



Air Quality Messaging Research – Focus Groups

Regional Air Quality Council

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AIR QUALITY MESSAGING RESEARCH

FOCUS GROUPS WITH DENVER-AREA GENERAL POPULATION

EXECUTIVE SUMMARY

OVERVIEW

Corona Insights is pleased to present this report of research findings to the Regional Air Quality Council (RAQC) for the focus groups conducted with members of Denver's general population in late August, 2012. The following report includes a description of the methodology and implementation of the research, along with detailed focus group findings.

Corona Insights was retained by RAQC to conduct focus group research on their behalf in order to aid in the review of the effectiveness of air quality messaging and delivery methods. This research hopes inform RAQC's messaging efforts as it considers updating and improving its campaigns to inform Denverites about air quality and ground-level ozone, as well as what individuals can do to help lessen their impact on air quality.

Focus group participants were randomly recruited from the general population in the seven-county Denver metro area. Corona attempted to include a variety of participants based on their age, gender, self-assessed knowledge level of air quality issues, income, and several other demographic characteristics. Ultimately recruiting was very successful as at least 10 participants attended each group held at the Corona Insights office in downtown Denver.

The focus groups provided the opportunity to hear directly from Denverites. Participants began the groups by talking about their perceptions of air quality, and what they believe to be actions that they can personally take to reduce their impact on clear air. They discussed their perceptions of ozone and ground-level ozone, and then explained where they might have seen or heard about air quality issues in the past. All groups ended with the presentation of several very different advertising and messaging concepts that all had the end-goal of informing the public about air quality in some way. These were concepts from other agencies as well as RAQC.

This report presents the findings, both detailed- and higher-level, that arose during conversation in the August 2012 focus groups.

KEY FINDINGS

The following are key findings that were heard across multiple groups during discussion.

- ➔ **Beyond the “brown cloud,” evidence of poor air is lacking which makes it difficult to keep air quality top-of-mind.** This is not to say that Denverites don’t feel there’s a problem with the air in the metro area. Participants all agreed that there is quite a bit of room for improvement in Denver’s air quality, but also acknowledged that the evidence isn’t as obvious as, say, pouring a glass of water that comes out brown from the tap. For Denverites who deem themselves “healthy” and don’t personally experience breathing difficulties on bad air days, it’s more difficult to notice the effects and impacts of poor air quality.
 - ⇒ This may be evidence that helping people remember to consider air quality year-round is important in order to keep them thinking about it and acknowledging that air quality is an issue. Many of the ways that people can reduce impact are not seasonal in nature so encouraging the same behavior year round could be beneficial.
- ➔ **It’s tough for people to distinguish between air pollution and ozone pollution.** A few participants in each groups ultimately tended to decide that the two are somehow related, but that they are indeed different. The word “ozone” almost exclusively brought to mind the ozone layer of the atmosphere and the protection that it offers from the sun’s rays (in a nutshell).
 - ⇒ There’s clearly a lack of knowledge on these two terms, or at least the relationship between the two and what it means for health. It may be advisable to either build a campaign around educating the general public or simplify language used in messaging.
- ➔ **“Ground level ozone” is not a familiar term.** In fact, only one person in each group had heard the phrase before, and of those, only one person provided a vague explanation of what she thought it might be. This could be a fairly good indicator that if RAQC would like the general population to understand ground level ozone and its importance and relationship to the much more familiar “air quality” term, education is needed. Messages that use the phrase “air quality” will be understood, but those that use “ground level ozone” are complicated by the fact that people don’t know what it is and confuse it with the ozone layer.
 - ⇒ Further simplifying language in messaging will help gain attention and understanding. As outdoor advertising is presented currently, for example, there are two phrases that people don’t understand, namely “Let’s Take Care of Our Summer Air” and “OzoneAware.org.” The average person doesn’t understand the seasonality of their air they’re breathing, nor do they understand the relationship between ozone and air quality. The billboards, then, don’t seem to relate to the important topic of air quality. If this space on the billboard were used to instead relate the recommended action (“Mow in the Evening,” for example) specifically to improving air quality, they would be much more likely to get noticed and incite action.
- ➔ **Poor air quality is mostly associated with cars.** Participants certainly made the strongest connection between how their actions can affect air quality and their driving habits. But there were a few people in each group who seemed to recall “something” about when to mow the lawn or fill up with gas. These messages hadn’t penetrated 100% of the group participants, but there was always someone who recalled a message related to these two points. Unfortunately though, they couldn’t always remember exactly *when* it was best to fill the gas tank or mow the lawn.

- ➔ **The inability to identify a diverse number of ways that individuals affect air quality amplifies the inability to describe what an individual can do to reduce impact.** It was also tough for participants to say exactly what individuals can do to reduce their impact on air quality – that is, beyond carpooling, using public transportation, biking, or simply reducing the amount they drive.

As previously noted, some participants were aware of the fact that they should do things like mow in the evenings and be aware of household chemicals, etc., but not many. When asked specifically about these things, participants acknowledged that they could probably affect air quality. It seemed to be more of a reach to understand how great the impact could be, though, versus doing something like driving.

- ⇒ Despite the lack of knowledge, participants seemed very receptive to learning about new ways that they can help Denver’s air quality. They are ready for messages that help them understand what they can do and how much of a difference it’s going to make – *why* a certain behavior change is actually impactful.

- ➔ **Lack of knowledge about what an individual can do to help air quality stands as one of the greatest barriers to action.** It’s notable that later during the groups, even when participants were presented with the messages that provided them with actions they could take, they also wanted to know *why* those actions would be effective. This shows that it may be effective to use some resources to better educate the masses about air quality, ground level ozone, how individuals impact it, and how much impact particular actions (such as mowing at a certain time of day or using more typical household chemicals) actually do effect air quality.

- ⇒ RAQC’s television ad that provides simple and easily actionable recommendations for helping Denver’s air quality (the ‘car’ ad) is right on the mark. This was a favored ad by many participants who liked being given solutions, the overall positive tone of the ad, and the fact that it was easily relatable to air quality.

- ➔ **Potentially, focusing on lesser-known actions could be more helpful than focusing on driving habits.** Because everyone already seemed to understand the impact of driving on air quality (at least, among the focus group participants), using resources to place more emphasis on the use of household chemicals and small engines, and small tweaks one can make to their car might be a good tactic. Generally, participants tended to *want* to reduce their personal impact, so helping them genuinely understand what they could do and why they should do it should carry an impact on behavior.

- ⇒ While RAQC’s outdoor ads do tell people ways they can help, the actions suggested might sounds a bit too much like an order which causes people to question what they’ve they just read. If the ad were to get a person think about air quality, then provide an action, it would probably be better received.

- ⇒ Additionally, participants noted that they are simply not likely to visit the OzoneAware.org website after seeing the outdoor ads despite the fact that the ads raised questions for them. Participants made it clear that the average person doesn’t want to go seeking information. A message that gives the necessary information upfront seems much more likely to incite action.

- **Highway signs and television news stations warning about the air quality index were some of the most memorable sources for information about air quality.** Additionally, participants recalled the green-yellow-red system used by television stations to inform Denverites about wood-burning restrictions in place due to air quality. As mentioned earlier, a few participants recalled having seen messages about when to mow and when to fill up with gas although they couldn't remember exactly where.
- **Humor or fear work best to grab attention, but providing information about what an individual can do is best to incite action.** The ads from Maricopa County and Sacramento, then, were acknowledged by focus group participants as the best for getting their attention – but not necessarily for bringing them into action. For that purpose, participants liked the Tulsa ad because it gave specific examples of what a person can do to help reduce impact on the air. The Tulsa ad also began by explaining exactly what the ad was going to be about, so the viewer knew immediately the purpose of what they were seeing. The Mid-America Regional Council was also chosen by some participants as an effective way to incite action, again because it provided the viewer with specific actions to take. That ad, however, was less obviously related to air quality, according to some participants.
- **The RAQC television ads were generally well-received, with the “car” ad being preferred slightly more often than the “dragonfly” ad.** Some participants felt that the ad with the dragonflies was a little too cartoonish and might be overlooked by adult audiences. Conversely, parents in the groups tended to like the cartoon appearance because it made them think about their children – and some even thought that the ad might be effective for children to learn about air quality. The dragonfly ad, though, didn't provide specific actions. Instead it provided a website at the end. Participants generally didn't care for that approach because they felt they were being given “homework.” They just wanted to be told what to do without having to look for it on a website.
- **The “car” ad tended to be a crowd favorite.** Specifically, participants liked being provided with actions that they could easily take to help. The ad was stated to be on the topic of air quality from the very beginning, so viewers knew the purpose of the ad. Generally, the music and the visual appeal of the ad were well-received because the red reminded people of the heat of the summer. A few people though didn't care for the cartoonish appearance of this ad, either, and thought it looked a little too much like a car commercial.
- **Even though the billboards provide specific actions toward cleaner air, they weren't necessarily well-liked.** Interestingly, although participants preferred the television ads that told them actions they could take, they tended to dislike the billboards that did the same thing because it sounded like a command. A few people commented that the ads weren't immediately relatable to air quality so they weren't quite sure why they should be taking action. They also wanted the billboards to tell them “why” they should take the particular action stated since doing things like tightening the gas cap aren't immediately obviously impactful on air quality. Very few participants said that the billboards would generate enough curiosity for them to visit the website.
- **Ozone Alerts would be preferable as texts, and participants suggested allowing people to select preferences.** For example, it was suggested that maybe a person should be able to sign up to receive alerts only in the event that the expected air quality would be moderate or worse, and so on. Participants in each group actually liked the idea of being able to sign up for Ozone Alerts that might also include an occasional quick tip for helping air quality. This could help not only educate and inform, but also keep air quality top-of-mind.

