



BAY AREA
AIR QUALITY
MANAGEMENT
DISTRICT

BOARD OF DIRECTORS PUBLIC OUTREACH COMMITTEE

COMMITTEE MEMBERS

MARK ROSS – CHAIRPERSON

MARIA AYERDI

JOHN SILVA

GAYLE UILKEMA

SHELIA YOUNG

ROBERTA COOPER - VICE CHAIRPERSON

JULIA MILLER

PAMELA TORLIATT

BRAD WAGENKNECHT

**MONDAY
APRIL 21, 2003
9:45 A.M.**

**FOURTH FLOOR CONFERENCE ROOM
DISTRICT OFFICES**

AGENDA

1. **CALL TO ORDER - ROLL CALL**
2. **PUBLIC COMMENT PERIOD** (Public Comment on Non-Agenda Items Pursuant to Government Code § 54954.3) *Members of the public are afforded the opportunity to speak on any agenda item. All agendas for regular meetings are posted at District headquarters, 939 Ellis Street, San Francisco, CA, at least 72 hours in advance of a regular meeting. At the beginning of the regular meeting agenda, an opportunity is also provided for the public to speak on any subject within the Committee's subject matter jurisdiction. Speakers will be limited to five (5) minutes each.*
3. **APPROVAL OF MINUTES OF FEBRUARY 10, 2003**
4. **LAWN MOWER BUY-BACK**

T. Lee/4905
tlee@baaqmd.gov

Staff will provide a report on the six lawn mower buy-back events for 2003.
5. **SPARE THE AIR - - 2003**

T. Lee/4905
tlee@baaqmd.gov

Staff will provide an overview of the 2003 summertime program and take input from the Committee.
6. **MEASUREMENT OF THE 2002 SPARE THE AIR CAMPAIGN AND THE 2003 WINTERTIME SURVEY**

T. Lee/4905
tlee@baaqmd.gov

Godbe Research and Analysis will present a report on the results of telephone surveys of two recently completed survey cycles.
7. **2004 CLEAN AIR CALENDAR**

T. Lee/4905
tlee@baaqmd.gov

Staff will discuss the issues of the calendars and whether the Air District wants to do one for the 2004 calendar year.

8. COMMITTEE MEMBER COMMENTS/OTHER BUSINESS

Any member of the Committee, or its staff, on his or her own initiative or in response to questions posed by the public, may: ask a question for clarification, make a brief announcement or report on his or her own activities, provide a reference to staff regarding factual information, request staff to report back at a subsequent meeting concerning any matter or take action to direct staff to place a matter of business on a future agenda. (Gov't Code § 54954.2)

9. TIME AND PLACE OF NEXT MEETING: 10:00 a.m., JUNE 9, 2003, 939 ELLIS STREET, SAN FRANCISCO, CA.

10. ADJOURNMENT

**CONTACT CLERK OF THE BOARDS - 939 ELLIS STREET
SAN FRANCISCO, CA 94109**

**(415) 749-4965
FAX: (415) 928-8560
BAAQMD homepage:
www.baaqmd.gov**

- To submit written comments on an agenda item in advance of the meeting.
- To request, in advance of the meeting, to be placed on the list to testify on an agenda item.
- To request special accommodations for those persons with disabilities (notification to the Clerk's Office should be given in a timely manner, so that arrangements can be made accordingly).

**BAY AREA AIR QUALITY MANAGEMENT DISTRICT
939 ELLIS STREET
SAN FRANCISCO, CALIFORNIA 94109
(415) 771-6000**

DRAFT MINUTES

Summary of Board of Directors
Public Outreach Committee Meeting
10:00 a.m., Monday, February 10, 2003

1. **Call to Order:** Chairperson Miller called the meeting to order at 10:03 a.m.

Present: Julia Miller, Chair, Scott Haggerty (10:11 a.m.), Mark Ross, Pam Torliatt, Marland Townsend, Gayle Uilkema, Brad Wagenknecht.

Absent: Roberta Cooper, Tim Smith.
2. **Public Comment:** There were none.
3. **Approval of Minutes of December 9, 2002:** Director Townsend moved approval of the minutes; seconded by Director Uilkema; carried by acclamation with Director Wagenknecht abstaining.
4. **Woodsmoke Update:** *Staff presented an update on the 2002/2003 wintertime outreach program.*

Teresa Lee, Director of Public Information and Outreach, presented the report and stated that there is a longer season this year because the District is using the new PM2.5 standard. Ms. Lee stated that there had been good information in the media about woodsmoke this year. In addition to the media coverage, there were approximately 60,000 Woodsmoke Handbooks distributed. Ms. Lee indicated that a wintertime survey will be conducted on woodsmoke and that the results should be compiled in time for presentation at the April meeting.

Luna Salaver, Public Information Officer, reported on the woodsmoke ordinance and stated that in the last two months there have not been any new cities or counties that have adopted it. The City of Sebastopol has started the process and their next meeting is scheduled for February 25th. The Resource Team members will be urging the City Council to move forward on the ordinance. Ms. Salaver stated that the District staff has been working with other cities in Sonoma County that have not adopted the Model Ordinance. The woodsmoke packet is being updated and it will be sent out within the next two weeks to the 78 cities in the Bay Area that have not adopted the Model Ordinance. Santa Clara County has the highest rate of adoption (11 out of 15 cities) and Chairperson Miller stated she would be working with Ms. Lee on the remaining cities in the county. Finally, the Resource Teams have been asked to adopt as projects getting the Model Ordinance adopted in their local communities.

