact on ground-level ozone pollution: recycling cans and bottles, and using stone instead of wood as landscape material. In fact, more respondents said they used stone materials rather than wood (47%) than said use earth-friendly lawn equipment (42%). Nonetheless, these responses show that the public at least has intentions of performing actions that will help reduce negative pollution impacts.

Figure 10: Prompted Changes Made This Summer



When asked what kinds of things might convince them to change their behaviors to decrease ground-level ozone pollution, responses from pre- to post-campaign were similar. More than 9 in 10 respondents said they were “very” or “somewhat” likely to change their behaviors “knowing it would improve the health of adults and children with respiratory problems,” “knowing it would improve the quality of life in the metro-Denver area” and “knowing it would improve the environment” (95%, 93% and 92%, respectively). Eighty-five percent of residents said that “learning about the causes of ground-level ozone” might convince them to change their behaviors. About three-quarters of respondents believe that they would change their behavior “knowing it would improve Denver’s reputation for clean air” (80%), “seeing or hearing about an ozone action alert in the media” (79%) and “seeing that my friends and neighbors are trying to reduce ground level ozone” (76%).

Figure 11: Factors That May Possibly Convince Respondents to Change Behaviors



**Table 7: What Might Convince You to Change Behaviors to Decrease Ground-level Ozone Pollution?
(Post-Campaign Survey)**

	Percent of respondents				Total
	Very likely	Somewhat likely	Somewhat unlikely	Very unlikely	
Knowing it would improve the health of adults and children with respiratory problems	62%	33%	2%	3%	100%
Knowing it would improve the quality of life in the metro-Denver area	54%	39%	4%	3%	100%
Knowing it would improved the environment	56%	36%	3%	4%	100%
Learning about the causes of ground-level ozone	41%	44%	9%	6%	100%
Knowing it would improve Denver's reputation for clean air	36%	44%	10%	10%	100%
Seeing or hearing about an ozone action alert in the media	35%	44%	11%	10%	100%
Seeing that my friends and neighbors are trying to reduce ground-level ozone	31%	45%	11%	13%	100%

Awareness of Ground-Level Ozone Media Campaign and Alerts

Respondents were asked a series of questions regarding their awareness of a media campaign and alerts on ground-level ozone. When asked if they had heard of advertising or public relations campaign phrases, 87% said they were “very sure” they had heard of “Click it or ticket” and 81% said they had heard of “Call before you dig.” A quarter of respondents were “very sure” they had heard of “Stop at the click” and “RideSmart Thursdays” (24% and 23%, respectively). “If you breathe the air, this message is for you,” “Let’s take care of our summer air” and “Mow down pollution” were the phrases heard the least, with less than 1 in 5 respondents reporting they were “very sure” they’ve heard it before (18%, 12% and 6%, respectively).

As might be expected, respondent familiarity was much higher for “Click it or ticket” and “Call before you dig,” than for the ground-level ozone pollution campaigns phrases. These other programs have been in existence for several years, while the ground-level ozone pollution media campaign has only been around for a few months. Nevertheless, “If you breathe the air, this message is for you” was familiar to 1 in 5 respondents, a similar proportion to the phrase “RideSmart Thursdays,” an RTD campaign that has been in place since 2004.

Figure 12: Respondent Awareness of Advertising or Public Relations Campaign Phrases

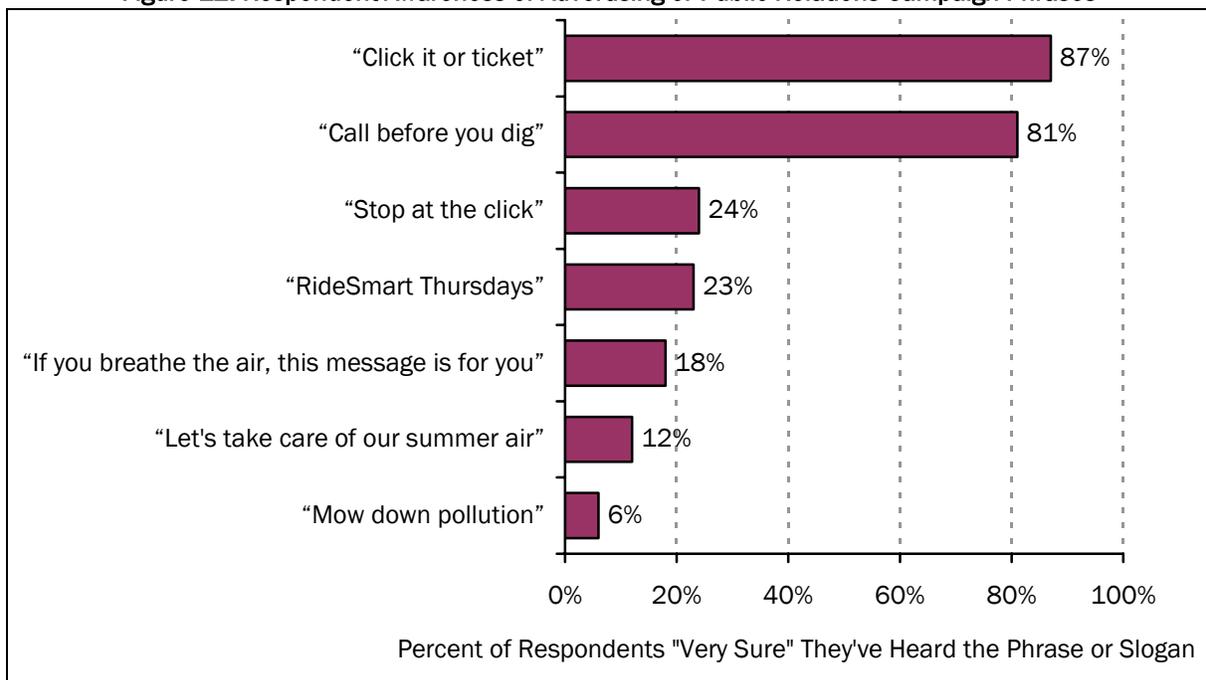


Table 8: Respondent Awareness of Advertising or Public Relations Campaign Phrases

I am going to read you some phrases. I'd like you to tell me if you have heard or read them before as part of an advertising or public relations campaign. What about . . .	Percent of respondents				Total
	Very sure you've heard it before	Pretty sure you've heard it before	Not so sure you've heard it or not	Very sure you have NOT heard it before	
"Click it or ticket"	87%	3%	2%	8%	100%
"RideSmart Thursdays"	23%	11%	11%	55%	100%
"Let's take care of our summer air"	12%	11%	15%	62%	100%
"If you breathe the air, this message is for you"	18%	14%	16%	51%	100%
"Stop at the click"	24%	9%	13%	53%	100%
"Mow down pollution"	6%	6%	15%	73%	100%

About 2 in 5 respondents had heard of the Ozone Action Alert program post-campaign, compared to 1 in 5 on the pre-campaign survey, strong evidence of campaign impact. After the campaign, more residents had heard of it on T.V. or seen it on a web site and fewer had read about it in the newspaper. Fewer were unable to remember the source of the alert after the campaign than before. Of those who had heard of it, two-thirds said that they heard an Ozone Action Alert on the television, about one in five mentioned that they heard it on the radio, 9% said they read it on an electronic message board along the highway, 8% read it in a newspaper and very few (5%) learned about it from a Web site (see

Figure 14).

Figure 13: Respondent Awareness of Ozone Action Alert Program

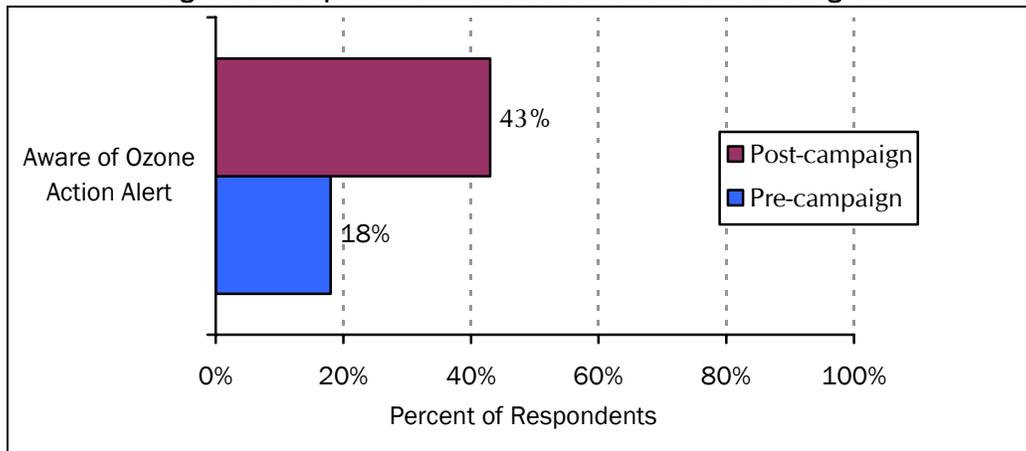
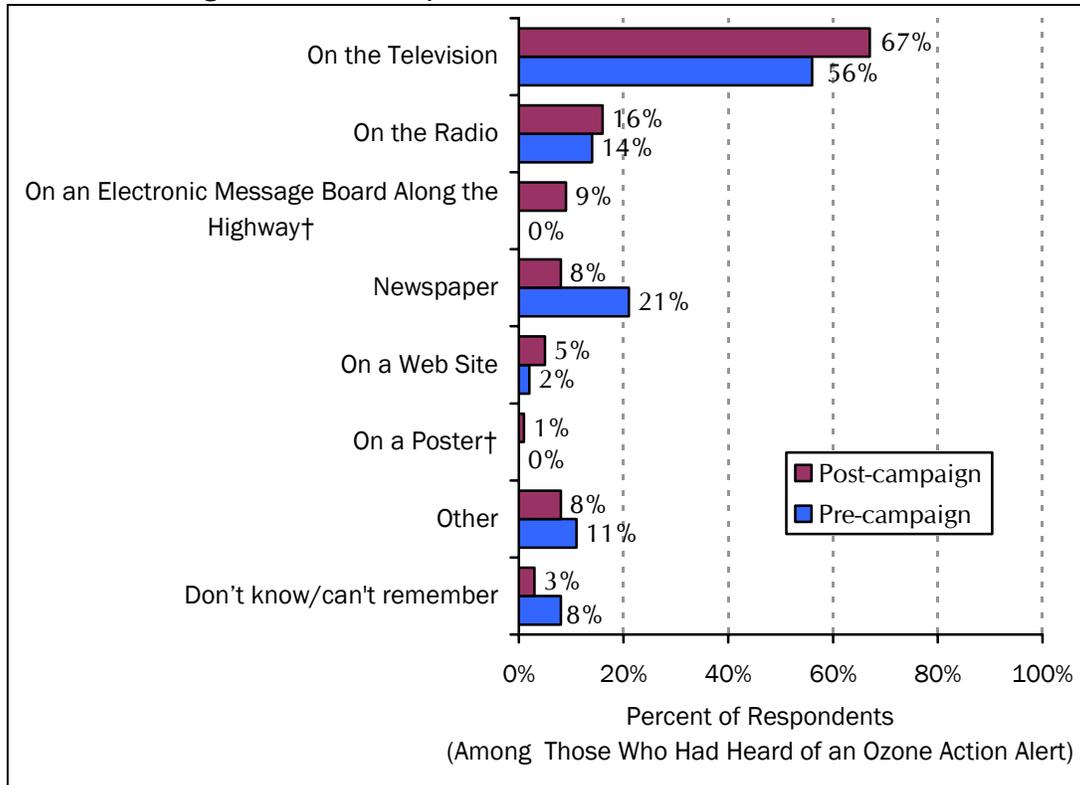