Participants liked the idea of being entered in a drawing for a prize as an incentive to sign up for Ozone Alerts. They also suggested letting people know about Ozone Alerts via public service announcements from a news channel, at sporting events, or localized types of events like small festivals or farmers' markets.

- ➔ **Most people are more likely to take a pledge because the cause is something that they believe in, rather than the opportunity to win something.** This was especially the case with older participants. Younger participants tended to buy-in to the pledge idea a bit more easily as they recalled campaigns such as the 'don't text and drive' pledge. Still, they didn't always agree that taking a pledge would necessarily cause them to permanently change their behavior. They actually tended to suggest that RAQC should send follow-up communications after a person takes a pledge. That is, sending occasional tips for helping air quality, or providing little statistics about the amount of impact an individual can have simply by doing something easy.

METHODOLOGY

PROJECT SCOPE

A total of three focus groups were conducted in late August, 2012. All groups were conducted with participants from the general population in the Denver metro area. The groups took place at the Corona Insights' focus group facility in downtown Denver, Colorado. All participants were recruited through the process outlined below.

RECRUITING PROCESS

All recruiting for the groups was initialized by a mailing distributed to a listed sample of residents who live within the seven Denver metro counties. The recruiting letters announced the upcoming focus groups and encouraged interested respondents to call Corona's office to speak with a representative. Upon calling, potential participants were asked a series of questions to determine whether they qualified to participate in the study. If the caller qualified, the recruiter scheduled the caller for a focus group. Callers had to meet several general requirements in order to participate. These are presented in the table below.

As a recruiting note, participants were not made aware that the focus groups were being conducted for the RAQC in advance of the research.

Once qualified and signed up, all participants were mailed or emailed a confirmation letter that included the time, date, and location of the group that they were to attend. Each registered participant also received a reminder call the day before the focus group was to take place in order to help increase the attendance rate.

Recruiting was performed with a goal of seating 7 to 10 participants in each group session. Actual attendance for each group exceeded expectations, with the number of participants present in each group ranging from 10 to 11 people.

Participants. As noted, each potential participant was asked a brief series of screening questions in order to make certain that they qualified to participate. A summary of the basic requirements are noted in the table below. (More detailed profiles of the groups are presented later in this report.)

Recruiting Target – RAQC
~ <i>Must</i> say they know at least a little about air quality issues
~ <i>Must</i> think it's at least somewhat important for people in Denver to try and improve air quality
~ <i>Mix</i> of people who have/have not seen messages related to air quality or ozone in the Denver area
~ <i>Mix</i> of transportation mode preferences for getting to work or running errands
~ <i>Mix</i> of genders
~ <i>Mix</i> of ages
~ <i>Mix</i> of counties of residences
~ <i>Mix</i> of annual household income levels

LOGISTICS

The Corona Insights team handled all of the planning associated with conducting the focus group sessions. The team arranged for the focus groups to be conducted at Corona offices in downtown Denver. Corona arranged for food and beverages for participants. Finally, Corona used its audio- and video-recording equipment in order to effectively capture participants' feedback during group sessions.

Snacks and Incentives: Each participant was offered \$80 in cash for attending a focus group. Additionally, a light meal and beverages were provided for those who attended.

Time and Location: Groups were held in late August, 2012. The following table outlines the dates, times and locations for all groups.

GROUP SCHEDULE

Group	Date & Time	Location	# of Participants
Group 1	Wednesday, August 29 th 6 – 7:30 p.m.	Corona Insights Offices, Downtown Denver, Colorado	10
Group 2	Wednesday, August 29 th 7:30 – 9 p.m.		11
Group 3	Thursday, August 30 th 6 – 7:30 p.m.		10

FOCUS GROUP MODERATING

Moderator for Focus Groups: Holly Russo, a Research Manager at Corona Insights, moderated all three groups. Holly has extensive prior experience as a focus group moderator.

Moderator's Guide: The focus group moderator's guide was assembled by Corona Insights based on conversation RAQC. After an initial guide draft was developed, it was sent to RAQC for their review. Some changes were made to the guide based on that feedback, and this is the version that was employed during the groups. Thus, the guide incorporated feedback from the client, and was used by the moderator as a flexible guideline for group discussion, in that the moderator had the option to diverge from the guide if appropriate.

A copy of the moderator's guide used is provided in Appendix B.

FOCUS GROUP PROFILES

	GROUP 1	GROUP 2	GROUP 3
Number of participants	10	11	10
Gender	Male (5) Female (5)	Male (6) Female (5)	Male (4) Female (6)
Age	21-30 (3) 31-40 (1) 41-50 (2) 51-60 (4)	21-30 (1) 31-40 (5) 41-50 (3) 51-60 (2)	21-30 (1) 31-40 (3) 41-50 (3) 51-60 (2)
County of Residence	Denver (6) Jefferson (3) Arapahoe (1)	Denver (6) Jefferson (1) Boulder (1) Adams (3)	Denver (4) Jefferson (2) Boulder (1) Arapahoe (1) Douglas (2)
What mode of transportation do you use to get to work/run errands?	Bus (2) Lightrail (3) Car (7) Bike (2) Walk (2) Public transportation (1)	Bus (2) Lightrail (2) Car (8) Bike (5) Public transportation (1)	Bus (1) Lightrail (2) Car (7) Bike (1) Walk (1) Scooter (1)
Annual Household Income (Approximate)	\$10,000 - \$24,999 (1) \$25,000 - \$49,999 (2) \$50,000 - \$74,999 (5) \$75,000 - \$99,999 (2)	\$10,000 - \$24,999 (2) \$25,000 - \$49,999 (2) \$50,000 - \$74,999 (6) \$75,000 - \$99,999 (1)	\$9,999 or less (1) \$25,000 - \$49,999 (3) \$50,000 - \$74,999 (4) \$100,000 or more (2)
Knowledge level of air quality issues	A lot (1) Some (3) A little (5) Not much (1)	A lot (1) Some (3) A little (6) Not much (1)	A lot (3) Some (3) A little (4)
How important is it to improve air quality?	Very (7) Somewhat (2) A little (1)	Very (11)	Very (10)

DETAILED FINDINGS

Specific focus group findings are detailed in this section, with direct comments noted in quotations wherever possible. Findings are reported by each major topic area addressed during the discussions, and generally follow the order of the moderator's guide.

Topics covered during discussion are presented within this report in the following order:

- ⇒ General Awareness of and Attitudes on Air Quality Issues
- ⇒ Actions to Improve Air Quality
- ⇒ Information Sources and Communications
- ⇒ Advertising Tone Testing
- ⇒ RAQC – Ad & Website Feedback

GENERAL AWARENESS OF AND ATTITUDES ON AIR QUALITY ISSUES

The groups began with discussion about general air quality knowledge and perceptions.

TOP-OF-MIND THOUGHTS ON AIR QUALITY

Top-of-mind thoughts on air quality showed a sense of the perceived importance of clean air, as well as the need to improve its quality. Participants tended to think of the extremes. That is, they either envisioned clean fresh air and the health associated with it, or heavily polluted air that created health problems. People with friends or family members with asthma tended to think of their struggles, too.

A few people tended to think toward causes of and solutions for polluted air, mentioning words like “transportation,” “car emission,” and “accountable standards.”

- ➔ “For me I put ‘breathe well’ because I’ve lived in areas where the air quality is substantially worse than it is here in Colorado.”
- ➔ “It’s hard for me because I have asthma, it’s hard for me to breathe with all the pollution.”
- ➔ “I was also thinking about how when you drive into town, you can see the brown cloud.”
- ➔ “I thought more about ideally what it should be...like those big white windmill looking things that generate power”

Differences in opinion related to the air quality in Denver began to arise already, during this part of the conversation. This is further explored a bit later in this report.

KNOWLEDGE OF AIR QUALITY ISSUES

When it came to knowledge of air quality issues, few people felt well-informed. In fact, no one in any of the groups claimed to “know a lot” about air quality issues when polled to find out their self-assessed level of knowledge.

This was well-supported throughout all of the focus group discussions during which many people expressed uncertainty even on topics that they could speak about. For example, even when they were able to name certain things they could do to help air quality such as household chemicals, they weren’t always sure exactly what that meant – *why* it would help.

This is the first evidence of the fact that some education related to air quality could be beneficial to the general population.

IMPORTANCE OF AIR QUALITY

Everyone can agree that air quality is important. First comments on the importance of air quality generally related to the health of humans. Participants especially thought about those more vulnerable to air quality problems such as the elderly, children, and people with respiratory issues like asthma.

- ➔ “It affects a person’s health and maybe even their life.”

- ➔ “It’s important to me. Both my wife and my daughter, both have asthma.”
- ➔ “I have two little babies...I think about my kids, what it’s going to be like when they’re my age...you think about that sort of thing for your children and the future.”

Participants then considered other ways that poor air quality affects life. Its appearance, smell, and even its impact on nature at large were all mentioned.

- ➔ “It affects trees and lakes, animals, people.”
- ➔ “And it’s ugly. It’s ugly to look at, it’s ugly to feel...”
- ➔ “I lived in the mountains...and you could see it when you’re coming down into the city”

It didn’t take long for some people to branch out beyond air quality on the local level, either. It seemed natural for them to compare the air in Denver in other cities. Even on the national level, a few people in different focus groups mentioned that the U.S. should be setting an example for other nations in terms of air quality. They often drifted to talking about the ever-increasing global population, and how easy it is for pollution to get out-of-hand.