Committee Action: None. This report provided for information only.

5. **Community Focus Contract:** *The Committee considered recommending to the Board of Directors approval of the sole-source contract for Community Focus for a one-year period to February 28, 2004.*

Committee Action: Director Townsend moved that the Committee recommend to the Board of Directors approval of a sole source contract with Community Focus to continue the Spare the Air and Environmental Justice Resource Teams for a one-year period from March 1, 2003 to February 28, 2004; seconded by Director Haggerty.

During discussion, staff was requested to provide the Committee members with a list of participants in the Resource Groups in each of their jurisdictions. The motion then passed unanimously by acclamation.

Ms. Lee added that the District would begin the bidding process for the six contracts in the fall. An RFP would be put out and the vendors could bid on the whole thing or just parts of it. Ms. Lee stated that she would like input from the Committee and it could be put on as a future agenda item. Chairperson Miller requested this be put on the agenda for the April meeting so the Committee can provide some direction to staff.

6. **Youth Outreach Update:** *The Committee received an update on outreach to youth including curriculum development, National Children's Theater and upcoming partnerships with museums.*

Communications West provided an update on youth outreach and discussed the Clean Air Curriculum and its development. There was discussion on the in-school program, the pilot programs in San Mateo, Santa Clara, Contra Costa and Alameda Counties, and the workshop for teachers held in the fall. A copy of the list of schools involved in the pilot program was distributed to the Committee. Ms. Lee discussed the need for funding for expansion of the program. Director Torliatt requested staff research the feasibility of partnering with health care units. In response to a question from Director Townsend, Communications West stated that the curriculum is oriented to 8th grade students. Finally there was a discussion on possible future funding sources, one of which was possibly using funds earmarked for the Supplemental Environmental Projects (SEP's). The newly formed Stationary Source Committee will be establishing guidelines and policy for the SEP funds.

Communications West provided the Committee with an update on the National Theater for Children and the development of an air quality interactive presentation for lower and middle school students. The National Theater's air quality presentations will be piloted in May to coincide with Clean Air Month. Staff also provided information on the museum partnerships the Air District is developing, including participating in the San Jose Tech Museum's Earth Day Program. There was discussion on Board members attending the performances and possibly taping the performances and putting them on public access television. Ms. Salaver distributed a flyer for the Earth Day celebration of April 19th at The Tech Museum in San Jose and a sample of the Kaila booklet.

Director Torliatt announced an alternative fuel vehicle show in Sonoma scheduled for September and suggested that the Air District may want a staff person attend the show.

Committee Action: None. This report provided for information only.

7. **Update on Referrals:** *The Committee received an update on referrals from recent Public Outreach meetings.*

Ms. Lee reviewed the referrals and updated the Committee on each item. There was discussion on item 5 and the consensus of the Committee was to change the name from “Toxic Tours” to “Outreach Tours.”

Committee Action: None. This report provided for information only.

8. **Committee Member Comments/Other Business:** Ms. Lee discussed the 2003 Clean Air Calendar and stated she would like input from the Committee on publishing it again in 2004. There was discussion by the Committee and Director Townsend requested staff provide a fuller report at the next meeting on where the calendars went and if they were used. Director Torliatt suggested that if the calendar is done again next year, that it be distributed as early as possible before the New Year.

In response to a question from Director Uilkema, Mr. Norton stated that the Board members would see only the outside of the building on the tours of Red Star Yeast and the Potrero Power Plant.

9. **Time and Place of Next Meeting:** 10:00 a.m., Monday, April 14, 2003, 939 Ellis St., San Francisco.
10. **Adjournment:** The meeting was adjourned at 11:04 a.m.

Mary Romaidis
Clerk of the Boards

mr:

Public Outreach Committee

Follow-up Items for Staff

February 10, 2003 meeting

1. The Committee requested staff provide a list of participants in the Resource Groups in each Committee member's jurisdiction.
Completed – local resource team lists sent to committee members.
2. Chairperson Miller requested a discussion of the contracts for the consultants be put on the agenda for the next Committee meeting.
Input on contract process will be agendized next committee meeting on June 9th.
3. Director Torliatt requested staff research the feasibility of partnering with health care units on the youth outreach program.
Contact has been made with the American Lung Association regarding integrating their school curriculum with the Air Districts. Contact with Kaiser Permanente regarding asthma, youth and this year's Spare the Air program.
4. Director Torliatt announced an alternative fuel vehicle show in Sonoma scheduled for September and that the Air District may want to have someone attend the show.
Staff is research this possibility.
5. Director Townsend requested staff provide a fuller report at the next meeting on where the 2003 Clean Air calendars went and if they were used.
Item is agendized for April 21 meeting, with staff report.

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Inter-Office Memorandum

To: Chairperson Ross and
Members of the Public Outreach Committee

From: Teresa Lee
Director of Public Information & Outreach

Date: April 8, 2003

Re: Lawn Mower Buyback Program – Spring 2003

RECOMMENDED ACTION

Information.

BACKGROUND

The Air District is continuing its lawn mower buy back programs in partnership with local waste management agencies. This year there will be six events held from April 12th through May 3rd. Gasoline powered lawn mowers used at residential sites in the Bay Area generate three tons of air pollution every summer day.