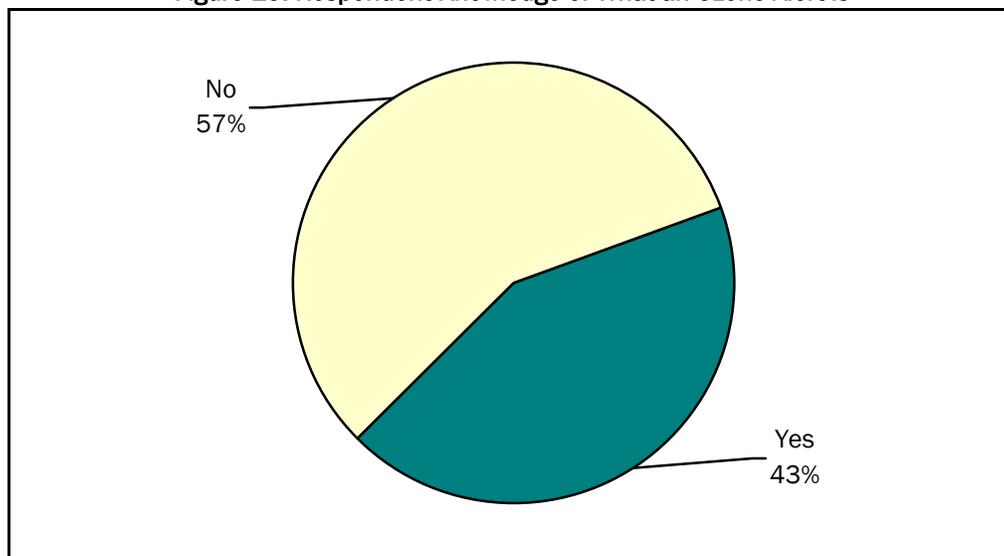
Figure 14: Where Respondents Had Heard the Ozone Action Alert



† These items were not included on the pre-campaign survey.

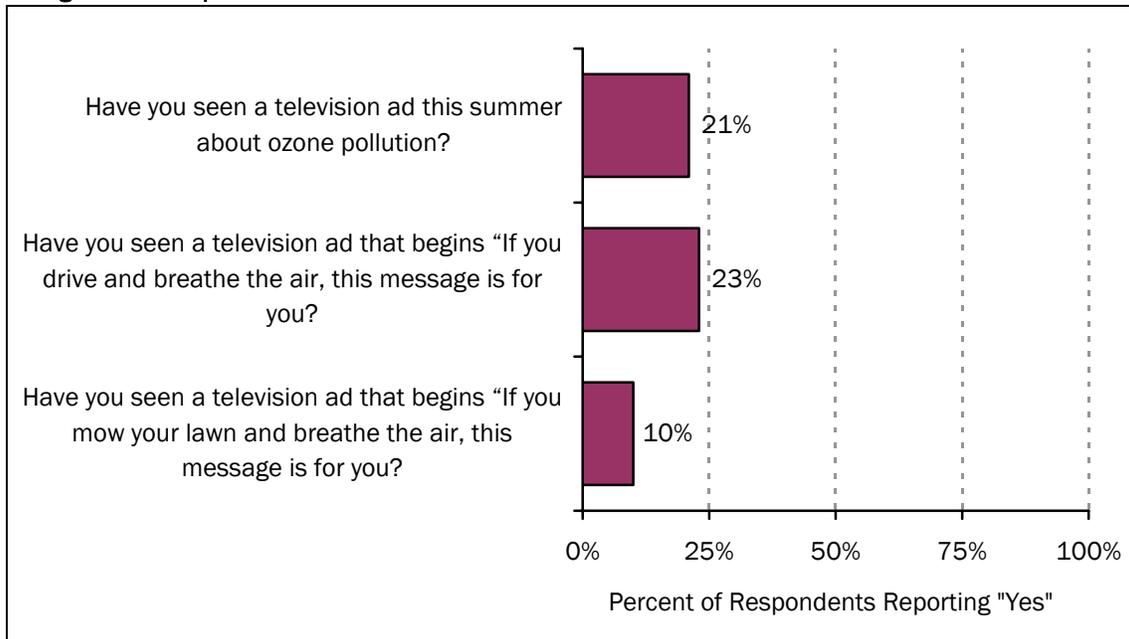
Residents who had seen or heard of an Ozone Action Alert were also asked if they knew what an ozone alert was. Two-fifths of respondents said “yes,” and were then asked how they would explain it. Responses to that question can be found in Appendix C: Verbatim Responses for Open-Ended Questions.

Figure 15: Respondent Knowledge of What an Ozone Alert Is



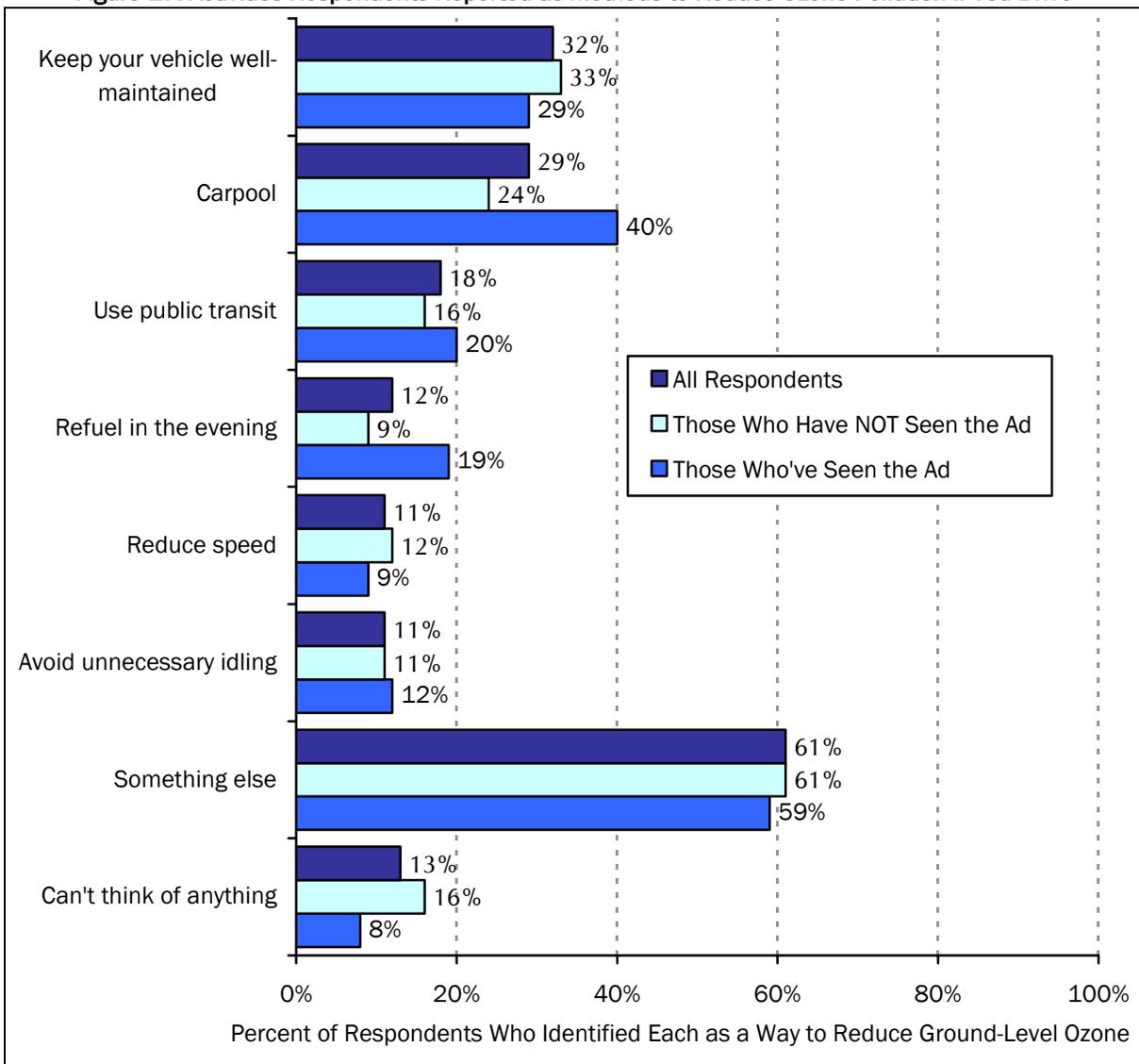
When respondents were asked if they had seen a television ad this summer about ozone pollution 1 in 5 people reported “yes.” Nearly one-quarter of respondents said they had seen the ad that begins “If you drive and breathe the air, this message is for you” and 10% of residents had seen the ad that begins with “If you mow your lawn and breathe the air, this message is for you.”