- ➔ “China is one of the biggest polluters on the planet...we should be setting an example and we aren’t.”
- ➔ “It’s kind of like a compounding problem, if it gets bad then it’s just going to worse that much easier, it’s a lot easier to fix before it gets bad.”

AIR QUALITY VS. WATER QUALITY

It was tough to choose between air quality and water quality, when participants were asked to talk about whether one is more important than the other. **Generally, participants agreed that since you need both, you really can’t say one is more important than the other.**

- ➔ “You need both in order to survive.”

Interestingly though, in each group it was noted that water pollution is generally a much more visible problem than is air pollution (setting aside the brown cloud, of course). While this isn’t necessarily always true – certainly clear-looking water could be polluted – **it’s notable that people feel that clean air is possibly something that’s easier to take for granted.**

- ➔ “Air quality is easy to overlook for most people...people think plants and stuff balance it out.”

The relationship between air quality and water quality was clearly not understood. Even though it was mentioned by one or two people in each group at some point, the way that one affects the other wasn’t clear. People thought that they were probably related in some way but couldn’t say how.

THE AIR QUALITY IN DENVER

This was a topic of great discussion among Denverites in the focus groups. In trying to describe the air quality in Denver, people almost automatically began to comparing it to other places. Of course, any discussion of Denver’s air quality would be remiss if didn’t at least mention the brown cloud. For some, the brown cloud defines the air quality in Denver as poor.

Others wondered why the brown cloud was so prevalent on Denver's skyline versus other major metropolitan areas that have a comparable population, if not larger. One person commented, for example, "I just moved here from Dallas and I had never seen smog clouds over Dallas, hardly." Another person explained that, "It gets stuck against the Front Range."

Interestingly, because the brown cloud appears to be isolated to the Denver area, participants tended to feel that they had an escape from bad air by going up into the mountains (barring the presence of a forest fire). This tended to make people feel that while the air in Denver certainly isn't the best, the problem could be far worse. "I don't have anything to compare it to because I've been here for most of my life...but I just get a sense that even though you can see the brown cloud and yes, that's not good, we probably have it better than a lot of places."

- ➔ "It's sort of depressing when you're coming back from the mountains, hiking or skiing, and you drive back into Denver and you see the cloud, and it's like, I have to go back in and breathe that."
- ➔ "I think when you're living in it, you don't notice it as much. But like I live south so I can really see it when it's got that brown cloud...but I don't notice it where I live, and there probably is still air quality problems there."

Since most people were aware of the air quality problems in Los Angeles and surrounding counties, they tended to contrast Denver with that. Generally, it was agreed that Denver's air quality is certainly better than L.A., even if it isn't the best.

There was also a perception that Denver *is* taking action to make their air quality better, and in fact, that is has improved in the past 10 years or so. They noted that the availability of new options for transportation such as carpooling, electric vehicles, and scooters.

- ➔ "Wouldn't it (our air quality) be better because of our public transportation here is really good as opposed to other cities like Atlanta that rely on cars so much?"
- ➔ "It's not nearly as bad as it was, I think they're improving it a lot."
- ➔ "It definitely has its good days and its bad days, but it's not as bad as it could be for a city this size."
- ➔ "You have the bike sharing here, you have the car sharing, a lot of things have changed just in the past 5 maybe years. The public transportation here is really nice."

FACTORS THAT AFFECT AIR QUALITY

The following table provides a summary of the factors that focus group participants identified as factors that affect air quality. The table has been divided into contributions that individuals make, versus those that industry makes.

The numbers in parenthesis indicate the number of groups in which a factor was mentioned. More topics were mentioned throughout the remainder of conversation, but these were what was top-of-mind for participants.

<u>Factors contributed by individuals</u>	<u>Factors contributed by industry</u>
<ul style="list-style-type: none"> ~ Cars / automobiles (3) "Too many cars on the road negatively affects the air quality, on a consistent basis." ~ Wood-burning (1) ~ Construction (1) 	<ul style="list-style-type: none"> ~ Industrial pollution (2) "...like commercial byproducts, like in Commerce City you can just see them throwing it right out into the atmosphere." ~ Animals (1) "They actually do play a surprising effect...cattle are now the number one cause in the United States for pollution in the air." ~ Spraying chemicals to reduce insect problems (like mosquito prevention programs) (1)

A few participants noted that everyone is going to have some impact on air quality, and that one's responsibility really is to reduce their "footprint," so to speak.

Even more natural contributors like forest fires, which admittedly could be created by a human, were discussed. A couple of groups also noted that air patterns can affect air quality too. In every group, at least one person noted that winds help to clear out pollution, although it probably just relocates the pollution to a location further east.

➔ "How about when the forest fires are going on, the air quality's really bad...the whole town was black and cloudy."

When asked whether individuals or businesses have a greater impact on air quality, the knee-jerk reaction was to point to businesses. It was generally only after a little more thought that participants acknowledged how great individuals' contribution really is, especially en masse. Still, there were a few people in each group who held to the idea that businesses create an exponentially larger impact. Manufacturing companies and more specific types of businesses were also thought to carry greater impact.

➔ "Businesses can affect things on an exponential level."

➔ "We're really fortunate here in Denver too; a lot of our businesses aren't big manufacturing companies. That's key too."

Interestingly, in each group at least one person noted that businesses are partially to blame for poor air quality because they control the amount of impact that an individual is able to have. In other words, in being slow to introduce alternative solutions to driving gas-fueled cars, for example, industry impedes an individual's ability to make better choices as a consumer.

It was easy to see how individuals could have a tremendous impact on air quality, even if it seems that businesses have more. No one tried to suggest that individuals and their lifestyle choices aren't at least in part to blame for air pollution.

➔ "...When you consider how many people drive cars, I think the contribution automobiles make in comparison to the number of industrial organizations that are out there..."

➔ "I think it's lifestyle. When you talk about the carbon footprint factor, there's a lot of people who just don't care."

ACTIONS TO IMPROVE AIR QUALITY

All participants named what steps they felt they had taken to help reduce their personal impact on air quality. They also discussed terminology like “ground level ozone.”

ACTIONS TAKEN

Most actions that people said they have taken were related to their transportation habits. Since cars were top-of-mind contributors to air quality issues, it isn’t too surprising that participants immediately began to talk about ways they had changed their driving habits. Most people mentioned changes like taking the bus or the light rail, while others substituting by riding their bike.

Participants noted that they had also sometimes opted to walk to their grocery store that was a few blocks away, rather than drive. Two people even said that they had sold their only car several years ago and were living without one.

Changing transportation habits was noted to be beneficial in multiple ways, too. People were seeking ways to save money or be healthier, and reducing the amount of driving was an effective way to do so. It was clearly a socially accepted lifestyle change to make.

- ➔ “We carpool and we do catch the light rail when we can, so we put forth the effort, too, even though I’m a little unaware of air quality...I know that that little step, I know that if a lot of people took that little step, it would be better.”
- ➔ “I actually purchased a hybrid vehicle.”
- ➔ “I started taking public transportation and just using my bike, and when I had the opportunity to get another vehicle, I didn’t...I didn’t need it to get around.”

A couple of participants noted that they had taken some different types of responsibilities to reduce their impact. One woman noted, for example, “We maintain maintenance on our vehicles.” **While this wasn’t top of mind for most people, it was apparent later during conversation that helping one’s car stay as efficient as possible was also an important part of reducing impact.**

Actions that people take to help the environment in general were thought to have a side benefit of helping air quality. As noted earlier, participants didn’t always know exactly how air quality was being impacted by certain actions, but it wasn’t a difficult stretch to see how doing some things such as recycling could ultimately help air quality.

- ➔ “We have the air temperature set a little higher for the air conditioner.”
- ➔ “I’ve always chosen to live close to where I work, I drive an energy efficient car and I buy the wind energy...and have a swamp cooler instead of an air conditioner...”

Air quality within the home was noted to be very important too. While participants didn’t always make a connection between household air quality and air quality at large, they did note that the use of chemicals in the home could affect the air quality within the walls of the house.

- ➔ “Start with the air you’re producing in your own house, like getting household cleaning products that are non toxic, and there’s plants even that you can stick in your house...”

TOP-OF-MIND THOUGHTS ON “OZONE POLLUTION”

Ozone pollution brought to mind the destruction of the ozone layer. In every group, participants basically discussed the same concepts using words like “atmosphere” and protection from radiation and the sun.

- ➔ “We have this little tiny layer of atmosphere around our planet, and then there’s nothing. But we’re destroying it.”

Participants also tended to think back to products they had understood to affect the ozone when they had heard messages about it in the past. They recalled aerosol cans, CFCs, Freon, and non-biodegradable things in landfills. A person noted, “I think that’s another one, too, is you have all these giant landfills and bulldozers and stuff bringing in all this trash. So I think recycling definitely helps.”

Most believe there is probably a correlation of some sort between ozone and air pollution, but it’s difficult for many to understand how it all ties together. In every group participants basically agreed that they’re two different things, but that one likely affects the other. They used phrases like, “One begets the other” and “Ozone is a type of air pollution” to explain.

- ➔ “I kind of think of them in the same breath, I don’t distinguish between them. I mean, they’re both bad.”
- ➔ “I think of it as like an immediate impact and a future impact. Because your air pollution is an immediate impact on the human species here right now. But when the ozone layer, if it burns out, if it gets a hole in it bigger than what it is, it’s going to harm more than just us down here breathing.”
- ➔ “There’s a relationship there, but there’s two pretty important differences.”