DISCUSSION

The lawn mower buy-back programs aim to educate Bay Area residents about the pollution associated with gasoline-powered lawn mowers and to exchange 1500 gasoline lawn mowers for cleaner electric mulching models. This is a substantial increase over the 2002 program, when 850 lawn mowers were exchanged.

Rebates of \$100 will be available for local residents who turn in their gasoline lawn mowers and purchase a corded electric mower on the spot for the discounted price of \$79. Seventy dollars of the rebate is provided by the Air District, with an additional \$30 from Black & Decker. As in past years, the events are being held in partnership with local waste management agencies at Home Depot locations.

This spring five counties - Contra Costa, Solano, Sonoma, Marin and Napa are participating, as well as the city of Sunnyvale. The Alameda County Waste Management Authority is also organizing a buyback event on May 12th at the Kaiser Convention Center in Oakland, independent of the larger group.

Outreach to the public has included bill inserts, news ads, web site information and a press release. Because of the popularity of the 2002 program, extra vouchers are being supplied to each site in case the on-hand supply of electric lawn mowers is not sufficient to meet demand.

AGENDA NO. 4

The lawn mower events are scheduled at the following locations:

COUNTY	DATE	TIME	LOCATION	MORE INFO
Marin	April 12	8:00 am - 12:00 pm	San Rafael Home Depot, 111 Shoreline Parkway	(415) 499-3725
Solano	April 12	8:00 am - 10:00 am	Vacaville Home Depot, 510 Orange Drive	(707) 454-0714
Contra Costa	April 26 May 3	7:00 am - 10:00 am 7:00 am - 10:00 am	Concord Home Depot, 2090 Meridian Park Blvd. Pittsburg Home Depot, 2300 North Park Blvd.	(925) 906-1806
Sonoma	April 26	7:00 am - 12:00 pm	Rohnert Park Home Depot, 4825 Redwood Drive	(707) 565-3375
Sunnyvale	April 26	8:00 am - 11:00 am	Sunnyvale Home Depot, 690 Kifer Road <i>Sunnyvale residents only</i>	(408) 730-7262
Napa	May 3	8:30 am - 12:00 pm	Napa Home Depot, 225 Soscol Avenue	(707) 251-0162

- *Alameda residents: the Alameda County Waste Management Authority is organizing a mower buyback on May 10th, in the parking lot of the Henry J. Kaiser Convention Center in Oakland. See www.stopwaste.org for more info.*

BUDGET CONSIDERATIONS/FINANCIAL IMPACT

Funding for the 2003 program includes \$25,000 from the District's general fund and \$100,000 from the back-up generator (BUG) funding that the District received from the Air Resources Board. In addition, the Yolo-Solano Air District contributed \$5000 to the program.

Continuing to fund lawn mower buy-back programs in future years may be problematic. In the past, funding has been received from the Air Resources Board and/or the California Integrated Waste Management Board. This is not expected to continue. In addition, local jurisdictions are not expected to have funds to contribute. Corporate contributions will also likely be difficult. It is anticipated that the Air District's contribution of \$25,000 will not be sufficient for a 2004 program. Staff will keep the committee advised of these funding issues.

Respectfully submitted,

Teresa Lee
Director of Public Information & Outreach

Reviewed by: Peter Hess

FORWARDED: _____

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Inter-Office Memorandum

To: Chairperson Ross and
Members of the Public Outreach Committee

From: Teresa Lee
Director of Public Information & Outreach

Date: April 8, 2003

Re: Spare the Air - 2003

RECOMMENDED ACTION

For information and input.

BACKGROUND

The Air District's 2003 summertime Spare the Air campaign will begin in early June and continue until mid-October. Staff and the consultant will present the media, advertising and partnership components of the campaign and take input from the committee on the program.

DISCUSSION

This years Spare the Air campaign will begin on Monday, June 2 and continue through Friday, October 17th. The campaign will include media outreach and paid advertising, an employer program, a youth element and measurement and analysis. The following are the highlights of the campaign:

Advertising - Continue with the "Thank You" campaign that began last year. This will include television, radio, billboards and possibly movie slides. The campaign will have a Spanish and Chinese component, mainly through radio advertising, op-ed pieces and events in the community. Staff and the consultant are working on the most advantageous advertising placement.

- **Billboards** – artwork for five billboards was developed last year and will be reused.
- **Radio** – 60- second spots were developed last year. We are planning to augment these spots with two new ones, the first on the health effects of air pollution with an emphasis on asthma and possibly a second radio spot to drive listeners to sign up for email for Spare the Air days.

Radio will include using "real time" Spare the Air spots when advisories are issued.

- **Youth** – a youth campaign would include radio spots on Radio Disney and Nickelodeon.
- **Spanish and Chinese** – radio spots have been produced and would be placed.
- **Television** – three spots were developed last year and we plan to use these in rotation for this year's campaign.

AGENDA NO. 5

Media Relations - Pitch stories to the media, including major dailies, community papers and electronic media; pre-season pitching to news directors and TV meteorologists.

Message: Every little bit counts—individual actions matter! Stress connection between health and air pollution, particularly asthma.