Figure 16: Respondent Awareness of Summer Television Advertisements About Ozone Pollution



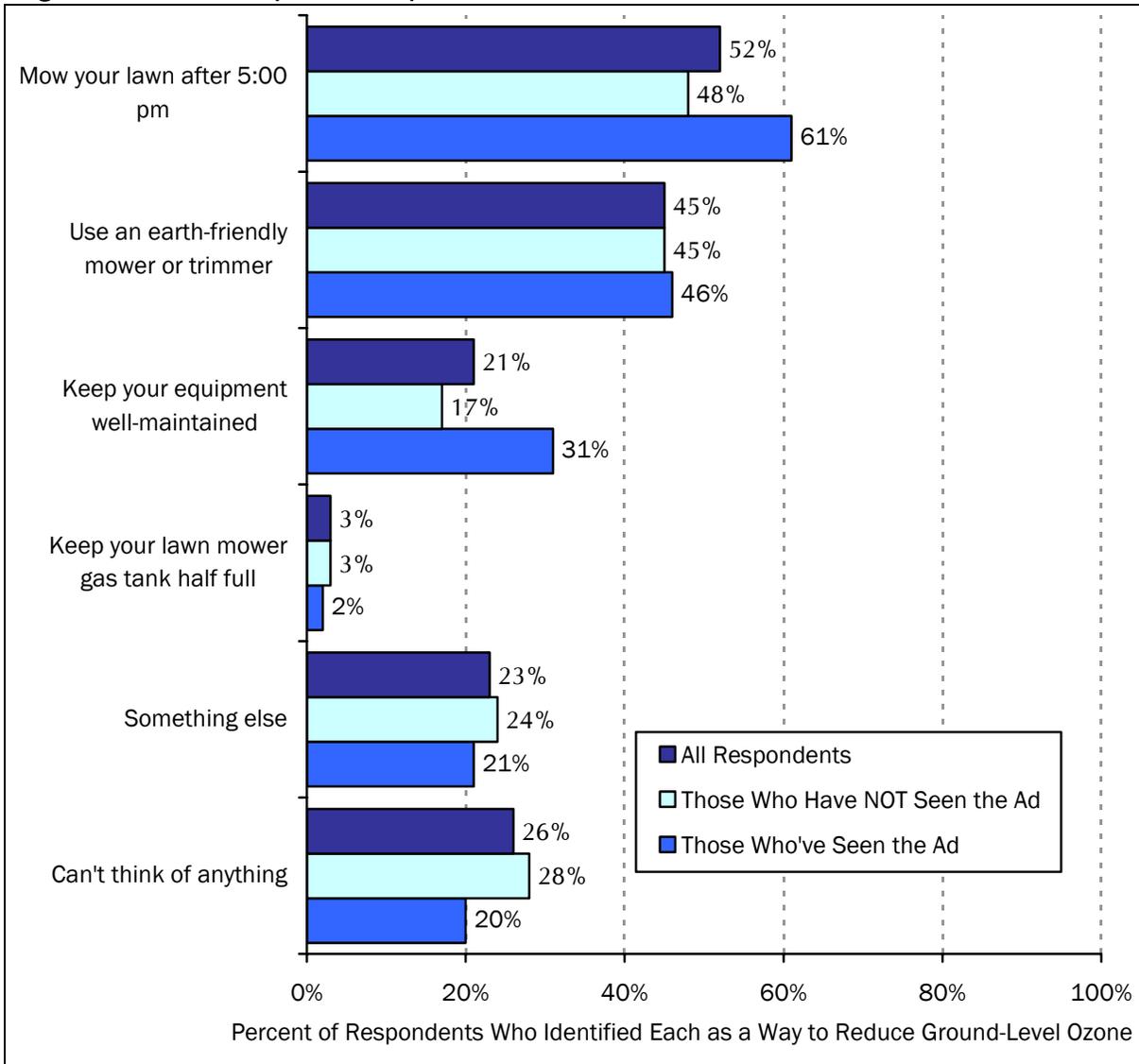
Respondents were asked to name up to three activities that could do to reduce ground-level ozone pollution if they drive. Those who had seen the ad on TV, “if you drive and breathe the air,” were more likely to report carpooling and evening auto refueling than those who had not seen the ad. For all respondents, the most commonly mentioned activities were keeping your vehicle well-maintained (32%), carpooling (29%) and using public transit (18%). Refueling in the evening, reducing speed and avoiding unnecessary idling were suggested by 11% to 12% of respondents.

Figure 17: Activities Respondents Reported as Methods to Reduce Ozone Pollution If You Drive



Respondents were also asked to name up to three activities they could do to reduce ground-level ozone pollution if they mow their lawn. Those who had seen the television ad that begins, “If you mow your lawn and breathe the air,” were somewhat more likely to have indicated mowing your lawn after 5:00 pm and keeping your equipment well maintained as ways to reduce ground-level ozone pollution than were those who had not seen the ad (see Figure 18 below). The most commonly mentioned activities were mowing your lawn after 5:00 pm (52%), using an earth-friendly mower or trimmer (45%) and keeping your equipment well-maintained (21%). Keeping your lawn mower gas tank half full was suggested by only 3% of respondents.

Figure 18: Activities Respondents Reported as Methods to Reduce Ozone Pollution If You Mow Your Lawn



Residents were asked if they had seen any news stories about ground-level ozone pollution. Of those responding to the post-campaign survey, only 15% said they had seen a news story. Respondents were then asked to tell us through what news medium they saw the story. Of those who had seen or heard a news story about ground-level ozone pollution, more than three-quarters of respondents had seen a news story on the television, 40% had read a story in the newspaper, 32% had heard a story on the radio and 18% had read a story on the Internet about ground-level ozone pollution (see Figure 20 below).

Figure 19: Respondent Awareness of News Stories About Ground-Level Ozone

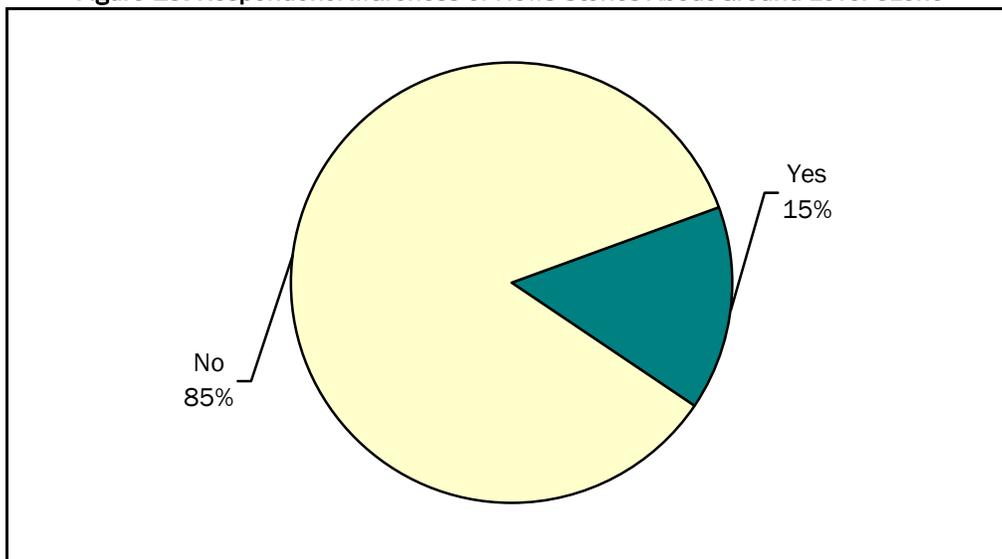
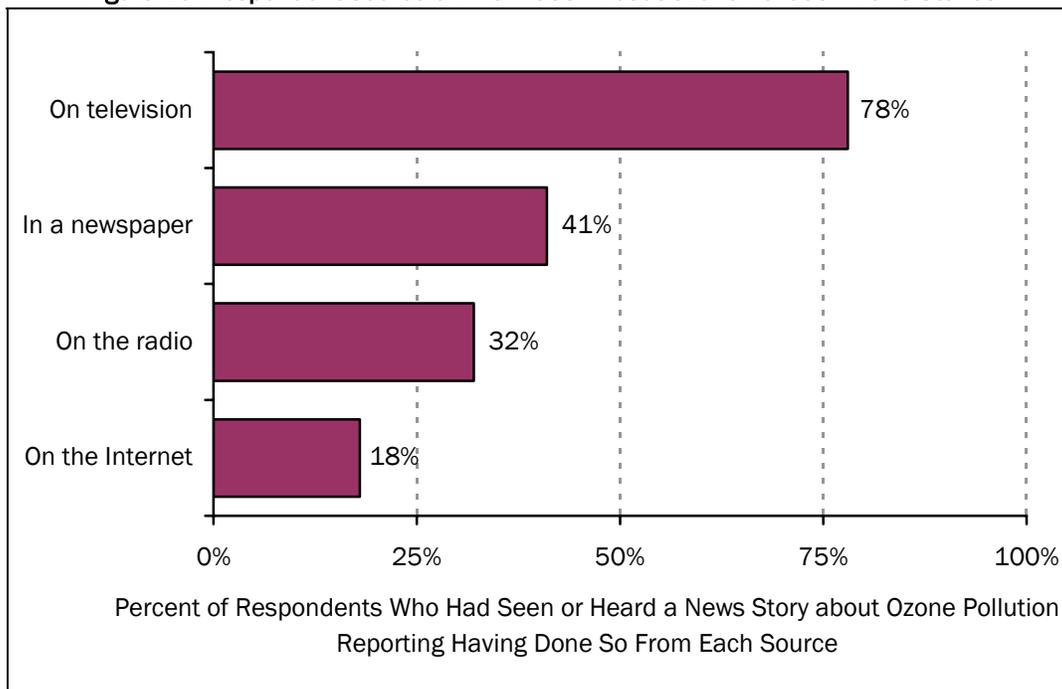
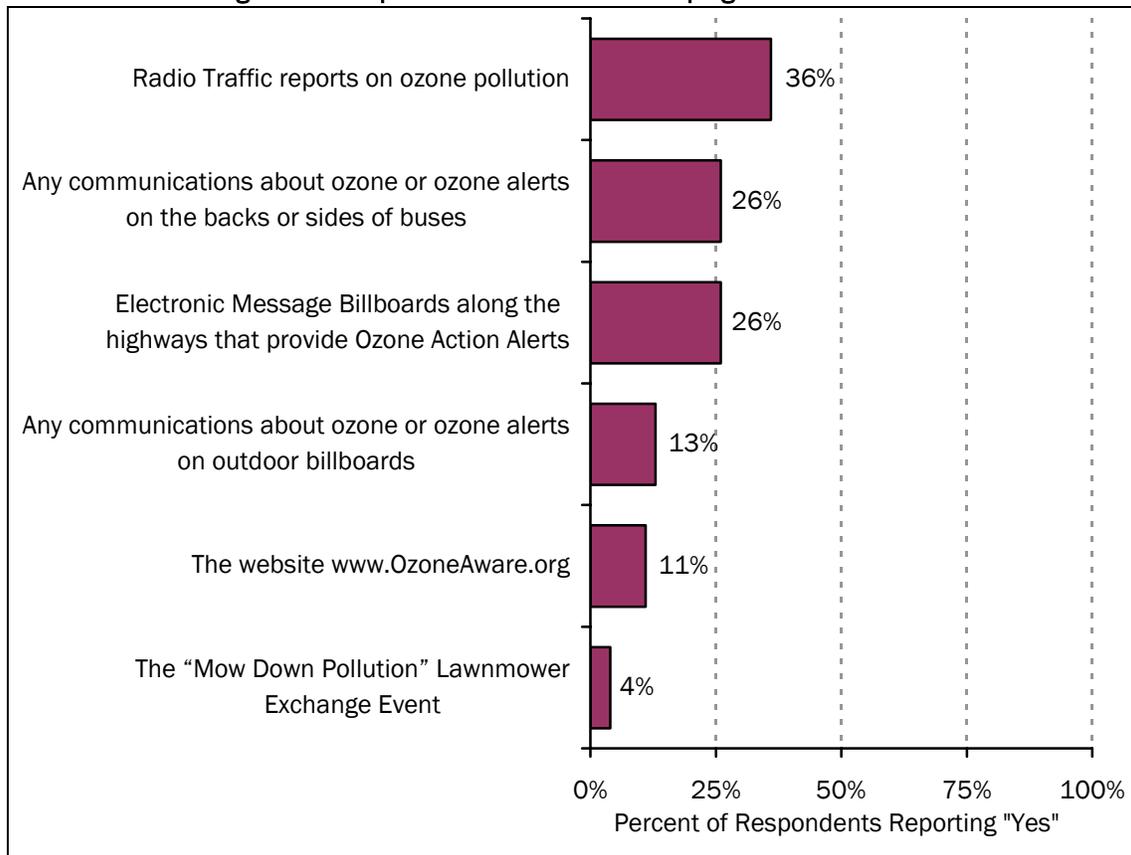