GROUND-LEVEL OZONE

Only one person out of all three focus groups mentioned ground-level ozone at this point during conversation (without naming it as such). She commented, “I think there’s ozone down lower and you’re speaking of the ozone that helps protect us up there and I think those are two different things.” One other person did mention, “I know there are electrical products that produce ozone.”

Out of all groups only three people expressed that they had actually heard the term “ground-level ozone.” They were not able to talk very thoroughly about it, however.

- ➔ “I can’t remember what causes it but it’s not good for you. I know some of the air purifiers...produce a certain amount of ozone and it aggravates asthma...and I’m not sure what else produces it.”
- ➔ “Is that like what they talk about on the news in the morning – red level or yellow level ozone alert?”

SOURCES OF OZONE POLLUTION

Participants were able to name a number of pollution sources, but tended to think mainly of chemical compounds that are not now in use. As noted earlier, they again named carbon monoxide, aerosol cans, chlorofluorocarbons, Freon (refrigerants), and the composition of gasoline used in cars.

A few people mentioned sources over which they have more control, during this unaided part of the discussion:

- ➔ “Mowing our yards, the vehicles that we drive...and I’ve seen the signs on the side of the road that say like don’t mow your yard tomorrow or something like that” (This was immediately followed by another participant asking, “Why is that bad, does anyone know?”)

When asked, participants agreed that small engines could affect air quality. So while this wasn’t top-of-mind, no one argued that these could contribute to air pollution. For the most part, though, the full impact wasn’t understood – people agreed that they have an affect but didn’t feel comfortable enough with the topic to elaborate a great deal.

It follows that **it was difficult for participants to say how much impact simply changing mowing habits, or even the use of other devices with small engines like snow blowers, would help.** They also weren’t sure how they were supposed to change mowing habits. A couple of people surmised that perhaps they were meant to mow less. The ability to create impact only seemed to make sense when they started to think about the sheer number of people mowing.

A couple of people recalled that time of day is an important factor related to mowing. A somewhat greater number of people remembered something about filling up your gas tank at a specific time of day.

- ➔ “My daughter...in her neighborhood, if you get caught mowing your grass before 5 pm, you get a ticket.”
- ➔ “You’re not supposed to fuel your car at the high heat of the day because of the evaporative nature of fuel or whatever.” (Six had heard that before, one of whom specifically mentioned hearing it on the news.)

“I think that when the public is educated about the issues, people are more willing to change, if it’s something they can connect with they’re more likely to change.”

Household chemicals weren’t top-of-mind for most participants, but as noted earlier, it was acknowledged that they affect air quality. This was fairly well known, so when participants were asked specifically about household chemicals, about half of participants in each group were comfortable talking about it.

- ➔ “Not using commercial cleaners, using natural cleaners, and using different kinds of cloths. It’s a major source of indoor air pollution, cleaning solutions.”
- ➔ “There are a lot of toxins in household products, and there’s all these fumes that are in our house.”

In two groups, participants noted too that household chemicals also affect air quality because oftentimes they end up going into the water supply. In turn, they supposed this could evaporate and create air pollution in addition to what it does to our water.

- ➔ “Everyone is too quick just to dump things down the drain.”
- ➔ “Even indirectly sometimes, things we flush down the drain...it just gets absorbed back into our environment.”

“I think a lot of the products are getting better – they have the ozone paints. That’s part of the progression, but it’s getting everybody aware. I know if I were more aware of what I could do, I’d do it, but I don’t know.”

BARRIERS TO ACTION

All throughout the focus group discussions, participants frequently commented on barriers to taking action toward reducing impact on air quality. Understandably, the barriers differed depending on a given action. Barriers ranged from complete unawareness to the human desire for convenience. The barriers discussed during the groups are shown below:

- ➔ **A lack of options / alternatives** Participants noted that as consumers, they are somewhat at the mercy of what products are made available to them. They used diesel cars that are available in Europe, but not the U.S., as an example.
 - ⇒ “I think corporations are a block...in Europe you can get diesel cars that get 70 MPG”
- ➔ **The trade-off of convenience versus doing the “right” thing (a.k.a., How is this going to affect me?)** Awareness and information generally weren’t barriers when it came to things like transportation habits or recycling. This came down to “the will to make a change” and how that balances with personal convenience. For example, it was accepted among participants that driving less is better. One alternative to driving is public transportation, but using that system often means giving up some convenience.
 - ⇒ “Trying to organize your life around the modes of transportation you use.”
 - ⇒ “If you’re going to take light rail you have to leave earlier to get there...(driving) is just simple, it’s easier.”
- ➔ **The trade-off of cost versus doing the “right” thing (a.k.a., What’s in it for me?)** Groups also discussed the fact that, generally, products that are better for the environment also tend to be more expensive. This forces an individual to revisit the trade-off between spending more on a product that won’t necessarily affect their quality of life (at least, by their own perception) versus spending less.
 - ⇒ “You’re making a decision to pay a lot of money now for hopefully something that may be better (down the road), but you individually aren’t going to benefit from it.”
- ➔ **Information** This included even information available to individuals who are actively seeking it. A woman pointed out that she might like to understand, for example, if it is better for her to simply keep her less energy efficient refrigerator versus buying a new one. If she buys a new one, the old one will have to be disposed of – so which way is it better for her to proceed?
 - ⇒ “People don’t know how to weigh the benefits and the costs to make the right decision, so you don’t have the right information. Or people think that ‘It’s just me doing this, what is one person going to do that’s going to change anything?’”

INFORMATION SOURCES AND COMMUNICATIONS

Each focus group was asked to talk about communications they had seen or heard related to air quality and environmental issues in general. They then discussed recommendations for reaching out to others like them.

COMMUNICATIONS PREVIOUSLY NOTICED

Messages or topical information that participants had seen are summarized below:

- ➔ **Air quality “scale” on the news.** Several people noted that, “In the wintertime, it’s on every night in the news.”
- ➔ **Ozone alerts on highway signs.** These were somewhat frequently recalled by focus group participants. One woman commented, “On I-25 there’s a big electronic post that has warnings, tomorrow high ozone, please carpool, so they’re putting some of those advisories.”
- ➔ **Being an aware consumer.** While this was less common, there were a few participants in each group who felt that they try to keep themselves informed about some environmental issues by way of documentaries or other sources that help them keep up with the news. One young lady mentioned, “After the documentary that Al Gore did, I feel like after that there was a real big media push in air quality and I feel like that’s maybe where I picked up some of this stuff. But I feel like it’s sort of gone back into the shadows.”
- ➔ **Air quality as a political issue.** A couple of participants noted that they feel they hear more about environment issues such as air quality around election time.
- ➔ **Messages about pollution on buses, the light rail, and the mall shuttle.** While not top-of-mind, generally if one person in a group mentioned having seen these, others would chime in and say that they had, too.
- ➔ A couple of people also noted hearing about buildings that were being built more “green,” such as a Wal-Mart on Tower Road. “That Wal-Mart on Tower, they have one of those windmills things...they have no lights, the building is completely ran on solar.”

WHERE YOU WOULD LOOK FOR INFORMATION

As would be expected, the Internet would be a first stop for many people, if they were to desire to learn more about air quality. They explained that they would use Google to search phrases like “air pollution,” “air quality,” “ozone,” “depleting ozone,” or even “air quality, how do I help.”

Participants said that they would like to be able to find information from government or non-profit sources. Information on a local level was also desired, especially if dispersed through a fairly trustworthy source such as local news stations.

- ➔ “Maybe if you could go to the health department for the city or the EPA.”
- ➔ “And I think the news media is crucial to us knowing what’s going on in our world...they’re the ones that bring us to light...I actually like it when they provide links so you can go get more information.” (Many agreed with this.)

BEST WAY TO REACH PEOPLE

Perhaps in part because they wanted to be able to get more information, news channels were suggested as a good way to reach people with air quality messages (in the form of information). They also mentioned other information sources like magazines and newspapers.

- ➔ “I like it on the news channels, like the running stories that will tick by. I like the feed there.”
- ➔ “I like magazine articles that are detailed and that kind of give the big picture and then the smaller picture. This is what it looks like overall and this is what it looks like where you live every day.”
- ➔ “I don’t really see a lot of stuff on the news about air pollution or air quality, at all...if they say something about air quality it just briefly touches on it but it never really informs you of what you really need to know. Because a lot of the stuff we’re talking about, I’ve never heard about it.”

The temporary construction signs used along the highways and roadways were well-liked and easily recalled by quite a few participants. A participant commented, “Temporary construction signs up saying ‘No mowing between this time and that time,’ which is how I knew about the mowing...I think that was a good way – that stuck with me.”

Participants also liked the idea of using YouTube or Facebook as ways to reach them. A young man noted, “There’s a lot of people on YouTube...might actually be one of those outlets that might get some attention.”

Also mentioned were radio ads that could be run during drive times while people are in their cars, at sporting events, or even ads on gas pumps. Utility bills were also noted to be good sources of information as most people pay attention when they are reading through their charges. Messages that tie to conservation and air quality may get noticed.

Informative messages that help quantify what an individual’s impact could be are a popular approach. In addition to educating people, participants thought this could help motivate them, too.