Possible Opportunities:

- Air Quality Improvements/Trends
- Free bus rides on STA days on Livermore Amador Valley Transit (LAVTA)
- National Children's Theater performances
- Air District Adds 20 Prius Hybrids to fleet
- Consumer Products and Air Quality
- BBQ Alternatives
- Health – Asthma ER visits
- Kaiser doctors to carry health messages (partnership with Kaiser)
- Spanish and Chinese speaking doctors for health messages
- Use of Clean Air Champions throughout the summer--showing what individuals can do

BUDGET CONSIDERATIONS/FINANCIAL IMPACT

Funding for the campaign has been included in the 2002/03 budget and in the 2003/04 budget that will be proposed to the Board in June. The bulk of the funding is provided by the Congestion Mitigation Air Quality (CMAQ) grant that the District receives from the federal government. Smaller amounts of funding come from the Transportation Fund for Clean Air (TFCA) and from the general reserves.

Respectfully submitted,

Teresa Lee
Director of Public Information & Outreach

Reviewed by: Peter Hess

FORWARDED: _____

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Inter-Office Memorandum

To: Chairperson Ross and
Members of the Public Outreach Committee

From: Teresa Lee
Director of Public Information & Outreach

Date: April 8, 2003

Re: Measurement of the 2002 Spare the Air Campaign and the 2003 Wintertime Survey

RECOMMENDED ACTION:

Receive and file.

BACKGROUND

Godbe Research and Analysis, contractors to the Air District for measurement and analysis of the *Spare the Air* and *Spare the Air Tonight* programs, will present the results of the 2002 summertime surveys and the draft of the 2003 winter survey.

DISCUSSION

For several years, the Air District has commissioned a consultant to do phone surveys to assess the response of the public to the District's outreach programs, including the summertime *Spare the Air* and wintertime *Spare the Air Tonight* campaigns. The surveys are important tools to measure the effectiveness of the programs, including any behavior change that results from the campaigns, most notably those actions that reduce driving, use of consumer products, gasoline powered lawn mowers and, for the wintertime campaign, the burning of wood in woodstoves and fireplaces. The District has modified the survey over the years to include recognition of the Air District name and, most recently, questions about the model wood burning ordinance.

The interviews were collected by telephone using random digit dial techniques. The 2002 questionnaire was developed by the California Air Resources Board, the US EPA and the consultant, and is expected to become the standard for all regions in the country that receive CMAQ funding for intermittent control programs. The interviews took place during the evenings when a *Spare the Air* day was announced by the District the day before. Over the course of the season, 881 interviews were completed on six of the seven *Spare the Air* evenings that occurred in 2002.

The 2002 survey results indicate that 3.63% of respondents reduced driving because of the *Spare the Air* advisory. An additional 4.09% indicated that they did not use at least one polluting consumer product because of the *Spare the Air* message.

Awareness and perceptions of the Air District were also surveyed. Fifty-six percent of respondents were aware of the Air District, the same percentage as MTC. Forty-one percent of the population thought favorably of the Air District, while 9% thought unfavorably of the Air District. Thus, the Air District's positives were four times greater than the negative perceptions.

AGENDA NO. 6

For the wintertime survey, 19% of the population indicated they reduced burning wood as a result of the *Spare the Air Tonight* message. Of these, 35% stopped burning, while 58% reduced burning. About half the population believes there are negative health effects associated with breathing wood smoke, but 89% do not perceive that there is a wood smoke problem in their neighborhood. Finally, by a two to one margin (54% vs. 27%), respondents said they would support the District's model wood smoke ordinance.

The consultant will be at the meeting to present these findings, and to take comments and suggestions from the committee.

Attached please find the summertime survey results and a draft of the wintertime "Topline Report."

BUDGET CONSIDERATIONS/FINANCIAL IMPACT

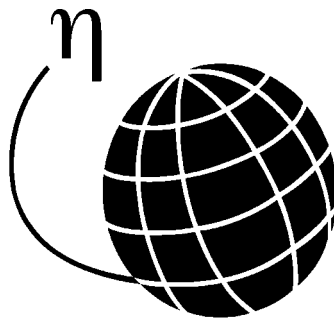
Funding for the surveys discussed above is included in the FY 2002/2003 budget.

Respectfully submitted,

Teresa Lee
Director of Public Information & Outreach

Reviewed by: Peter Hess

FORWARDED: _____



Godbe Research & Analysis

Spare the Air Survey for the 2002 Summer Season

**Conducted for the
Bay Area Air Quality
Management District**

April 2003

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Half Moon Bay CA 94019-1739
Phone 650/712-3137
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Table of Contents

Introduction.....	1
Introduction to Study	2
Methodology	2
Executive Summary	3
Driving Behavior on Spare the Air Days	3
Product Usage on Spare the Air Days	3
Recall of Spare the Air Campaign Information	4
Awareness and Perceptions of BAAQMD, MTC, and the Spare the Air Campaign	4
Comparison of Key Indicators from 1998 to 2002	5
Overall Emissions Impacts	5
Highlights of the Study.....	6
Driving Behavior on Spare the Air Days	6
Product Usage on Spare the Air Days	10
Recall of Spare the Air Campaign Information	12
Awareness and Perceptions of BAAQMD, MTC, and the Spare the Air Campaign	15
Demographics of the Study	17
Emission Reduction Estimates.....	21
Appendix A - Calculation of Emission Reduction Impacts	23
NOx	25
ROG	25
PM10	26
Appendix B - Confidence Intervals for Key Variables.....	27
Appendix C - Questionnaire and Overall Percentages.....	28
Appendix D - Crosstabulations	Bound separately

Introduction

Godbe Research & Analysis (GRA) and Eric Schreffler Transportation Consultant (ESTC) are pleased to present this report summarizing the results of the summer Spare the Air survey conducted for the Bay Area Air Quality Management District (BAAQMD). This report is organized into the following sections:

Introduction to Study -- Provides a brief discussion of the background and methodology for the survey.