Figure 20: Respondent Source of Information About Ozone Pollution News Stories



Respondents were asked if they had heard of specific communication methods pertaining to the awareness campaign. More than a third of respondents (36%) had heard of radio traffic reports on ozone pollution. Twenty-six percent of residents had heard about communications on the backs or sides of buses and on electronic message billboards along the highways that provided Ozone Action Alerts. More than 1 in 10 had heard communications about ozone or ozone alerts on outdoor billboard and on the website www.OzoneAware.org (13% and 11%, respectively). Only 4% of those responding to the post-campaign survey had heard about the “Mow Down Pollution” lawnmower exchange event.

Figure 21: Respondent Awareness of Campaign Communication



In Conclusion

Meaningful increase in resident knowledge about the problem of ozone took place between the pre-campaign survey and the post-campaign survey.

- More than 2 residents in 5 reported being somewhat or very familiar with the problem of ground level ozone after the campaign compared to only 1 in 3 prior.
- Of all the factors that may contribute to ground level ozone, gas powered lawn mowers were identified by a far larger percent of residents after the campaign than before – 86% after vs. 65%, before.
- While more resident after the campaign were familiar with ground level ozone as a problem, the problem was not seen to be any more severe after the campaign compared to before.

Resident-reported activities to reduce ground level ozone budged slightly between pre- and post-campaign.

- Although, after the campaign, about a third of Denver area residents reported changing habits to reduce ground level ozone, few of the pre-post comparisons demonstrated real changes.
- About the same percent of residents reported keeping their car well-maintained, making sure the gas cap was on securely, stopping at the click, using electric lawn equipment or taking alternative modes both before and after the campaign
- A slightly larger percent of residents reported using low-polluting paints and mowing after 5:00 pm when the campaign was over compared to before it started.

A significant number of residents were aware of and reported recognizing the campaign and its messages.

- Over 40% of residents reported being aware of the ozone action alert program after the campaign compared to only 18% before.
- About 1 in 5 reported seeing a TV ad about ozone pollution during the campaign and close to that percent recognized the copy, “if you breathe the air, this message is for you,” at the same time that over 10% recognized, “let’s take care of our summer air.”
- Ozone alerts were more often reported to have been heard on TV and seen on the Web after the campaign than before.
- Sources of information about the campaign came most often from radio traffic reports, the sides of buses and from electronic signs on highways. Fifteen percent reported hearing news stories about ground-level ozone.
- Residents who had seen the ad, “if you drive and breathe the air,” were more likely than those who did not see the ad to identify carpooling and refueling in the evening as methods to reduce ground level ozone.

Appendix A: Survey Respondent Demographics

Characteristics of the post-campaign survey respondents are displayed in the tables on the following pages of this appendix.

Table 9: Frequency of Watching Television

In the last two months, about how many hours per week have you watched television? Would you say . . .	Percent of Respondents
Not at all	3%
1-5 hours	38%
6-10 hours	27%
11-15 hours	16%
16-20 hours	7%
More than 20 hours	9%
Total	100%

Table 10: Respondent Information Source

Would you say you get a lot, some or none of your news from each of the following? What about . . .	A lot	Some	None	Don't know	Refused	Total
Friends and neighbors	6%	43%	51%	0%	0%	100%
Newspaper	29%	41%	29%	0%	0%	100%
Radio	29%	49%	22%	0%	0%	100%
Television	40%	45%	16%	0%	0%	100%
Internet	28%	36%	37%	0%	0%	100%

Table 11: Respondent Tenure

Do you rent or own your residence?	Percent of Respondents
Rent	33%
Own	65%
Parent or other adult is homeowner	2%
Total	100%

Table 12: Do You Have a Yard that Requires Mowing?

Does your residence have a yard that your household is responsible for maintaining?	Percent of Respondents
Yes	69%
No	31%
Total	100%

Table 13: Do You Have Children Between the Ages of 4 and 18?

Do you have children between the ages of 4 and 18?	Percent of Respondents
Yes	29%
No	71%
Total	100%

Table 14: Respondent Educational Attainment

Which of the following categories best describes the amount of formal education you have completed?	Percent of Respondents
0-11 years, no diploma	2%
High school graduate	11%
Some college, no degree or an associate degree	35%
Bachelors degree	26%
Graduate or professional degree	26%
Total	100%

Table 15: Respondent Race/Ethnicity

Which one or more of the following would you say is your race or ethnicity?	Percent of Respondents*
White	80%
Black or African American	3%
Asian	1%
Native Hawaiian or Other Pacific Islander	0%
American Indian, Alaskan Native	3%
Hispanic/Latino	11%
Other	5%

*Percents may add to more than 100% as respondents could give more than one answer.

Table 16: Respondent Age

Which of the following categories includes your age?	Percent of Respondents
18-24	10%
25-34	27%
35-44	23%
45-54	19%
55-64	12%
65-74	5%
75-84	3%
85 or older	1%
Total	100%

Table 17: Respondent Gender

	Percent of Respondents
Male	50%
Female	50%
Total	100%

Appendix B: Complete Set of Survey Frequencies

The following pages contain a complete set of survey frequencies.

Question 1: Most Important Issue facing the metro-Denver Area

I'd like to start by having you rank 5 issues, by telling me what you think is the most important issue facing the metropolitan Denver area. (Which is the next most important? etc.)	Drought	Transportation and traffic	Air pollution	The economy	The state budget deficit	Don't know/refused	Total
Top Issue	10%	36%	12%	28%	13%	1%	100%
Second Issue	13%	29%	17%	22%	16%	2%	100%
Third Issue	17%	15%	20%	20%	25%	3%	100%
Fourth Issue	22%	10%	25%	16%	23%	3%	100%
Last Issue	36%	8%	21%	11%	21%	3%	100%

Average Rank for Each Issue

I'd like to start by having you rank 5 issues, by telling me what you think is the most important issue facing the metropolitan Denver area. (Which is the next most important? etc.)	Average Rank (1=top issue, 5=last issue)	Percent of Respondents Choosing as Top 1 or 2 Issue
Transportation and traffic	2.2	65%
The economy	2.6	50%
Air pollution	3.3	30%
The state budget deficit	3.2	29%
Drought	3.6	23%

Question 2: How Much of a Problem is Air Pollution in the Denver Area?

Tell me what you think about air pollution in the Denver area. Do you think it is . . .	Percent of Respondents
Major problem	23%
Moderate problem	56%
Minor problem	17%
Not a problem at all	3%
Don't know refused	1%
Total	100%

Questions 3 to 6: The Negative Impact of Air Pollution

How much does air pollution negatively impact your daily life? Would you say . . .	Major extent	Moderate extent	Minor extent	Not at all	Don't know/ refused	Total
How much does air pollution negatively impact your daily life?	10%	29%	34%	27%	1%	100%
How much does air pollution negatively impact the quality of life in the metro-Denver area?	17%	41%	30%	9%	3%	100%
How much does air pollution negatively impact the health of residents in the metro-Denver area?	22%	38%	29%	5%	5%	100%
How much does air pollution negatively impact the reputation of the metro-Denver area?	21%	39%	28%	11%	1%	100%

Question 7: Respondent Familiarity with the Problem of Ground-level Ozone

How familiar would you say you are with the problem of ground-level ozone? Would you say you are . . .	Percent of Respondents
Very familiar	13%
Somewhat familiar	31%
A little familiar	29%
Not at all familiar	27%
Total	100%

Question 8: How Much of a Problem is Ground-level Ozone?

How much of a problem do you think ground-level ozone is? Would you say it is . . .	Percent of Respondents
Major problem	19%
Moderate problem	35%
Minor problem	25%
Not a problem at all	7%
Don't know refused	15%
Total	100%

Question 9: Do Each of the Following Contribute to Ground-level Ozone Pollution?

Tell me whether or not you think each of the following contributes to ground-level ozone pollution. What about . . .	Yes	No	Don't know	Refused	Total
Auto emissions	94%	4%	2%	0%	100%
Truck and bus emissions	92%	4%	3%	0%	100%
Air conditioners	43%	43%	14%	0%	100%
Gasoline-powered lawn equipment	82%	14%	4%	0%	100%
Aerosol products, such as hair spray	63%	30%	7%	0%	100%
Gasoline vapors	87%	9%	4%	0%	100%
Vapors from paints, stains and solvents	64%	27%	9%	0%	100%
Dust particles	52%	39%	9%	0%	100%

Question 10: Frequency of Respondent Activities to Reduce Pollution

How often would you say that you do each of the following things to reduce pollution? How about . . .	Almost always	Often	Sometimes	Rarely	Almost never	Not applicable	Don't know/refused	Total
Limit driving or take alternative modes of transportation	15%	18%	27%	14%	24%	1%	1%	100%
Make sure that your gas cap is sealed tightly on your gas tank	93%	2%	1%	0%	2%	2%	0%	100%
Stop pumping gasoline after the nozzle clicks off	69%	7%	6%	2%	13%	3%	0%	100%
Keep your car well-maintained	79%	11%	4%	1%	0%	4%	0%	100%
Mow your lawn only after 5:00 PM	25%	9%	11%	5%	14%	36%	0%	100%
Use low-polluting or water-based paints and stains	43%	9%	9%	8%	15%	15%	2%	100%
Use electric, battery-operated or low-polluting lawn equipment	16%	7%	13%	7%	32%	25%	1%	100%

Question 11: Respondent Awareness of Advertising or Public Relations Campaign Phrases

I am going to read you some phrases. I'd like you to tell me if you have heard or read them before as part of an advertising or public relations campaign. What about . . .	Very sure you've heard it before	Pretty sure you've heard it before	Not so sure you've heard it or not	Very sure you have NOT heard it before	Refused	Total
"Click it or ticket"	87%	3%	2%	8%	0%	100%
"RideSmart Thursdays"	23%	11%	11%	55%	0%	100%
"Let's take care of our summer air"	12%	11%	15%	62%	0%	100%
"If you breathe the air, this message is for you"	18%	14%	16%	51%	0%	100%
"Stop at the click"	24%	9%	13%	53%	0%	100%
"Mow down pollution"	6%	6%	15%	73%	0%	100%
"Call before you dig"	81%	5%	3%	11%	0%	100%

Question 12: Respondent Awareness of Ozone Action Alert Program

Have you seen an Ozone Action Alert or heard of the Ozone Action Alert program?	Percent of Respondents
Yes	43%
No	56%
Don't know	2%
Total	100%

Question 13: Do You Know What an Ozone Alert Is?