- ➔ “I think hearing things, like there’s this many people in the metro area and there’s this many lawnmowers and if everybody switched to electric or manual, this is what it would do. Or if you have your own (grocery) bags, like the re(usable) bags...what does that do? How many bags do I use in a year? ... I think in that way, people feel more empowered, and like they are making a difference and they feel more positive about it and more likely to keep going.”

Finally, participants also recommended more grassroots approaches to reaching Denverites by having a presence at local events like farmer’s markets, localized festivals at parks, and Taste of Colorado.

ADVERTISING TONE TESTING

Participants were shown a series of four air quality-related messages in the form of television ads. Each was from a different location in the country, and used a different means for communicating a message about air quality. Feedback was gathered on these four ads, and an analysis of that feedback is provided below. Verbatim responses collected via written exercises are provided in Appendix A.

As a part of their worksheet, participants were asked to choose one ad that they best felt matched the descriptor at the top of each of the following columns (to choose which they found to be “Most Attention Grabbing,” which best “Incites Action,” etc.). In this chart, responses to the exercise have been tallied to show how many people responded in a particular way to each ad.

<u>Ad Location</u>	<u>Most Attention Grabbing</u>	<u>Incites Action</u>	<u>Negative Reaction</u>	<u>Most Effective for Denver</u>
Mid-America Regional Council	6	9	4	10
Tulsa	2	17	10	11
Sacramento	17	7	11	3
Maricopa County	16	3	8	8

The ads are each reviewed individually on the following pages, but the table helps bring to light the preferences for each category. The “funny” ad from Maricopa County and the fear-based ad from Sacramento were most attention-grabbing, but because they didn’t provide action items (aside from showing a website to visit which was not favored by participants), they were deemed less likely to incite action. The Tulsa and Mid-American Regional Council provided information that was thought to be much more applicable even though they weren’t always deemed the most stimulating.

MID-AMERICA REGIONAL COUNCIL



Participants liked that this ad was simple, and instead of making a person feel guilty, provided some steps toward making improvements to air quality. A few people really liked the cartoon appearance of the ad and the catchy tune used throughout. The simplicity and action items, however, were noticed the most.

- ➔ “It was a very simple ad with appeal across the board...you didn’t have to hear anybody talking to understand it”
- ➔ “It tells me what I need to do to make a difference, as opposed to just making me feel bad.”
- ➔ “It doesn’t invoke a feeling of guilt...it’s lighthearted, it shows you what you need to do, it’s reasonable, it’s simple.”

Participants who didn’t care for the ad as much said that it looks like it’s for children, and that it was difficult to relate the ad to air quality. This ad simply wasn’t as eye-catching to some participants who didn’t care for the cartoon look. Others said that they didn’t tend to connect the ad and all of the action items immediately to air quality.

TULSA

The ad from Tulsa tended to be one most thought to incite action because it gave quick and easy tips for helping air quality. Even though it didn’t explain why each of these actions were necessary, participants liked that the ad made a distinct connection between improving air quality and several simple actions that could be taken by an individual to help.

- ➔ “It was the only one who told like, gave me a recommendation of something I could do to help...if nothing else, I’ll get gas after 6 if I can.”
- ➔ “I didn’t know that about gas or mowing the lawn...and now I know. And it’s a simple fix.”
- ➔ “The cheesy guy might catch my attention.”



A couple of people agreed that the ad would be good for Denver since in the beginning it talks about remembering how great Tulsa was. It creates a sense of being proud of, and wanting to take care of, where you live.

Participants who didn’t care for this ad as much said that it seems like just another news clip and felt that it might not get noticed.

SACRAMENTO



The “scariness” of this ad gets it noticed, but it’s too difficult to draw a connection between the dangers featured in the ad and a message about air quality. Upon seeing it during the groups, focus group participants felt that the message was lost. It was hard to understand the point of the ad with all of the dangers presented during the beginning of the ad.

- “Even though, I know the context of what we’re talking about, but I didn’t even know what they were talking about in the ad. I knew I was scared, but I didn’t exactly know what I was scared of. It just reminded me that the world has lots of scary things.”

Participants who didn’t care for the ad also noted that it didn’t provide any solutions. Even though a website was provided at the end of the ad, they said that they would rather have solutions given to them during the ad.

- “That’s what I didn’t like about it, is it scares you but it doesn’t tell you what to do about it.”

Those who did like the ad felt that it was very attention-grabbing, and liked that it addresses the fact that air quality is often a forgotten issue. Participants noted that the pictures were quite dramatic, and a couple of people felt that the child’s voice narrating the ad was attention-getting.

- “I liked it. It made you think differently about air quality which again, we all take for granted. All these other issues are taking center stage...and then you’re just like ‘Oh, and air quality?...it got me curious, it made that association for me.”
- “It gets the point across that you can’t see it and you’re not aware of it.”

MARICOPA COUNTY

The Maricopa ad catches attention because it’s entertaining and humorous. It was also thought to be fairly relatable. A few people noted that they’ve actually felt that way before, too – they’ve been in situations in which they are reluctant to breathe in the air.

- “I think it got the message across, and also it was kind of entertaining.”



- ➔ “She’s young, she’s in shape, and she drinks coffee. I think that describes more young people in Colorado than any of the other three.”
- ➔ “I think that’s the type of commercial that people would see and then come to work and talk about it. and then when people are talking about it, they’ll start doing it.”

Those who didn’t care for the ad noted that it doesn’t provide any solutions, and what’s more, the woman in the commercial is actually a part of the problem. Once again, participants stated a preference for simply being provided with solutions instead of having a website provided, which they said they would be unlikely to use.

- ➔ “I didn’t like the Maricopa one, particularly. You’re getting a cup of coffee, I mean come on. Drink it at home...she’s contributing to pollution sitting at a drive-through.”
- ➔ “It was funny, it caught my attention, but it didn’t tell me what I need to do. Do I need to hold my breath? ...and then I think the worst part of that was the last line, when the guy said ‘before it’s too late.’”
- ➔ “Just give us the answer...a lot of people don’t want to spend time searching for it.”

RAQC – AD & WEBSITE FEEDBACK

In the final section of the guide, participants were asked for feedback on two television ads, a set of outdoor ads, and the RAQC website.

TELEVISION ADS

Several participants in each group said that they vaguely remember having seen at least one of the RAQC ads. Aside from a few participants who felt that the RAQC television ads weren’t very attention-grabbing, the vast majority of participants stated a preference for the RAQC ads to the first four that they had been shown. Between the two RAQC ads, the car ad was a slight favorite among the groups.

THE DRAGONFLY AD

Quite a few participants liked the colors of the dragonfly ad and felt that it holds a viewer’s interest. Some people really liked the visual appeal of the first ad, and felt that the mention of ground-level ozone might generate curiosity.

- ➔ “I do like the first one a lot more...it’s a whole lot more captivating, it holds your interest, and you don’t have to have a car in order to relate to it...quick and informative, and directs you to a very specific place.”



- “The first one...I have no idea what ground level ozone is so I might be curious and check out the website.”
- “The first one seems like it’s more geared toward people who are outside.”

People who preferred the car ad said that the dragonfly ad isn’t quite as captivating, and didn’t provide actionable suggestions. Yet again, participants expressed distaste for having to search for answers. They just wanted the information provided to them rather than having to seek ways to reduce their impact on air quality.

- “It didn’t give you straight examples.”
- “Just give them the answer, don’t give them homework or something like that.”
- “I don’t feel like the first one gave any call to action.”
-

THE CAR AD

The car ad seemed to be slightly favored to the dragonfly ad by focus group participants. It was heavily favored to any of the ads shown from out-of-state agencies, too. It was most preferred due to the fact that it gave three simple and easily actionable ways that a person can help with air quality issues. A few people also liked that the ad began by addressing people who drive a car and breathe the air, which made it immediately relatable.