Executive Summary -- Provides a brief summary of the key findings from the study.

Highlights of the Study -- Presents the main findings from the study.

Preliminary Emission Reduction Estimates -- Presents the estimates of the emission reduction impacts the summer 2002 campaign.

Appendix A -- Presents the calculation of travel and emission reductions for NO_x, ROG, and PM₁₀.

Appendix B -- Presents the calculations of confidence intervals for key variables.

Appendix C -- Presents the questionnaire with the overall percentages.

Appendix D -- Presents the overall cross-tabulations of the survey data.

Introduction to Study

This study was conducted by GRA and ESTC for BAAQMD to a) measure the public's awareness and recall of Spare the Air messaging as related to driving and product usage and b) quantify the travel and emission impacts from those who responded to the message and reduced their driving.

Methodology

As the primary purpose of this study was to gather input from drivers who reside in the District's boundaries, a random sample of area codes and exchanges was developed using zip codes within the District. The District includes the counties of Alameda, Contra Costa, Marin, San Francisco, San Mateo, Santa Clara and Napa, southwestern Solano, and southern Sonoma. Based on Census 2000 data, there are approximately six million *adult* residents in the BAAQMD District. The sample was distributed randomly across the nine counties of the District.

The questionnaire in this study was developed in coordination with BAAQMD and utilized questions from the 1998, 1999, and 2000 surveys and integrated the method developed for the California Air Resources Board (CARB) and the United States Environmental Protection Agency (USEPA) to 'Quantify the Emission Reduction Impacts of Episodic Public Education Campaigns,' which involves self-reported trip reduction to identify individuals who reduced their driving due to Spare the Air or air quality concerns.

The interviews were collected via telephone. Only those who indicated they were a driver were allowed to complete the interview. A screener was also used to correct one of the inherent tendencies of the random digit dial (RDD) method to over-sample older residents and women. Specifically, RDD samples typically over-represent women and older residents because they are often more likely to be home in the early evening or on the weekend and are also more likely to answer the telephone. To adjust for this bias, interviewers asked to speak to the youngest male driver in the household. If the youngest male was not available at the time of the call, the interviewer asked to speak to the youngest female at home at the time.

Interviews were conducted during the evenings when a Spare the Air day had been announced by the District the day before. Over the course of the season, interviews were collected on six of the seven Spare the Air days called (the survey was still in draft format when the first Spare the Air day was called). The specific interview dates were: July 9th, 10th, and 11th, August 9th and 10th, and September 19th of 2002. A total of 881 interviews were completed with the average length of the interviews at approximately 15 minutes.

Executive Summary

This section provides the key findings from the study.

Driving Behavior on Spare the Air Days

The average number of trips (a trip being defined as travelling from one place to another using a single mode of transportation and then stopping or changing the mode of transportation) taken in one day was 3.03. Respondents who were later identified as Spare the Air Driving Reducers did, in fact report fewer trips on average than those who were not Spare the Air Driving Reducers (2.65 vs. 3.05). Those who were notified by their employer of Spare the Air Days or poor air quality days also reported fewer trips, on average, than their counterparts (2.71 vs. 3.41).

Respondents were asked if they had purposely decreased the number of trips taken on that day (without yet referencing a particular reason for the decrease). Those who were later identified as Spare the Air Driving Reducers reported a trip reduction of 2.59 trips, compared with 1.65 among non-Spare the Air Driving Reducers.

Respondents were asked several questions about each trip they indicated they had decreased on that day. Among the 81 trips decreased by Spare the Air Driving Reducers, 37 percent were deferred or cancelled and 32 percent were made using a different mode; 14 percent of decreased trips were done so by walking.

For each trip decreased they were also asked to estimate the number of miles that trip was (or would have been, if they chose not to take the trip). Spare the Air Driving Reducers reported reducing more miles per trip on average than their counterparts -- those who were *not* Spare the Air Driving Reducers (13.46 vs. 7.54). Respondents who had reduced their driving were also asked what the purpose of their reduced trip was (or was going to be). Thirty-four percent of all trips reduced were shopping trips (e.g., gas, groceries, mall), which was the most common type of trip reduced.

Following the specific questions about the trips decreased by respondents, they were asked to indicate the *reason* they chose to decrease each trip. Thirty-two of the 881 respondents (3.63%) indicated they decreased at least one trip because of Spare the Air ads or air quality concerns. Given the known margin of error for this question, at a 95 percent level of confidence, the 'true' percentage of Spare the Air driving reducers lies between 2.40 percent and 4.87 percent of the adult population in the Air District.

Product Usage on Spare the Air Days

The Spare the Air campaign also focuses on reducing the usage of products that are harmful to air quality on Spare the Air days. Respondents were presented with a list of eight such products and asked whether or not the respondent typically used the product and whether or not they did so on the day of the interview (a Spare the Air Day).