Do you know what an ozone alert is?	Percent of Respondents
Yes	80%
No	15%
Not sure	5%
Total	100%

Question 14: Where Did the Ozone Alert Appear?

Where did the alert appear?	Percent of Respondents Who Had Seen an Ozone Alert or Heard of the Program*
Newspaper	8%
On the Radio	16%
On the Television	66%
On a Web Site	5%
On and Electronic Message Board Along the Highway	9%
On a Poster	1%
By email	0%
Other	8%
Don't know/can't remember	3%
Refused	1%

*Percents may add to more than 100% as respondents could give more than one answer.

Question 15: Respondent Awareness of Summer Television Ads About Ozone Pollution

Have you seen a television ad this summer about ozone pollution?	Percent of Respondents
Yes	21%
No	73%
Not sure	5%
Total	100%

Question 16: Respondent Awareness of Television Ad 'If you drive and breathe the air, this message is for you'

Have you seen a television ad that begins "If you drive and breathe the air, this message is for you?"	Percent of Respondents
Yes	23%
No	68%
Not sure	9%
Total	100%

Question 18: What Can You Do to Reduce Ozone Pollution If You Drive?

Please tell me up to three things you can do to reduce ozone pollution if you drive. What is one thing you can do? [Can you tell me another? Can you tell me a third?]	Percent of Respondents
Reduce speed	11%
Keep your vehicle well-maintained	32%
Avoid unnecessary idling	12%
Use public transit	18%
Refuel in the evening	13%
Carpool	30%
Something else	61%
Can't think of anything	13%
Can't think of a second thing	8%
Can't think of a third thing	8%

**Percents add to more than 100% as respondents were asked for three answers.*

Question 19: Respondent Awareness of Mowing Television Ad

Have you seen a television ad that begins "If you mow your lawn and breathe the air, this message is for you?"	Percent of Respondents
Yes	10%
No	84%
Not sure	5%
Total	100%

Question 21: What Can You Do to Reduce Ozone Pollution If You Mow Your Lawn?

Please tell me up to three things you can do to reduce ozone pollution if you drive. What is one thing you can do? [Can you tell me another? Can you tell me a third?]

Percent of Respondents

Keep your lawn mower gas tank half full	3%
Mow your lawn after 5:00 pm	52%
Keep your equipment well-maintained	21%
Use an earth-friendly mower or trimmer	45%
Something else	24%
Can't think of anything	26%
Can't think of a second thing	11%
Can't think of a third thing	17%

**Percents add to more than 100% as respondents were asked for three answers.*

Question 22: Respondent Awareness of News Stories About Ground-Level Ozone

Have you seen or heard any news stories about ground-level ozone pollution?

Percent of Respondents

Yes	15%
No	83%
Don't know	2%
Total	100%

Question 23: Respondent Information Source

Can you tell me if the ozone pollution news stories you remember were . . .

Yes No Don't know Refused Total

On television?	73%	21%	6%	0%	100%
On radio?	30%	62%	8%	0%	100%
In a newspaper?	37%	53%	10%	0%	100%
On the Internet?	17%	76%	8%	0%	100%

Question 24: Respondent Awareness of Campaign Communication

Have you heard of . . .

Yes No Don't know Refused Total

The website www.OzoneAware.org	11%	87%	2%	0%	100%
Electronic Message Billboards along the highways that provide Ozone Action Alerts	26%	74%	0%	0%	100%
Any communications about ozone or ozone alerts on outdoor billboards	13%	85%	2%	0%	100%
Any communications about ozone or ozone alerts on the backs or sides of buses	24%	71%	5%	0%	100%
The "Mow Down Pollution" Lawnmower Exchange Event	4%	96%	1%	0%	100%
Radio Traffic reports on ozone pollution	35%	62%	3%	0%	100%

Question 25: Was A Lifestyle Change Made to Reduce Ozone Pollution

This summer, have you made changes to your lifestyle to reduce ozone pollution?	Percent of Respondents
Yes	37%
No	62%
Don't know	0%
Total	100%

Question 26: Lifestyle Change Made to Reduce Ozone Pollution

What changes have you made? (Note: This was asked without prompting)	Percent of Respondents Who Made a Change*
Refueling your vehicle after 5:00 pm	14%
Keeping your vehicle well-maintained	13%
Avoiding unnecessary idling	5%
Reducing driving	65%
Mowing your lawn after 5:00 pm	13%
Keeping your lawn-care equipment well-maintained	4%
Using an earth-friendly mower or trimmer	3%
Reduce use of air conditioning	7%
Don't overfill gas tank	2%
Replace vehicles with ones that get higher gas mileage	3%
Reduce speed when driving	1%
Recycle	3%
Quit smoking	1%
Mow less	3%
Stop or reduce aerosol product use	5%
Tighten vehicle gas cap	3%
Other	8%
Other	0%
Other	0%
Other	0%
Can't think of anything	1%
Don't know	0%
Refused	0%

*Percents may add to more than 100% as respondents could give more than one answer.

Question 27: Prompted Changes Made This Summer

Would you say you have made any of the following changes this summer? What about . . .	Yes	No	Not applicable	Don't know	Refused	Total
Refueling your vehicle after 5:00 pm	50%	42%	7%	2%	0%	100%
Keeping your vehicle well-maintained	89%	3%	7%	0%	0%	100%
Avoiding unnecessary idling	75%	16%	7%	2%	0%	100%
Reducing driving	90%	9%	1%	0%	0%	100%
Mowing your lawn after 5:00 pm	49%	25%	25%	1%	0%	100%
Keeping your lawn-care equipment well-maintained	65%	11%	23%	1%	0%	100%
Using an earth-friendly mower or trimmer	40%	31%	24%	4%	0%	100%
Recycling cans and bottles	75%	24%	1%	0%	0%	100%
Using stone instead of wood as a landscape material	47%	27%	25%	1%	0%	100%

Question 28: What Might Convince You to Change Behaviors to Decrease Ground-level Ozone Pollution?

What kinds of things, if any, might convince you to change some of your behaviors to decrease ground-level ozone pollution? For each possibility, tell me how likely would you be to change your behavior to reduce ground-level ozone. What about . . .	Very likely	Some-what likely	Some-what unlikely	Very unlikely	Don't know/refused	Total
Seeing that my friends and neighbors are trying to reduce ground-level ozone	30%	43%	10%	13%	4%	100%
Learning about the causes of ground-level ozone	39%	42%	8%	6%	4%	100%
Knowing it would improve Denver's reputation for clean air	35%	43%	10%	9%	3%	100%
Knowing it would improved the environment	55%	35%	3%	4%	2%	100%
Knowing it would improve the health of adults and children with respiratory problems	61%	33%	2%	3%	1%	100%
Knowing it would improve the quality of life in the metro-Denver area	53%	38%	4%	3%	2%	100%
Seeing or hearing about an ozone action alert in the media	34%	43%	10%	10%	3%	100%

Question 29: Frequency of Watching Television

In the last two months, about how many hours per week have you watched television? Would you say . . .	Percent of Respondents
Not at all	3%
1-5 hours	37%
6-10 hours	26%
11-15 hours	16%
16-20 hours	7%
More than 20 hours	9%
Don't know	1%
Refused	1%
Total	100%

Question 30: Respondent Information Source

Would you say you get a lot, some or none of your news from each of the following? What about . . .	A lot	Some	None	Don't know	Refused	Total
Friends and neighbors	6%	42%	51%	0%	1%	100%
Newspaper	29%	41%	29%	0%	1%	100%
Radio	29%	49%	21%	0%	1%	100%
Television	39%	44%	15%	0%	1%	100%
Internet	27%	35%	36%	0%	1%	100%

Question 31: Respondent Tenure

Do you rent or own your residence?	Percent of Respondents
Rent	33%
Own	64%
Parent or other adult is homeowner	1%
Don't Know	0%
Refused	2%
Total	100%

Question 32: Do You Have a Yard that Requires Mowing?

Does your residence have a yard that your household is responsible for maintaining? [IF NEEDED, ADD: "If a homeowner's association or landlord maintains the yard, answer "no." if you or a member of your household personally maintain it, or pay for another to do it, answer "yes."]	Percent of Respondents
Yes	68%
No	30%
Don't know	0%
Refused	1%
Total	100%

Question 33: Do You Have Children Between the Ages of 4 and 18?

Do you have children between the ages of 4 and 18?	Percent of Respondents
Yes	28%
No	70%
Don't know/refused	1%
Total	100%

Question 34: Respondent Educational Attainment

Which of the following categories best describes the amount of formal education you have completed?	Percent of Respondents
0-11 years, no diploma	2%
High school graduate	11%
Some college, no degree or an associate degree	34%
Bachelors degree	25%
Graduate or professional degree	25%
Refused	2%
Total	100%

Question 35: Respondent Race/Ethnicity

Which one or more of the following would you say is your race or ethnicity?	Percent of Respondents*
White	78%
Black or African American	3%
Asian	1%
Native Hawaiian or Other Pacific Islander	0%
American Indian, Alaskan Native	3%
Hispanic/Latino	10%
Other	5%
Don't know/refused	3%

*Percents may add to more than 100% as respondents could give more than one answer.

Question 36: Respondent Age

Which of the following categories includes your age?	Percent of Respondents
18-24	10%
25-34	26%
35-44	22%
45-54	18%
55-64	12%
65-74	5%
75-84	3%
85 or older	1%
Refused	3%
Total	100%

Question 37: Respondent Gender	
GENDER OF RESPONDENT? [DO NOT ASK ALOUD.]	Percent of Respondents
Male	50%
Female	50%
Total	100%

Appendix C: Verbatim Responses for Open-Ended Questions

Question #13: Do you know what an ozone alert is? (If yes) How would you explain it?