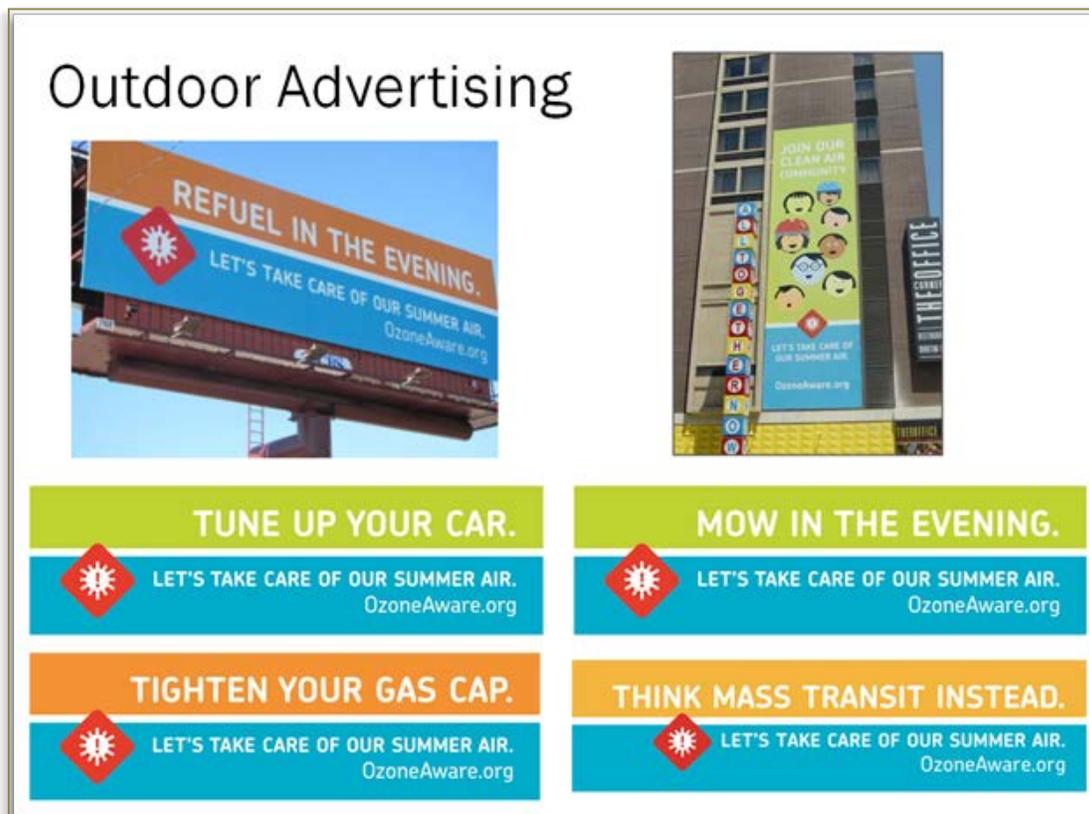


- “The second one actually gives you action items, resembled the Tulsa one and that’s why I liked that better...as opposed to giving me a website.”
- “These are better, they talk straight to you...like the Tulsa one, they are talking directly to you and addressing it...there’s this problem, here’s what you can do.”
- “The second one made me think, ‘Why should I put gas in after 5, or was it before 5, oh after 5. Why would I do that?’ What’s the reason?”
- “I think the second ad would make me think about the time of day I get my gas.”
- “That’s the thing too is that the second one might make people talk, make them ask, ‘Why does it matter?’”

A small minority of people cautioned that these ads might be a little too passive and more easily lost in the shuffle. A few people thought that the cartoon type ad made it slightly less relatable. Still others wished that the ads, even if cartoons, should have something that relates them to Colorado to make it more relatable and personal.

- ➔ “I could have mistaken the second one for selling me a car...and I would have totally glossed over.
- ➔ “I feel like if it’s intended to be played in CO, it should have some sort of CO flavor. That felt like it could be played anywhere.”

OUTDOOR ADS



A few people in each focus group recalled seeing one or more of these ads. The ad in the upper right hand corner was one that was most memorable given its memorable location downtown.

The fact that the billboards give simple and actionable suggestions is good, but it’s difficult to tie them immediately to air quality which makes them a bit off-putting. The minimal amount of text on the ads is a good feature, and the fact that they provide suggestions is good.

- ➔ “They’re short and to the point.”
- ➔ “They’re direct. That’s what I need. (The one with the faces) I would think it was some kind of social message for children.”

Participants indicated that the billboards actually came across as being somewhat bossy, and because it's difficult to relate them to a good purpose – that is, improving air quality – they aren't as likeable as they perhaps could be.

- ➔ “I don't like being told what to do. Like, tune up your car. Well, why?”
- ➔ “Don't tell me what to do!”
- ➔ “When I look at all of those, that doesn't come to me as getting rid of pollution or anything. The mass transit and clean up your car, that's more of cleaning the air (versus the other slogans that he doesn't relate to air quality).”

Although the outdoor ads made people wonder ‘why’ they were being told to do a certain thing, it didn't translate to a desire to go to the website shown in order to learn more. This could be in part due to the previous comments made about not wanting to do research.

- ➔ “I don't think if I read that, I would understand why. Maybe they don't want you losing your gas cap.”
- ➔ “As far as tightening the gas cap and mowing after 5, I would like to know why.”

Relating the action item to a personal gain might help incite action. In other words, participants in all groups suggested saying something on the billboard about how the action item would benefit the reader or at least how it would help air quality.

- ➔ “Save ‘x’ amt of money, and go to ozoneaware.org...as opposed to tune up your car, great, I get to go spend a couple hundred dollars...”
- ➔ “These ads could be manipulated just slightly to give people an incentive... ‘Want to have a more fuel efficient vehicle? Tune up your car’ ...the side effect of this is clean up the air.”
- ➔ “If they gave me like, ‘Well if you tune up your car you can save this much mileage.’”

The appearance of the outdoor ads received mixed reviews. A little over half of participants felt that the ads were too uninteresting and that the colors should be more vibrant. They wished that that the space on the billboard had been more effectively used to share more information. They didn't seem to understand the red diamond shape.

- ➔ “There's a considerable amount of real estate on these ads spent on repeating the same line, the catch phrase (let's take care of our summer air)...they could possibly use some of that space to explain why somebody should mow in the evening.”
- ➔ “My attention is drawn to that red exclamation point bomb.”

Others liked the appearance, and one person noted, “I do think it's very effective though, the contrast and that little symbol, it's reddish so your eye gravitates toward it.” Another person mentioned, “...there's something about the diamond in the middle that draws me to it.”

RAQC WEBSITE

Participants expected that the RAQC website would be home to a lot of evidence and statistics explaining how an individual's behavioral changes could reduce impact on air quality. In addition to explaining what ground level ozone is, participants said that they wanted quick and easy to understand information related to actions they can take. That is, they wanted to know not only what they can do, but also why it's effective – why it matters. They suggested including links to additional information, too, for people who want to further explore the topic.

- ➔ “What percentage of certain things causes this much damage, or if you cut down on blah, blah, blah, this is what will happen.”
- ➔ “I would expect a lot of statistics, easy to understand, that says if this happens, then this happens, and it's proven...(not) ‘it's just better’...I need the ‘why’.”
- ➔ “I want to see interesting facts that would really make me want to understand more about making the air quality cleaner and better...if there's interesting facts and interesting research, then it will hold peoples' attention more.”
- ➔ “I'm sure there's statistics like on people driving around on tires with lower pressure in the tires, how much they could save, and then they could help the air.”



Ozone alerts do seem valuable, but participants suggested something other than email delivery – by text message, for example. Additionally, participants suggested offering preferences for signing up. For example, instead of receiving an update every day regardless of the air quality, being able to choose to receive updates on days when the air quality is extremely bad.

- ➔ “I like that, especially if you don't watch the news every day.”
- ➔ “Maybe (allowing people who sign up) to set up some preferences, like if it was extra, extra bad, like shoot me a notice.”

Most people said that they probably wouldn't sign up for Ozone Alerts unless they were offered an incentive to do so, or if they had a family member who would benefit from the alerts. Participants suggested a drawing for an iPod might be a good incentive. They liked the idea of sporting event tickets, but also said it depends on what they sport is – naturally, more sought-after tickets are a more tempting incentive.

It's worth noting that it might help to make people understand how an Ozone Alert affects them personally, in order to create interest.

Taking a pledge is perhaps less likely to happen because of an incentive, and more likely to take place because of personal support for an issue. Older participants especially tended to agree with this point. Others tended to think of other pledge campaigns, such as the ‘don’t text and drive’ pledge and the ‘don’t shake a baby’ pledge. A few people agreed that they would be more likely to change their behavior after taking a pledge – but still the bottom line tended to be interest in, and support for a given cause.

- ➔ “I’m either going to do it or I’m not. A pledge isn’t going to make me do it more...if I like the message, then I’m just going to do it.”

Participants in all groups suggested that in addition to taking a pledge or signing up for Ozone Alerts, follow-up communications would be key to the ongoing successfulness of RAQC’s message. Participants all seemed to like the idea of follow-up texts, for example, giving easy tips for people to follow related to helping air quality. This could help keep people accountable but also help keep air quality top-of-mind.

- ➔ “I think if it’s followed by texts or emails that remind you, like things to do, it makes it easier and it stays on your mind.”
- ➔ “I think if you signed up and then they sent you daily alerts...but then also with that text give you a tip on something you can do that day. Just like fill your tank up after 5:00 p.m.”

A couple of people also suggested that sending people quick texts as to how their behavior changes are actually helping to lessen impact on air quality (after taking a pledge). This would help motivate people to continue taking action, similar to utility bills that show usage compared to a neighbor’s use, for example.

Participants also recommended that RAQC should spread the word about a pledge and/or the ozone alert system via a news story, or by getting a newsperson to champion their cause.

APPENDIX A: VERBATIM RESPONSES

Throughout the focus groups, participants were frequently asked to record their initial thoughts on particular concepts by writing them down on a worksheet provided. This is commonly used as a method for obtaining thoughts from participants before conversation takes place so that their top-of-mind responses will be recorded before their opinions are potentially swayed by what they hear from other participants.

The responses below were copied verbatim from the worksheets. Misspellings and errors in punctuation have not been corrected. These responses have been taken into account within the analysis in the body of the report, but are provided in their entirety herein for the purposes of documentation.

FIRST WORDS THAT COME TO MIND ...

<u>When you hear the words “air quality,” what are the first words or short phrases that come to mind?</u>		
<ul style="list-style-type: none"> ~ Smog / health ~ Health, fire restrictions, safety, allergies ~ Bad air, good air, health ~ Bad and polluted ~ Clean energy ~ Smog ~ Ozone haze ~ Pollution, important ~ Life and breathing ~ Breathe well 	<ul style="list-style-type: none"> ~ Filtration, economy-conscious products, alternative fuels, alternative transportation, testing and measurements, standards ~ Need improvement ~ Pollution ~ Plant trees everywhere for oxygen, clear up pollution in the air ~ Pollution, ozone ~ Not good hard to breathe ~ Needs help worldwide, accountable standards ~ Clean air, need clean air ~ Pollution 	<ul style="list-style-type: none"> ~ Polluted & poor ~ Smog, pollution, brown cloud ~ Pollution / brown cloud ~ Clean, blue, breathe! ~ Pollution, smog, clean, carbon emission ~ Windmill, breathability, breeze, green, clear ~ My son’s breathing issue caused by bad air ~ Emissions, dirty cloud, important to improve our Denver air ~ Transportation

TV ADVERTISEMENT STYLES

RANKING CHART

As a part of their worksheet, participants were asked to choose one ad that they best felt matched the descriptor at the top of each of the following column (to choose which they found to be “Most Attention Grabbing,” which best “Incites Action,” etc.). In this chart, responses to the exercise have been tallied to show how many people responded in a particular way to each ad.