The most commonly used products were 'Household cleaner sprays' (41%) and 'Colognes or perfumes' (40%). The most commonly 'avoided' product due to Spare the Air or air quality concerns was 'Gas powered garden equipment', with seven percent of respondents who would normally use the product indicating they chose not to on the day of the survey, because of Spare the Air messaging.

Thirty-six of the 881 respondents (4.09%) indicated they did not use at least one product because of Spare the Air messaging or air quality concerns. At a 95 percent level of confidence, the 'true' percentage of Spare the Air Product Reducers lies between 2.78 percent and 5.39 percent of the adult population in the Air District.

Although Spare the Air Product Reducers were more likely to also be Spare the Air Driving Reducers than their counterparts, these were, for the most part, two separate groups of individuals (i.e., 31 of 36 Spare the Air Product Reducers were *not* Spare the Air Driving Reducers).

Recall of Spare the Air Campaign Information

Following the questions about driving behavior and product usage, several questions were presented to respondents regarding their recall of the Spare the Air Campaign. Sixty-three percent of respondents said they had heard, read, or seen information about Spare the Air, poor air quality, or requests to drive less or not use certain products in the past two days.

Those who indicated they did recall Spare the Air information were asked where they saw or heard the information. Fifty-eight percent of those who recalled Spare the Air information from the past two days saw it on television, thirty-seven percent heard information on the radio and 15 percent said they saw one of the Spare the Air billboards.

Those who indicated they did recall Spare the Air information were also asked what they remember about the story or announcement. Verbatim responses were recorded and then coded into the most popular categories. The most common aspects mentioned were that a Spare the Air day had been called, the information encouraged people not to drive, and that the high temperatures often mean that air quality will suffer. Poor air quality and requests to carpool were also frequently cited.

Awareness and Perceptions of BAAQMD, MTC, and the Spare the Air Campaign

Respondents were asked if they had ever heard of BAAQMD, Metropolitan Transportation Commission (MTC), and the Spare the Air Campaign. Fifty-six percent of respondents had heard of BAAQMD, and likewise, 56 percent had heard of MTC. Seventy-five percent said they had heard of the Spare the Air Campaign.

Those who had heard of the three entities were asked whether their opinion was favorable, unfavorable, or neutral. Responses were largely favorable or neutral for all three entities. Almost five times as many respondents had a favorable opinion of BAAQMD than an unfa-

favorable opinion, and more than three-quarters of respondents (77%) had a favorable opinion of the Spare the Air Campaign.

Respondents were also asked if they had heard, read, or seen, any news stories, advertisements, or public service announcements about each of the three entities in the past six months. A small percentage of respondents overall said they had seen or heard information about either BAAQMD or MTC (22% and 18%). Just more than half (53%) of respondents said they had seen or heard information about the Spare the Air Campaign in the past six months.

Comparison of Key Indicators from 1998 to 2002

Although the survey has been modified over the four years this study has been conducted, several key indicators have remained virtually consistent throughout. Table 1 summarizes these three key indicators from the 1998, 1999, 2000 and current study.

Table 1. Comparative Table of Key Indicators 1998 to 2002

	2002	2000	1999	1998
Percentage who knew it was a Spare the Air day ⁱ	63%	55%	41%	38%
Percentage who decreased their driving because of STA or air quality concerns	3.6%	4.4%	1.4%	2.1%
Percentage who decided not to use at least one product because of STA or air quality concerns	4.1%	4.2%	5.0%	2.3%

i. This question was asked in a slightly different manner in 2002 than previous years, in that respondents in 2002 were asked if they had heard or seen any STA or air quality information in the past two days rather than specifically if they knew it was a STA Day.

Overall Emissions Impacts

The Bay Area summer ozone Spare the Air campaign in 2002 reduced 1.776 tons per day of NOx (on Spare the Air days), 1.86 tons of ROG and 0.4 tons of PM₁₀ by influencing over 170,000 drivers to reduce over 250,000 daily trips and over 1.6 million miles of travel among 3.6 percent of the drivers in the region.

Emission reduction per Spare the Air day was slightly less in 2002 than in 2000; although, the overall impact for the 2000 season was slightly higher for most pollutants given the slight increase in the number of Spare the Air Days days.

Highlights of the Study

This section of the report provides a discussion of the highlights of the study -- most, but not all questions from the survey are presented here. The reader may wish to also turn to Appendix A, which provides the full questionnaire used in the study along with the overall response percentages.

Driving Behavior on Spare the Air Days

As one of the main goals of this study was to identify the percentage of individuals who reduced their driving because of Spare the Air messaging, several questions addressed this issue. Rather than simply asking individuals if they had driven less because of Spare the Air - which could prompt many individuals to report the *socially desirable* response that they had done so even if they hadn't -- respondents were first asked if they had purposely increased or decreased the amount of driving they had done in that day. Those who indicated they had purposely decreased the amount of driving they had done were asked details about their driving behavior on that day, including their reason for purposely reducing their driving. Those who indicated that they drove less during that day because of Spare the Air or air quality reasons (without any prompting from the survey instrument or interviewer) have been classified in this report as Spare the Air Driving Reducers.