- YOU SHOULD WEAR SUN BLOCK.
- WHERE YOU GO INTO THE EXTRA DO'S AND DON'TS
- WHEN YOU CUT DOWN ON USING CARS
- WHEN THEY ASK PEOPLE TO LIMIT THEIR DRIVING.
- WHEN THERE'S TOO MUCH FOG OR SMOG IN THE AREA
- WHEN THERE'S THE DANGER OF OZONE LEVELS.
- WHEN THERE'S A LOT OF POLLUTION
- WHEN THERE IS A HIGH POLLUTION DAY
- WHEN THE TEMPERATURE MAKES THE EARTH OVERHEAT
- WHEN THE OZONE REACHES A CERTAIN LEVEL OF DANGER
- WHEN THE AIR QUALITY IS BAD
- WHEN THE AIR IS BAD AND HAVE TO USE REST
- WHEN THE AIR ABOVE THE CITY TRAPS THE POLLUTION
- WHEN POLLUTION IN THE OZONE IS AT THE HIGH LEVEL
- WHEN OZONE LEVELS ARE HIGH
- WHEN LEVELS ARE HIGH
- WHEN ITS HOT THE BAD AIR STAYS ON THE GROUND
- WHEN A MEASUREMENT OF OZONE LEVEL IS BAD FOR YOU
- WE'RE EFFECTED ON FOREST AND HEATING OF PLANET
- WEAR MORE SUNSCREEN AND BE MORE CAREFUL
- WARNS US WHEN OZONE LEVEL IS HIGH
- WARNINGS GIVEN TO STOP ACTIVITY AT CERTAIN POINT
- WARNING YOU SHOULD AVOID DRIVING AND NO BURNING
- WANT US TO DRIVE LESS, USE LESS AIR CONDITIONING
- UPPER ATMOSPHERE THAT PROTECTS US
- UNHEALTHY POLLUTION DAYS ON A VARIETY OF LEVELS
- UNHEALTHY LEVEL OF OZONE
- TURN OFF AIR CONDITIONERS
- TRY NOT TO DRIVE AND STAY INDOORS
- TOO MUCH POLLUTION, TOO MANY PARTICLES IN AIR
- TOO MUCH POLLUTION, ELDERLY SHOULD STAY IN
- TOO MUCH OZONE IN THE ATMOSPHERE

- TOO MUCH CARBON MONOXIDE, PEOPLE BREATHING IT
- TOO MANY BAD PARTICLES IN THE AIR
- TOO HIGH IN THE ATMOSPHERE CAUSED BY PEOPLE.
- THEY TELL YOU TO BE CAREFUL OF POLLUTING
- THEY COME OUT AND SAY THERE IS AN ALERT
- THERE IS MORE OF CERTAIN TOXICITY IN THE AIR
- THE POLLUTION IN THE AIR THAT IS DANGEROUS
- THE POLLUTION CAUSED FROM VAPORS OFF AUTOS
- THE POLLUTANTS ARE IN THE AIR AND HARM PEOPLE
- THE OZONE LEVELS ARE HIGH
- THE OZONE LEVEL TOO HIGH
- THE OZONE LEVEL REACHES A CERTAIN METERED LEVEL
- THE OZONE LEVEL IS HIGH
- THE OZONE IS NOT GOOD, POLLUTION IS HIGH
- THE OZONE IS MORE THAN A CERTAIN PERCENTAGE
- THE OZONE IS HIGH, MAKE A PUBLIC ANNOUNCEMENT
- THE OZONE IS BAD, DON'T DRIVE CAR
- THE OZONE IS A CERTAIN COLOR, DANGER LEVEL
- THE LEVELS OF OZONE THAT AFFECT ME ARE ELEVATED.
- THE HEAT IS HIGH THE OZONE IS DANGEROUS
- THE CONDITIONS ARE RIGHT FOR THE OZONE.
- THE AIR IS BAD AND UNHEALTHY
- TELLS YOU IF THE POLLUTION IS HIGH IN AREAS
- TELLS WHEN YOU HAVE A GREATER PROBLEM IN OZONE
- TELL YOU TO WATCH OUT, DON'T BREATHE THE OZONE
- TELL YOU OZONE LEVELS ARE HIGHER THAN USUAL
- TELL YOU ABOUT ENVIRONMENT HAZARDS
- TELL WHAT IS IN THE AIR AND WHAT IS THE PROBLEM
- STOP DRIVING STAY INSIDE, KEEP KIDS INSIDE
- STAY INSIDE, DON'T RUN YOUR CAR
- STAY INSIDE WHEN IT REACHES A CERTAIN LEVEL.
- STAY INDOORS IF HAVE BREATHING PROBLEMS
- STAY INDOORS AS MUCH AS POSSIBLE WHEN HIGH LEVEL
- SOMETHING ABOUT THE AIR QUALITY
- SHOULDN'T BE POLLUTING AIR BY DRIVING OR MOWING

- RESPIRATORY PROBLEMS
- REQUEST LIMIT DRIVING AND FILL UP TANK AFTER 5
- REDUCING ACTIVITY TO MAINTAIN THE OZONE LEVEL
- READING IS HIGHER THAN NATIONAL STANDARD
- POSSIBILITY OF GETTING BURNED BY THE SUN IS HIGH
- PEOPLE NEED TO STAY OUT OF IT
- PART OF THE WEATHER PROGRAM, OR UPDATES ON TV
- OZONE, FOR PEOPLE WHO HAVE RESPIRATORY PROBLEMS
- OZONE UNUSUALLY HIGH, A LOT OF POLLUTION
- OZONE REACHES AN UNACCEPTABLE LEVEL IN THE AIR
- OZONE LEVELS ARE HIGHER THAN CONSIDERED HEALTHY
- OZONE LEVEL IS DANGEROUS
- OZONE IS HIGH OVER OUR CITY
- OZONE IS HIGH ENOUGH, IT WILL IMPAIR ME
- OUR POLLUTION LEVEL IS REALLY BAD
- ONCE IT EXCEEDS NORMAL IT SENDS WARNING
- OLDER PEOPLE SHOULD GO INSIDE, DO NOT DRIVE
- NOT TO DRIVE, NO WOOD BURNING, NO MOWING
- NOT DRIVE AS MUCH AND CUT BACK ON THINGS
- NOT ALLOWED TO BURN WOOD, URGED TO LIMIT DRIVING
- NEWS
- MOSTLY ON THE TV
- MEASURE THE OZONE IN AIR, BROADCAST TV OR RADIO
- MAKE CERTAIN YOU ARE FOLLOWING CERTAIN THINGS
- LOT OZONE AIR CAUSES SUN TO EFFECT ENVIRONMENT
- LIMIT YOUR DRIVING OR GASOLINE USAGE OF MOTORS
- LIMIT OUTDOOR ACTIVITIES
- LIMIT DRIVING
- LET'S YOU KNOW HOW HIGH POLLUTION IN THE AIR IS
- LAYERS ARE HIGH, STAY INSIDE IF HAVE BAD HEALTH
- IT IS ACCORDING TO THE POLLUTION ALERT.
- IT GOES OFF WHEN IT GETS ABOVE A CERTAIN PERCENT
- IN THE AIR, HOLES ALLOWING OZONE TO GET THROUGH
- IMPLEMENT SAFE AIR ALTERNATIVES
- IF YOU HAVE TROUBLE BREATHING, DON'T GO OUTSIDE

- I DON'T KNOW HOW TO EXPLAIN
- I DON'T HAVE TIME TO SAY
- HOW TO LIMIT DRIVING AND AVOID USING FIRE WOOD
- HOW BAD THE OZONE IS AND HOW IT EFFECTS PEOPLE
- HOLD DRIVING AND GOING OUTDOORS
- HIGH RADIATION LEVELS FROM THE SUN
- HIGH POLLUTION, PEOPLE NOT TO ABUSE THE OZONE
- HIGH POLLUTION DAY WHEN THE AIRPORTS KNOW
- HIGH LEVEL OF OZONE
- HAVE DIFFERENT COLORS FOR EACH LEVEL
- HAS TO DO WITH NON POLLUTION
- HARMFUL AIR TRAPPED IN INVERSION
- GET IT OFF THE WEATHER CHANNEL
- GAS AFTER SUNSET AND LIMIT DRIVING
- FROM TV
- ENOUGH OZONE POLLUTION IN AIR, DON'T DRIVE CAR
- DON'T DRIVE, DON'T EXPOSE YOURSELF
- DON'T DRIVE UNLESS YOU HAVE TO
- DON'T BURN, DON'T MOW
- DO NOTHING THAT CONTRIBUTES TO THE OZONE PROBLEM
- CONDITIONS ARE RIGHT TO CAUSE AIR TO TRAP
- CONDITIONS ARE NOT GOOD FOR LUNG PROBLEMS
- CONDITIONS ARE HIGH OR POTENTIALLY DANGEROUS
- CONDITION ALLOWS YOU TO HAVE A LOWER OZONE LEVEL
- CO2 TRAPPED IN OZONE BECAUSE OF THE MOUNTAINS
- CLOSE TO VIOLATION, NEED TO DO STEPS TO PREVENT
- CERTAIN STUFF IN THE AIR
- CAUTION TO TAKE MEASURE IN DOING ALL THINGS
- BREAKDOWN OF ENVIRONMENTAL LAYER
- BE CAREFUL OUTSIDE, GREATER EXPOSURE TO UV RAYS.
- BAD AIR WILL BE TRAPPED IN LOW GROUND-LEVEL AIR
- ATMOSPHERE HOLDS IN THE FUMES THAT WE EMIT
- AN ALERT FOR HIGH RISK OZONE DAYS
- ALERT WHEN THEY FEEL THE POLLUTION IS DANGEROUS
- ALERT WHEN THE OZONE REACHES A CERTAIN LEVEL

- ALERT WHEN OZONE IS HIGH
- AIR UNHEALTHY FOR PEOPLE TO BREATHE
- AIR QUALITY THING, TAKING ABOUT POLLUTION
- AIR GET TOO POOR QUALITY THEY PUT OUT AN ALERT
- AIR DAMAGING IF THERE IS TOO MUCH POLLUTION
- ADVISING YOU NOT TO DRIVE
- A SIGN TELLING YOU NOT TO PUMP PAST THE CLICK
- A DIRTY, BROWN CLOUD HANGING IN THE CITY
- A CONCERN ABOUT THE AIR AND LAYERS OF THE OZONE.
- A CERTAIN LEVEL OF OZONE THAT IS DANGEROUS

Question #14: Where did the [Ozone Action] alert appear? NEWSPAPER (IF THEY MENTION A SPECIFIC ONE, SPECIFY:)

- THE DENVER POST
- ROCKY MOUNTAIN NEWS
- NEWS
- DENVER POST
- DENVER POST
- DENVER POST

Question #14: Where did the [Ozone Action] alert appear? ON THE RADIO (IF THEY MENTION A SPECIFIC PROGRAM/STATION, SPECIFY:)

- PUBLIC RADIO
- NPR
- NPR
- KOA
- KLA
- KHOW NEWS
- BANKS
- 105.5

- NBC CHANNEL 9 NEWS
- MAJOR NETWORKS
- LOCAL NEWS CHANNEL 4
- KUSA CHANNEL 9
- FOX CHANNEL 31
- CHANNEL 9, NBC
- CHANNEL 9, NBC
- CHANNEL 9, NBC
- CHANNEL 9 OR DISCOVERY
- CHANNEL 9 OR 7
- CHANNEL 9 NEWS PROGRAM
- CHANNEL 9 NEWS
- CHANNEL 9 NEWS
- CHANNEL 9 NEWS
- CHANNEL 9 AND CHANNEL 4
- CHANNEL 9
- CHANNEL 7, 9
- CHANNEL 7
- CHANNEL 4
- CHANNEL 12

Question #14: Where did the [Ozone Action] alert appear? ON A WEBSITE (IF THEY MENTION A SPECIFIC SITE, SPECIFY:)

- WEATHER.COM
- NEWS
- AT THE CITY

Question #14: Where did the [Ozone Action] alert appear? OTHER (SPECIFY:)

- WORK AT POLICE STATION
- WORK
- WORD OF MOUTH FROM BROTHER
- TELEPHONE SERVICE
- PEOPLE
- ON 6TH AVENUE
- NEWS
- NEWS
- INTERNET
- GREENPEACE AND OTHER ORGANIZATIONS
- BACK EAST

Question #26: What changes have you made? OTHER, PLEASE SPECIFY.