	Most Attention Grabbing	Incites Action	Negative Reaction	Most Effective for Denver
Mid-America Regional Council	6	9	4	10
Tulsa	2	17	10	11
Sacramento	17	7	11	3
Maricopa County	16	3	8	8

In addition to ranking the ads, participants were given room to write notes related to each ad, if they desired. These have been recorded in the following four sections.

MID-AMERICA REGIONAL COUNCIL

“This approach is more effective than others because it does not invoke a feeling of guilt, give the appearance of manipulation to obligation, and is light-hearted”

“Cute”

“Good visual options of what to do”

“Bird”

“Ok”

“I found this pretty silly and ineffective”

“Ad could work here in Denver relating to families and family well being overall health”

“Like jingle/music! Whistling!”

“Eye-catching but boring... horrible musical tune”

“Family actions that affects our breathing air”

“Fill tank in the evening / Don’t lawn in day”

“More for kids, but easy to watch, short msg but not a variety of actions”

“Kids”

“Birds, breathe, easier”

“Already heard: cutesy”

TULSA

“Effective advertisement, no action”

“Really bad”

“Not sure how email and cell phone cause pollution, relevant to their city”

“More information as where to go”

“Silly but makes a good point”

“Seemed very state and bland and non effective. Just another news announcement”

“Good info / not a good presentation”

“Would be more effective if personalized to individual cities, but seemed a bit hokey. Was informative, however.”

“Not really an appealing advertizment”

“Help kids in park / carpool”

“Gives a personal touch and action”

“Grasscut, fill car”

SACRAMENTO

“Invokes a feeling of guilt and obligation”

“True, can’t see it so it’s not top of mind”

“A child speaking grabbed my attention”

“Kids”

“Did not like, but may work”

“Sad, but effective truly makes you think about your children’s future”

“Very effective and had my attention because of it’s overall mood and dramatic effect and its warning unseen danger”

“Great!”

“Unclear focus, but effective correlation between other things with negative and harmful effects”

“Too many people population, too much driving confusing”

“Didn’t like”

“Hard to breath/holding your breath”

“Too dramatic, “scary”, no action”

“Sparc air”

“Fear based”

MARICOPA COUNTY

“Humorous, but not educationally effective”

“Good”

“Funny method to get point across, scare tactic”

“Attention grabber also constant action”

“Great”

“I really liked this because it used humor and makes a good point”

“Incites action by the women’s behavior makes

me think if air quality was that bad it would be devastating so why wouldn’t I want to take preventative measures”

“Memorable! People will talk about it!”

“Attention-grabbing + clever, great visual filter, humorous, easy to understand by anyone”

“Stupid, where would you do this at all. Lol bad air can’t breathe in”

“Like it but needs to give action”

“Funny and informing”

“Funny fear based”

RAQC TELEVISION ADVERTISEMENTS

- ~ Puts emphasis on the website, leaves education of “Ground-level ozone” up to the web browser user. 2) Very well done. Three simple points and a place to find the resource.
- ~ Nice animation/good voiceover, informative, titles not great- better type/design. 2) Somewhat irritating visually/more informative, nice music”
- ~ Wish they’d give some tips other than to just go to website
- ~ More animated
- ~ 2nd Very informative, give you good examples of how you can help as an individual
- ~ Tell you thing to do that not to good 2) Show you 3 thing to do for better air
- ~ Too much fill to make the final point- Idea to get people to the site 2) Better, gives directions on what one can do to help or not contribute as much to the problem
- ~ Like the web address. 2) I like it had things for you to do
- ~ Knowledge on what steps to have good ozone air
- ~ Attention grabbing / brief but informative
- ~ Simple to the point, feels like it would be effective. I have seen this & makes a good point more importantly give you options on how to take care of the air. I need to know what I can do to help & when I am told what to do I can + will do it!
- ~ Makes an informative statement about summer being higher ozone pollution season, with warmer weather.
- ~ How ozone affects everyone’s health. If you drive maintain your car.
- ~ Passive/did not like the lady’s voice. 2) Like this better! Good info! Perhaps use a bit more distinct colors.
- ~ Ozoneaware.org- dragonfly-generic- what is ground level ozone? 2) Car driving-gave 3 tips of things I can do
- ~ Ozoneawre.org: incites action, quick yet informative, encompassing. 2) Redundant, not as visually captivating, but still informative with easy-to-understand tips to help ... visuals not as effective.
- ~ Health, air quality, for all ages 0-100+. Hot summer days don’t drive or get gas after sun goes down. Direct, can’t really understand that doesn’t catch my attention.
- ~ Garden, bugs or insects flying around- colors. 2) Cars driving-specifies on what to do
- ~ Outside plantation (trees flowers etc.)
- ~ Affects insects as well, refuel after 5pm, less driving time
- ~ Seasonal, no action steps, animation kind of boring. 2) Gives steps, seasonal, only driving, calls out who the audience is=everyone who drives
- ~ Ad 2 was more informing, caught my attention
- ~ The second one was grabbing and more interesting, we all love cars. We need something that is going to be straight forward.
- ~ I like this one straight + to the point. Gives you examples of ways to help. Informative, clear.
- ~ Cute graphics, doesn’t give me anything to do, probably not going to website. 2) Gives me something to do, makes me more curious about website.
- ~ Have to go some where else. 2) Gives action items- too cartoonish?
- ~ First one was like saying go to web site for more info-who does that? Liked the 2nd one with steps to make a difference.
- ~ Can’t remember much: boring-no example, no solution 2) If u drive- the majority does but everyone must breathe the air
- ~ Spoke to ground level ozone... not familiar to me.

RAQC OUTDOOR ADVERTISEMENTS

- ~ I personally like the advertisement and layout
- ~ Message in blue field is lost/unreadable, darker orange
- ~ Good, clear message + relevant to most people & gives great steps to action
- ~ Quick information
- ~ Make the point for clean air thing to help you keep the air clean
- ~ I like that they give action. Could be better if they presented questions. Attention down to the exclamation point not the message. Poor color choices. Needs consumer benefit.
- ~ Bad did not like
- ~ Boring
- ~ Boring / no information
- ~ Not very eye catching but makes a point if you read it do not remember seeing any of these. The kids & blocks make me think it is a school or library nothing makes me think about air quality.
- ~ Good advertisement concerning car treatment and maintenance, which gets directly to the point of vehicle pollution, which has been related to air pollution for years.
- ~ Refuel in the evening: like this- but why should I refuel in the evening? 2) Tune up your car, mow in the evening, tighten your gas cap- tell me why? 3) Think mass transit instead: good-like this. Have no idea what the faces are about? Like the website on it.
- ~ Generic, not memorable, color scheme difficult to read
- ~ The pics of children are not effective and are instead distracting... I like the red symbol, as it helps focus attention like and alert or caution. Great color contrast, great bold, capital letters, great spacing, quick, clear, concise, and website provided.
- ~ Only is worried about summer, didn't like at all, need more information about different seasons, like billboard, more effective.
- ~ Not attention getting- not very interesting
- ~ Auto pollution
- ~ Tightin your gas cap for ozone
- ~ Like the billboard= action steps, Faces= I wouldn't read because it looks like kids, like the text advertisements
- ~ No very interesting. I would prolly walk past not paying any attention.
- ~ I like them- makes you ask questions
- ~ Unattractive graphics, hard to read in an instant, no whys
- ~ 1st sigh with instructions-good, Kid one/cartoonish- I wouldn't even bother to read
- ~ Never seen B-4
- ~ Gave quick examples of what to do... more effective

RAQC WEBSITE

- ~ Well done. Excellent UI. Text alerts, social feed?, actions, facts, outings/initiative
- ~ I don't like your color preferences, design, or layout
- ~ More awareness on the Ozone layer that is on the ground. Informational fill up your tank after 5p.m. (good to know). Bringing ideas to people to think about but why would I do all these things? Need to jazz up the sign the sign more with some kind of eye catcher.
- ~ Looks really helpful with lots of options to learn about the ozone
- ~ Tell you how to help keep the air good and help you breath better
- ~ Maybe include an option to put in your cell # for actionable text's declaring the day's air quality. People will always check texts.
- ~ I relate to the mass transit ad because that is what I use, and the billboard is something I would notice more than I would the ad on the side of the building except for the colors of the ad on the building. The billboard and the bottom ads are direct.
- ~ Pretty nice. A little too passive and not a clear level of credibility regarding who is running the site.
- ~ Makes me lose interest... I would rather receive alerts from a local weather station or something, in which I place trust + have experience. It is informative however.
- ~ What you can do the help our air quality very informative, very helpful, if you have time to surf the net. Need to get a text to phone about air.
- ~ Better informative about the solution and about the cause of polution

APPENDIX B: MODERATOR'S GUIDE

WELCOME AND BACKGROUND ON THE FOCUS GROUP (1 MINUTE)

Welcome. Thank you for making time to be here today. My name is _____ and I am with Corona Insights. We serve as a think-tank for our customers—we help them uncover the answers to their most important questions through market research, data analytics, and strategic consulting services. We are headquartered here in Denver.