When asked generally about the total number of trips they had taken in that dayⁱ (a trip being defined as travelling from one place to another using a single mode of transportation and then stopping or changing the mode of transportation) responses varied across demographic characteristics. As shown in Table 2, overall, the average number of trips taken in one day was just over three (3.03). Respondents who were later identified as Spare the Air Driving Reducers reported fewer trips on average than those who were not Spare the Air Driving Reducers (2.65 vs. 3.05). Those who were notified by their employer of Spare the Air Days or poor air quality days also reported fewer trips, on average, than their counterparts (2.71 vs. 3.41).

ⁱThis estimate of total trips taken is lower than that generally measured via travel diaries and is possibly due to recall and estimation issues among respondents when asked to estimate overall daily trips and not trip by trip documentation.

Table 2. Mean Number of Trips Taken on Day of the Interview

	Overall	3.03		Overall	3.03
STA Driving Reducer	Yes	2.65	Employment Status	Employed full-time	3.14
	No	3.05		Employed part-time	3.39
Age	18 to 24	3.83		Self-employed	3.41
	25 to 34	2.93		Student	3.19
	35 to 44	3.29		Homemaker	2.58
	45 to 54	3.07		Retired	2.17
	55 to 64	2.83		Not employed	2.55
	65+	2.28			
Gender	Male	3.10	Employer Notifies of STA Day or Poor Air Days	Yes	2.71
	Female	2.97		No	3.41
Ethnicity	White	3.11	County	Alameda	2.96
	Latino	2.73		Contra Costa	2.80
	Black	3.61		Marin	2.62
	Asian	2.49		Napa	2.59
	Other	3.02		San Francisco	3.14
Household Income	Less than \$50K	2.75		San Mateo	2.86
	\$50K to \$75K	3.38		Santa Clara	3.16
	\$75K to \$100K	2.90		Solano	3.47
	\$100K to \$150K	3.33		Sonoma	3.33
	\$150K or more	3.01			

When asked if they had *purposely* decreased their driving that day, 17 percent of respondents indicated they had (without yet indicating *why* they had decreased their driving). The next table displays the average number of reported trips decreased on that day across a variety of demographic variables. The average number of trips reduced overall was 1.89. Those who were later identified as Spare the Air Driving Reducers reported a trip reduction of 2.59 trips, compared with 1.65 among non-Spare the Air Driving Reducers. Interestingly, respondents whose employer notifies them of Spare the Air days or poor air quality days reduced a similar number of trips, on average, as their counterparts (this is among respondents who indicated they reduced their driving intentionally).

Table 3. Mean Number of Trips Reduced on Day of the Interview

	Overall	1.89		Overall	1.89
STA Driving Reducer	Yes	2.59	Employment Status	Employed full-time	1.95
	No	1.65		Employed part-time	1.91
Age	16 to 24	1.43		Self-employed	2.04
	25 to 34	2.01		Student	1.41
	35 to 44	1.88		Homemaker	2.12
	45 to 54	2.16		Retired	1.63
	55 to 64	2.05		Not employed	1.48
	65+	1.40			
Gender	Male	1.69	Employer Notifies of STA Day or Poor Air Days	Yes	1.87
	Female	2.07		No	2.01
Ethnicity	White	1.84	County	Alameda	1.67
	Latino	2.12		Contra Costa	1.91
	Black	2.30		Marin	1.50
	Asian	1.76		Napa	2.60
	Other	1.63		San Francisco	1.75
Household Income	Less than \$50K	2.03		San Mateo	1.80
	\$50K to \$75K	2.65		Santa Clara	2.27
	\$75K to \$100K	1.72		Solano	1.76
	\$100K to \$150K	1.54		Sonoma	1.65
	\$150K or more	1.94			

Respondents were asked several questions about each trip they indicated they had decreased on that day. The first of these questions asked how the trip was reduced (e.g., trip not taken, alternative mode chosen). Table 4 presents the way in which the trips were reduced by Spare the Air Driving Reducers and those who decreased trips for reasons not related to air quality or Spare the Air information. Among the 81 trips decreased by Spare the Air Driving Reducers, 37 percent were deferred or cancelled and 32 percent were made using a different mode; 14 percent of decreased trips were done so by walking.

Table 4. Method of Decreasing Trips

	% of 81 Trips Reduced by STA Driving Reducers	% of 154 Trips Reduced by Non - STA Driving Reducers
Did not make trip today	37.0%	39.0%
Carpool passenger	14.8%	14.9%
Public transportation	2.5%	2.6%
Combined trips	3.7%	2.6%
Bicycled	0.0%	9.7%
Walked	13.6%	25.3%
Worked from home	1.2%	0.0%
Used the Internet	0.0%	0.0%
Other	23.5%	3.2%
Refused	3.7%	2.6%

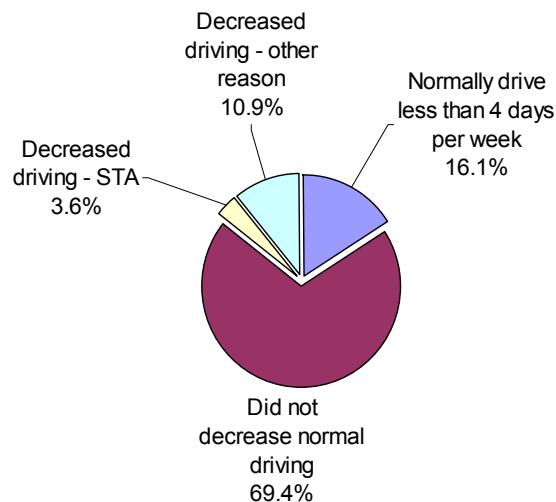
Respondents who had reduced their driving were also asked what the purpose of their reduced trip was (or was going to be). Thirty-four percent of all trips reduced were shopping trips (e.g., gas, groceries, mall), which was the most common type of trip reduced. Table 5 below shows the types of trips and the average number of miles for each type of trip. Because the number of miles was only *estimated* by the respondent, and some trip types had very few respondents (e.g., Going to/from school), these numbers should not be considered representative of all trips of this type in the Air District.