- USING PUBLIC TRANSPORTATION
- USED A SWAMP COOLER INSTEAD OF AIR CONDITIONER
- USE DRYER AT NIGHT
- USE AIR CONDITIONER LESS
- TRYING NOT TO BURN
- TRY TO NOT TURN ON THE AIR CONDITIONER
- TAKING BUS
- STOPPING AT THE CLICK
- STAY HOME
- STAY AT THE LAKE LONGER THAN I USED TO
- SOLD MOTOR HOME AND BOAT
- SOLD A BAD GAS MILEAGE CAR
- RUNNING ERRANDS ALL ONE DAY
- RIDE THE BUS AND TRAIN

- RIDE BIKE
- RIDE BIKE
- RIDE ARTV
- REDUCING MY SPEED
- REDUCE SPEED WHEN DRIVING
- RECYCLING
- RECYCLE
- QUIT SMOKING
- QUIT SMOKING
- PLANT DIFFERENT PLANTS, FLOWERS, AND VEGETATION
- NOT SMOKING
- NOT OVER FILLING GAS TANK
- NOT OVER FILL TANK
- NOT MOWING LAWN AS MUCH
- NO USE OF AEROSOL PRODUCTS
- NO AIR CONDITION
- MOWED LAWN LESS
- MOW OUR LAWN LESS
- MOW ONCE A WEEK
- MOVING TO A SMALLER TOWN
- MAKE SURE CAP IS ON THE GAS TANK
- LIVING IN A RETIREMENT HOME
- KEEP GAS CAP TIGHT
- I MOW MY LAWN LESS BECAUSE IT DRIED UP
- I GOT AN ECONOMY CAR, I USED TO DRIVE A DIESEL
- I DON'T RUN MY AIR CONDITIONER AS OFTEN
- HUSBAND TAKES BETTER MILEAGE CAR
- DON'T USE THE AIR CONDITIONER TOO MUCH
- DON'T MOW AS MUCH
- DON'T GO OUT SO MUCH, TRY TO STAY IN
- CUT USE OF REPELLANTS
- CUT THE SIZE OF LAWN BACK
- CHANGED FILTER IN HOME
- CARPOOLING
- CARPOOL

- BUYING MORE ELECTRICAL APPLIANCES
- BUY ITEMS WITH OZONE SAFE LABELS
- BOUGHT A FUEL ECONOMY CAR
- WENT TO A MORE EXPENSIVE SOD
- USING THE CSD CANS THAT ARE OZONE APPROVED
- USING A CERTAIN TYPE OF GASOLINE
- TURN AIR CONDITIONER DOWN LOW, NOT RUN AS MUCH
- RECYCLING
- NOT USE AIR CONDITIONER IN CAR
- NOT RUN AIR CONDITIONER
- MAKE SURE GAS CAP IS ON TIGHT
- GOOD QUALITY OF GAS
- DON'T RUN THE AIR CONDITIONER
- WENT TO BUFFALO
- NON-AEROSOL CANS
- NO AEROSOL USE
- AVOID OVER-FILLING

Appendix D: Survey Results by Selected Respondent Characteristics

Selected survey responses are shown by respondent characteristics. Responses that are significantly different ($p < 0.05$) are marked with gray shading.

Question 1 by Respondent Characteristics							
Which of the following 5 issues is the most important issue facing the metropolitan Denver area? What about . . .	Tenure		Presence of Children		Educational Attainment		
	Own	Rent	Yes	No	High school or less	At least some college	Graduate or professional degree
Drought	8%	14%	13%	9%	11%	10%	8%
Transportation and traffic	41%	27%	29%	39%	29%	37%	40%
Air pollution	14%	10%	13%	13%	16%	14%	8%
The economy	23%	39%	33%	26%	34%	30%	23%
The state budget deficit	15%	10%	13%	13%	11%	10%	21%
Total	100%	100%	100%	100%	100%	100%	100%

Question 1 by Respondent Characteristics							
Which of the following 5 issues is the most important issue facing the metropolitan Denver area? What about . . .	Race/Ethnicity				Age		
	White	Black or African American	Hispanic	Other/Multiple	18-34	35-54	55+
Drought	10%	21%	13%	7%	10%	10%	10%
Transportation and traffic	37%	36%	35%	33%	39%	31%	41%
Air pollution	13%	0%	10%	17%	17%	10%	9%
The economy	26%	24%	34%	38%	26%	34%	24%
The state budget deficit	14%	18%	8%	4%	8%	15%	17%
Total	100%	100%	100%	100%	100%	100%	100%

Question 7 by Respondent Characteristics

How familiar would you say you are with the problem of ground-level ozone? Would you say you are...	Tenure		Presence of Children		Educational Attainment		
	Own	Rent	Yes	No	High school or less	At least some college	Graduate or professional degree
Very familiar	14%	11%	13%	12%	6%	13%	15%
Somewhat familiar	35%	21%	29%	31%	29%	29%	36%
A little familiar	28%	33%	32%	28%	23%	30%	30%
Not at all familiar	23%	35%	25%	28%	42%	28%	18%
Total	100%	100%	100%	100%	100%	100%	100%

Question 7 by Respondent Characteristics

How familiar would you say you are with the problem of ground-level ozone? Would you say you are...	Race/Ethnicity				Age		
	White	Black or African American	Hispanic	Other/Multiple	18-34	35-54	55+
Very familiar	12%	0%	14%	19%	15%	9%	14%
Somewhat familiar	32%	8%	29%	27%	31%	31%	31%
A little familiar	30%	50%	29%	26%	19%	36%	34%
Not at all familiar	27%	42%	28%	28%	35%	24%	20%
Total	100%	100%	100%	100%	100%	100%	100%

Question 8 by Respondent Characteristics

How much of a problem do you think ground-level ozone is? Would you say it is...	Tenure		Presence of Children		Educational Attainment		
	Own	Rent	Yes	No	High school or less	At least some college	Graduate or professional degree
Major problem	19%	29%	24%	22%	30%	21%	20%
Moderate problem	42%	40%	36%	44%	40%	39%	47%
Minor problem	29%	26%	33%	27%	21%	32%	26%
Not a problem at all	9%	6%	7%	8%	9%	8%	7%
Total	100%	100%	100%	100%	100%	100%	100%

Question 8 by Respondent Characteristics

How much of a problem do you think ground-level ozone is? Would you say it is...	Race/Ethnicity				Age		
	White	Black or African American	Hispanic	Other/Multiple	18-34	35-54	55+
Major problem	18%	44%	41%	34%	21%	22%	23%
Moderate problem	44%	0%	34%	35%	44%	41%	37%
Minor problem	30%	46%	18%	20%	27%	28%	36%
Not a problem at all	8%	10%	7%	11%	9%	9%	5%
Total	100%	100%	100%	100%	100%	100%	100%

Question 11 by Respondent Characteristics

I am going to read you some phrases. I'd like you to tell me if you have heard or read them before as part of an advertising or public relations campaign. What about...	Tenure		Presence of Children		Educational Attainment		
	Own	Rent	Yes	No	High school or less	At least some college	Graduate or professional degree
"Click it or ticket"	90%	92%	97%	88%	94%	92%	88%
"RideSmart Thursdays"	35%	34%	32%	35%	31%	35%	33%
"Let's take care of our summer air"	24%	21%	29%	21%	28%	22%	23%
"If you breathe the air, this message is for you"	33%	32%	32%	33%	30%	32%	34%
"Stop at the click"	37%	28%	42%	31%	39%	34%	30%
"Mow down pollution"	14%	7%	14%	12%	12%	12%	12%
"Call before you dig"	87%	87%	87%	86%	86%	87%	87%

Percent of respondents who said "very sure" or "pretty sure" they've heard it before.

Question 11 by Respondent Characteristics

I am going to read you some phrases. I'd like you to tell me if you have heard or read them before as part of an advertising or public relations campaign. What about...	Race/Ethnicity				Age		
	White	Black or African American	Hispanic	Other/Multiple	18-34	35-54	55+
"Click it or ticket"	89%	100%	100%	92%	97%	93%	76%
"RideSmart Thursdays"	37%	21%	23%	21%	33%	34%	37%
"Let's take care of our summer air"	23%	0%	23%	27%	29%	22%	16%
"If you breathe the air, this message is for you"	32%	53%	47%	22%	39%	29%	31%
"Stop at the click"	34%	32%	47%	20%	35%	36%	29%
"Mow down pollution"	11%	0%	16%	20%	12%	12%	10%
"Call before you dig"	89%	100%	83%	72%	84%	89%	88%

Percent of respondents who said "very sure" or "pretty sure" they've heard it before.