We are working with an organization in the area that provides the public with information about air quality issues. The organization would like to hear from you regarding your opinions about air quality issues in terms of your own awareness and knowledge about these issues, your awareness of organizations that provide information about air quality, and your perceptions of various types of advertising that might be used to try and inform the public about air quality issues.

As you may know, we are conducting three of these focus groups in total. You are all here this evening because we thought that, as a group, you'd be fairly representative of a larger audience of the general public in the Denver metro area.

LOGISTICS (1 MINUTE)

So that's the big picture. Now let's talk about how this process will work. We'll be here for about 1.5 hours. Please help yourself to refreshments if you haven't done so already. If you want to get up to get more to eat or drink, or go to the bathroom, feel free to do so. We do have people observing to take notes, and we are also audio taping and videotaping the session for reporting purposes. Your comments will be summarized and reported anonymously, though, and we won't ever identify you personally as a participant. Finally, we promised to pay you \$80 for participating today, and you will be paid at the end of the session.

GROUND RULES (2 MINUTES)

Have any of you have participated in a focus group before?

The rules are simple: I'll bring up a topic, and I want to get your thoughts and opinions. Sometimes I'll ask a question and we'll just go around the table and get everyone's thoughts, and other times I'll just wait for anyone to answer. Feel free to respond to something that someone else says, and feel free to disagree, but please show respect for others even if you disagree with their opinions. There are no wrong answers. At certain points during our discussion I may poll the group to determine how many of you agree or disagree about a certain issue. This will be done to summarize opinions for reporting back to the client.

Keep in mind that we want everyone to participate. If you're not talking, I'll eventually notice and ask you for your opinions. On the other hand, if you're the only one talking, please recognize that and give others a chance to participate.

Finally, I may politely interrupt if you're talking about something that strays off our topics. No disrespect is intended if I do this, but we have a lot to accomplish tonight so we need to stay focused so we can make sure that we don't need to keep you beyond our scheduled 1.5 hours.

INTRODUCTIONS (10 MINUTES)

First, let's briefly introduce ourselves, using a "one minute biography." In one minute or less, tell us a few of the important facts about yourself: your first name; what part of the Denver area you live in; your current occupation; and how long you have lived in the area.

GENERAL AWARENESS OF AND ATTITUDES ON AIR QUALITY ISSUES (10 MINUTES)

We'll begin by asking some general questions about your opinions of air quality issues.

1. First, on the piece of paper in front of you, what is the first word or phrase that comes to mind when you think of air quality? [Moderator: go around the table after everyone has had a chance to write down their responses]
2. How many of you would say you know a lot about air quality issues in the Denver area? Some? A little? Nothing?
3. Is air quality important? Why (not)?
 - ⇒ How do you compare and contrast water quality and air quality? Which is more important? Why?
4. How would you describe the air quality in the Denver metro area? Please explain.
 - ⇒ Is the air quality in this area different than in other cities in the U.S.? Why (not)?
 - ⇒ Does it need to be improved? Why (not)?
5. What are some of the major factors that affect air quality? [Moderator: listen especially for individual actions that harm air quality]
 - ⇒ What affects air quality more – individuals or businesses?

ACTIONS TO IMPROVE AIR QUALITY (15 MINUTES)

In this section, we'd like to get your thoughts on actions that may be taken to improve air quality.

6. Have you taken *any* actions personally to minimize impact on, or improve, the environment in general? (i.e. carpool, turn lights off, etc.) Please explain.
 - ⇒ How about actions related to minimizing impact on, or improving, air quality?
7. When you hear the words "ozone pollution," what comes to mind? [Moderator: listen for differentiation between ground-level ozone and the ozone layer]

- ⇒ Is there a difference between air pollution and ozone pollution? What is the difference?
 - ⇒ How many of you have heard of “ground level ozone”? Why is ground level ozone, in particular, important?
8. [Moderator: See how answers to this question compare with #4] What sources of ozone pollution are you aware of that individuals like yourselves have direct control over? [Moderator: Allow time for responses, and then ask the following:]
- ⇒ Do you think that small engines like lawn mowers affect air quality? How much of a difference do you think people can make by changing their lawn mowing habits?
 - ⇒ Do you think that household chemicals affect air quality? How much of a difference do you think people can make by changing their habits around the house?
 - ⇒ Do you think that vehicles affect air quality? How much of a difference do you think people can make by changing their driving habits?
 - ⇒ Are there any other ways that you can think of that individuals can help improve air quality?
9. When you consider those types of pollution we just discussed, what are the most common barriers that may prevent you or those in your household from taking these actions to improve air quality? [Moderator: may need to re-state those that were most discussed – i.e. carpooling, mowing in the evening, etc.]
- ⇒ Do you have any ideas about how to remove these barriers? What would help you take these actions?

INFORMATION SOURCES AND COMMUNICATIONS (10 MINUTES)

Now we’d like to know about sources of information about air quality issues.

10. Have you recently noticed any advertising or communications related to general environmental issues other than air quality? [Moderator: Let answer below, then ask the same question about air quality]
- ⇒ What did you see, in particular?
 - ⇒ What was the message?
 - ⇒ Where did you see it?
11. For those of you who know quite a bit about air quality issues, where have you learned about those issues? [Moderator: listen for specific organizations or sources rather than just “on TV” or “online”]
- ⇒ For everyone, if you wanted to learn more about air quality issues today, where would you start looking?
12. Have you recently noticed anything in the news about air-related issues? Please explain.

13. What is the best way to reach residents like you with messages about air quality? i.e. Through what marketing channels? [Moderator: compare against earlier answers about channels]
14. Is a fear-based message or motivating message better? Please explain.
15. What media or other source would you pay attention to? (i.e. booklets, online website, etc.) Provide examples of some that you've recently noticed.

ADVERTISING TONE (20 MINUTES)

16. Next, we'd like to get your reactions to a variety of types of advertisements that could be used to try and encourage people to take actions to improve air quality. We're going to watch four different advertisements that are very different, but have the same general goals. On your worksheet, I'd like you to pick which of the ads grabs your attention best, which most makes you want to take action, which (if any) you have a negative reaction to, and which you think would be most effective at encouraging Denver metro residents to take actions to improve air quality. You can also write down any notes you have as we go. After we watch these, we'll discuss the various styles and your reactions to each type. [Moderator: play the four videos through twice.]
 - ⇒ Which ads did you think were the most attention-grabbing? Why?
 - ⇒ Which ads did you think made you want to take action? Why?
 - ⇒ Are there any of the types of ads that definitely would *not* make you want to take action?
 - ⇒ If you were going to pick one of the four ad types that you think would be most effective at encouraging Denver metro residents to take actions to improve air quality, which would it be? Why?
17. What other suggestions do you have in terms of the types of ads you think would be effective?

RAQC-SPECIFIC FEEDBACK (20 MINUTES)

At this point, we can tell you that the organization sponsoring this focus group is the Regional Air Quality Council, which hosts the web site OzoneAware.org. The Council is responsible for promoting behaviors among the public that will help to reduce air quality issues in the Denver area. Now, we'd like to get your reactions to some specific advertising efforts used by RAQC.

18. [Moderator: bring up PowerPoint with RAQC ads] Now, let's watch two of RAQC's television advertisements. Before we talk about them, take a few seconds to write some of your initial thoughts on your worksheet.
 - ⇒ How many of you recall seeing these advertisements recently?
 - ⇒ How would you compare these advertisements to the four that we watched earlier?
 - ⇒ What, if anything, do you like about these advertisements?
 - ⇒ What, if anything, do you dislike about these advertisements?

- ⇒ Would seeing these ads make you want to take action? What would you do?
19. [Moderator: bring up PowerPoint with outdoor advertisements] First, let's look at some outdoor advertisements used by RAQC in the past year. Before we talk about them, take a few seconds to write some of your initial thoughts on your worksheet.
- ⇒ How many of you recall seeing these advertisements recently?
 - ⇒ What, if anything, do you like about these advertisements?
 - ⇒ What, if anything, do you dislike about these advertisements?
 - ⇒ Would seeing these ads make you want to take action? What would you do?
20. Finally, let's talk about the OzoneAware.org website. What kinds of information would you expect to find on a web site like OzoneAware? [Moderator: bring up RAQC website after discussion]
- ⇒ How many of you have visited the website in the past?
21. OzoneAware includes the ability to sign up for Ozone Action Alerts so that you can receive an e-mail message when air quality is expected to be especially poor.
- ⇒ Does this service seem valuable? Why (not)?
 - ⇒ What might make you choose to sign up for Ozone Action Alerts?
22. OzoneAware allows visitors to be entered into a drawing to win tickets to sporting events simply by pledging to take actions to improve air quality.
- ⇒ Does taking a pledge make you more likely to take action?
 - ⇒ Would you be motivated to take this pledge after visiting the web site?
 - ⇒ What might make you more likely to take the pledge?
23. Finally, let's talk about RAQC's advertisements and web site in general.
- ⇒ Do the advertisements seem interesting and attention-grabbing?
 - ⇒ If you were to see these advertisements, would they motivate you to take action? What would you do?
 - ⇒ What would you suggest to improve the impact of these advertisements in the future?

CONCLUSION (1 MINUTE)

Thank you very much for your time! This information will be very useful to RAQC as it considers how to best serve and communicate to folks like yourselves. Now, we've promised you a payment...