Question 12 by Respondent Characteristics

Have you seen an Ozone Action Alert or heard of the Ozone Action Alert program?	Tenure		Presence of Children		Educational Attainment		
	Own	Rent	Yes	No	High school or less	At least some college	Graduate or professional degree
Yes	50%	34%	46%	42%	34%	42%	53%
No	50%	66%	54%	58%	66%	58%	47%
Total	100%	100%	100%	100%	100%	100%	100%

Question 12 by Respondent Characteristics

Have you seen an Ozone Action Alert or heard of the Ozone Action Alert program?	Race/Ethnicity				Age		
	White	Black or African American	Hispanic	Other/Multiple	18-34	35-54	55+
Yes	48%	0%	24%	37%	41%	48%	39%
No	52%	100%	76%	63%	59%	52%	61%
Total	100%	100%	100%	100%	100%	100%	100%

Question 15 by Respondent Characteristics

Have you seen a television ad this summer about ozone pollution?	Tenure		Presence of Children		Educational Attainment		
	Own	Rent	Yes	No	High school or less	At least some college	Graduate or professional degree
Yes	24%	16%	23%	21%	30%	18%	25%
No	69%	82%	74%	73%	64%	76%	72%
Not sure	7%	2%	3%	6%	6%	6%	3%
Total	100%	100%	100%	100%	100%	100%	100%

Question 15 by Respondent Characteristics

Have you seen a television ad this summer about ozone pollution?	Race/Ethnicity				Age		
	White	Black or African American	Hispanic	Other/Multiple	18-34	35-54	55+
Yes	21%	0%	23%	22%	21%	19%	27%
No	72%	100%	72%	78%	74%	77%	65%
Not sure	6%	0%	5%	0%	6%	4%	8%
Total	100%	100%	100%	100%	100%	100%	100%

Question 16 by Respondent Characteristics

Have you seen a television ad that begins "If you drive and breathe the air, this message is for you?"	Tenure		Presence of Children		Educational Attainment		
	Own	Rent	Yes	No	High school or less	At least some college	Graduate or professional degree
Yes	21%	28%	18%	25%	23%	21%	27%
No	69%	65%	73%	66%	73%	71%	58%
Not sure	10%	6%	9%	9%	3%	8%	15%
Total	100%	100%	100%	100%	100%	100%	100%

Question 16 by Respondent Characteristics

Have you seen a television ad that begins "If you drive and breathe the air, this message is for you?"	Race/Ethnicity				Age		
	White	Black or African American	Hispanic	Other/Multiple	18-34	35-54	55+
Yes	21%	21%	39%	20%	25%	19%	29%
No	69%	58%	56%	71%	67%	73%	59%
Not sure	9%	21%	5%	9%	8%	8%	12%
Total	100%	100%	100%	100%	100%	100%	100%

Question 19 by Respondent Characteristics

Have you seen a television ad that begins "If you mow your lawn and breathe the air, this message is for you?"	Tenure		Presence of Children		Educational Attainment		
	Own	Rent	Yes	No	High school or less	At least some college	Graduate or professional degree
Yes	12%	7%	11%	10%	8%	11%	9%
No	82%	89%	82%	85%	85%	84%	84%
Not sure	6%	3%	8%	5%	7%	5%	7%
Total	100%	100%	100%	100%	100%	100%	100%

Question 19 by Respondent Characteristics

Have you seen a television ad that begins "If you mow your lawn and breathe the air, this message is for you?"	Race/Ethnicity				Age		
	White	Black or African American	Hispanic	Other/Multiple	18-34	35-54	55+
Yes	10%	0%	3%	17%	6%	11%	15%
No	84%	100%	94%	81%	92%	82%	77%
Not sure	7%	0%	2%	2%	2%	7%	8%
Total	100%	100%	100%	100%	100%	100%	100%

Question 22 by Respondent Characteristics

Have you seen or heard any news stories about ground-level ozone pollution?	Tenure		Presence of Children		Educational Attainment		
	Own	Rent	Yes	No	High school or less	At least some college	Graduate or professional degree
Yes	18%	12%	20%	14%	10%	15%	19%
No	82%	88%	80%	86%	90%	85%	81%
Total	100%	100%	100%	100%	100%	100%	100%

Question 22 by Respondent Characteristics

Have you seen or heard any news stories about ground-level ozone pollution?	Race/Ethnicity				Age		
	White	Black or African American	Hispanic	Other/Multiple	18-34	35-54	55+
Yes	17%	0%	2%	17%	10%	19%	16%
No	83%	100%	98%	83%	90%	81%	84%
Total	100%	100%	100%	100%	100%	100%	100%

Question 24 by Respondent Characteristics

Have you heard of ...	Tenure		Presence of Children		Educational Attainment		
	Own	Rent	Yes	No	High school or less	At least some college	Graduate or professional degree
The website www.OzoneAware.org	13%	9%	17%	9%	13%	11%	12%
Electronic Message Billboards along the highways that provide Ozone Action Alerts	24%	30%	22%	28%	32%	24%	27%
Any communications about ozone or ozone alerts on outdoor billboards	9%	22%	14%	13%	11%	11%	20%
Any communications about ozone or ozone alerts on the backs or sides of buses	21%	34%	25%	26%	27%	25%	27%
The "Mow Down Pollution" Lawnmower Exchange Event	2%	6%	6%	3%	2%	4%	3%
Radio Traffic reports on ozone pollution	39%	31%	29%	38%	34%	32%	45%

Percent of respondents who said "yes".

Question 24 by Respondent Characteristics

Have you heard of...	Race/Ethnicity				Age		
	White	Black or African American	Hispanic	Other/Multiple	18-34	35-54	55+
The website www.OzoneAware.org	12%	0%	16%	10%	17%	9%	8%
Electronic Message Billboards along the highways that provide Ozone Action Alerts	26%	29%	27%	19%	34%	25%	13%
Any communications about ozone or ozone alerts on outdoor billboards	13%	0%	21%	12%	12%	17%	9%
Any communications about ozone or ozone alerts on the backs or sides of buses	27%	0%	29%	20%	32%	23%	22%
The "Mow Down Pollution" Lawnmower Exchange Event	4%	0%	0%	2%	1%	6%	2%
Radio Traffic reports on ozone pollution	38%	21%	41%	21%	36%	36%	36%

Percent of respondents who said "yes".

Appendix E: Survey Methodology

Survey Administration

Phone interviewing was performed by Mountain West Research, a company specializing in phone survey services. A random digit dial sample was purchased to the 7-county metropolitan Denver area. Random digit dialing allows participation of residents who have listed and unlisted numbers.¹ An individual within each household was selected using the birthday method.² Quota sampling was used to guarantee an even ratio of male and female respondents.

The survey was administered and the data were recorded electronically using a Computer-Assisted Telephone Interviewing system (CATI)³. Phone calls were made from August 16 to August 23, 2005. A majority of the interviews was completed during the evening hours, although calls were made on the weekend and during weekdays also. All phone numbers were dialed at least three times before replacing with another number, with at least one of the attempts on either a weekend or weekday. The dispositions of the numbers dialed during the survey are listed in the table on the following page.

Survey Response Rate

A total of 13,379 phone numbers were dialed during the survey administration (see Table 18 on the next page). Some of these numbers are considered ineligible for the survey. Of the approximately 5,222 households called⁴, 400 completed interviews providing a response rate of 8%. Approximately 2,036 households refused the survey.

Confidence Intervals

It is customary to describe the precision of estimates made from surveys by a “level of confidence” (or margin of error). The 95 percent confidence level for the survey is generally no greater than plus or minus five percentage points around any given percent reported for the entire sample (400 completed interviews).

¹The telephone prefixes serving the area are joined with four randomly assigned digits to generate a random-digit-dial survey sample.

²The birthday method is a process to remove bias in the selection of a person within the household by asking the “person whose birthday has most recently passed” to complete the questionnaire. The underlying assumption in this method is that day of birth has no relationship to the way people respond to surveys.

³CATI is a software program that automatically dials phone numbers, logs dispositions and records responses to completed interviews.

⁴Disconnected, fax/data line, or business phone numbers were not included as eligible households. For 4,069 phone numbers where the eligibility status of the household was unknown, 39% were estimated to be eligible. This proportion was assumed to hold for those households not contacted, or where the household refused, and therefore prevented knowing the eligibility status, and only 39% of these numbers were included in the final response rate calculation.

Table 18: Disposition of all Numbers Called for the Regional Air Quality Council

Disposition of all Numbers Called for the Regional Air Quality Council	Number of Phone Numbers
Complete	400
Partial	20
Refusal-Initial	1,778
Refusal-DNC	238
Respondent never available	309
Language problem	165
Always busy	293
Answering machine-no message left	724
No answer	3,776
Disconnected number	5,062
Business, government office, other organizations	546
Quota filled	68
Other	0
Total phone numbers used	13,379
I=Complete Interviews	400
P=Partial Interviews	0
R=Refusal and break off	2,036
NC=Non Contact	1,033
O=Other	165
e5=estimated proportion of cases of unknown eligibility that are eligible	39%
UH=Unknown household	4,069
UO=Unknown other	0
Response Rate ⁶	8%

⁵ Estimate of e is based on proportion of eligible households among all numbers for which a definitive determination of status was obtained (a very conservative estimate).

⁶ The response rate was calculated using the American Association of Public Opinion Research definition #3: $I / ((I+P) + (R+NC+O) + e(UH+UO))$.

Weighting the Data

The demographic characteristics of the survey sample were compared to those found in the 2000 Census estimates and other population norms for seven counties within the metro-Denver area (Adams, Arapahoe, Boulder, Broomfield, Denver, Douglas and Jefferson counties) and were statistically adjusted to reflect the larger population when necessary. The results of the weighting scheme are presented in the following table. The shaded variables were the ones by which survey results were weighted.

Table 19: RAQC Public Awareness Survey Weighting Table

Characteristic	Percent in Population		
	Population Norm ⁷	Unweighted Data	Weighted Data
Sex and Age			
18-34 years of age	35%	22%	37%
35-54 years of age	43%	43%	42%
55+ years of age	22%	35%	21%
Female	50%	52%	50%
Male	50%	48%	50%
Females 18-34	18%	12%	18%
Females 35-54	21%	12%	21%
Females 55+	12%	20%	12%
Males 18-34	19%	10%	20%
Males 35-54	21%	23%	21%
Males 55+	10%	15%	9%
Ethnicity			
Hispanic	18%	8%	11%
Not Hispanic	82%	92%	89%
Housing			
Own home	66%	80%	66%
Rent home	34%	20%	34%
County			
Adams	15%	14%	14%
Arapahoe	20%	21%	20%
Boulder	12%	11%	11%
Broomfield	2%	2%	1%
Denver	23%	24%	24%
Douglas	7%	7%	7%
Jefferson	22%	22%	22%

⁷ Source: 2000 Census

Data Analysis

The results were analyzed by National Research Center, Inc. staff using the Statistical Package for the Social Sciences (SPSS). For the most part, frequency distributions and mean ratings are presented in the body of the report. A complete set of frequencies for each survey question is presented in Appendix B: Complete Set of Survey Frequencies.

Also included are results by respondent characteristics (Appendix D: Survey Results by Selected Respondent Characteristics). Chi-square or ANOVA tests of significance were applied to these breakdowns of selected survey questions. A “p-value” of 0.05 or less indicates that there is less than a 5% probability that differences observed between groups are due to chance; or in other words, a greater than 95% probability that the differences observed in the selected categories of our sample represent “real” differences among those populations. Where differences between subgroups are statistically significant, they are marked with grey shading in the appendices.

Appendix F: Survey Instrument

The post-campaign survey instrument appears on the following pages.