Table 5. Mean Miles Reduced for Trip Types

	Overall (100%)	9.05
Purpose of Trip Reduced	Going to/from work (13%)	12.62
	Going to/from school (3%)	5.83
	Shopping (34%)	7.48
	Recreation/entertainment (17%)	10.93
	Scheduled appointment (4%)	8.22
	Other (21%)	8.12

Figure 1 shows the breakdown of driving behavior across all 881 respondents. Those who indicated they normally drive less than four days per week (16%) were skipped beyond the specific questions about their driving behavior on the day of the interview. Overall, 3.63 percent of respondents (32 of 881) indicated they reduced at least one trip because of Spare the Air or air quality concerns. At a 95 percent level of confidence, the ‘true’ percentage of Spare the Air driving reducers lies between 2.40 percent and 4.87 percent of the adult population in the Air District.ⁱⁱ

Figure 1. Overall Driving Behavior



Product Usage on Spare the Air Days

The Spare the Air campaign also focuses on reducing the usage of products that are harmful to air quality on Spare the Air days. Question 10 of the survey presented with a list of eight such products and asked whether or not the respondent typically used the product and whether or not they did so on the day of the interview (a Spare the Air Day). Thirty-six of the 881 respondents (4.09%) indicated they did not use at least one product because of Spare the Air messaging or air quality concerns. At a 95 percent level of confidence, the ‘true’ percentage of Spare the Air product reducers lies between 2.78 percent and 5.39 percent of the adult population in the Air District.

The next table provides an interesting look at the relationship between those identified as Spare the Air Product Reducers and Spare the Air Driving Reducers. Although Spare the Air Product Reducers were more likely to also be Spare the Air Driving Reducers than their counterparts (15% vs. 4%), these were, for the most part, two separate groups of individuals (i.e., 31 of 36 Spare the Air Product Reducers were *not* Spare the Air Driving Reducers). The

ⁱⁱ For the calculations involved in attaining this and other *confidence interval* references in this report, the interested reader may turn to Appendix B on page 27.

small sample size of each group, however, limits our ability to accurately profile the demographic characteristics of these two separate groups.

Table 6. Spare the Air Product Reducers by Spare the Air Driving Reducers

		Overall	STA Driving Reducer	
			Yes	No
Base		881	32	849
STA Product Reducer	Yes	36 4.1%	5 14.6%	31 3.7%
	No	845 95.9%	27 85.4%	818 96.3%

Table 7 provides the usage of the specific products tested in the study. The left column shows the portion of the total sample that said they would normally use the product on that day; the second column shows the percentage of *those* individuals who chose not to use the product because of Spare the Air or air quality concerns; and the third column shows the percentage of the sample who chose not to use a product because of air quality concerns. The third column could be used in calculating District-wide reduction levels, within the given margin of error.

As presented in the table, the most commonly used products were ‘Household cleaner sprays’ (41%) and ‘Colognes or perfumes’ (40%). The most commonly ‘avoided’ product due to Spare the Air or air quality concerns was ‘Gas powered garden equipment’, with seven percent of respondents who would normally use the product indicating they chose not to on the day of the survey, because of Spare the Air messaging.

Table 7. Product Usage on Spare the Air Days

	Percentage of total sample (881) who would normally use product	Percentage of those who said they normally use product that did not use product that day because of STA or air quality concerns	Percentage of total sample (881) that chose not to use product because of STA or air quality concerns
Aerosol hairspray	14.193%	4.000%	0.568%
Insecticides	11.763%	5.769%	0.681%
Air fresheners	23.556%	1.442%	0.341%
Cologne or perfume	40.184%	1.130%	0.454%
Lighter fluid for barbeques	12.479%	3.636%	0.454%
Gas powered garden equipment	10.691%	7.447%	0.795%
Furniture polish	15.116%	2.256%	0.341%
Household cleaner sprays	41.478%	3.836%	1.589%

Recall of Spare the Air Campaign Information

Following the questions about driving behavior and product usage, several questions were presented to respondents regarding their recall of the Spare the Air Campaign. Sixty-three percent of respondents said they had heard, or seen information about Spare the Air, poor air quality, or requests to drive less or not use certain products in the past two days.

Awareness was fairly consistent across household income and gender. Awareness was skewed somewhat toward those over the age of 35; only 46 percent of those between 16 and 24 and 55 percent of those between 25 and 34 indicated they recalled Spare the Air messaging in the past two days. Awareness differed somewhat between counties, although because of the small number of respondents in several counties we caution making direct comparisons between counties. In particular, a considerably small number of residents from the counties of Marin and Napa participated in the study -- as a result, the margin of error surrounding the percentages in those counties is extremely high.

In Table 11 the reader will notice an apparent decline in awareness after the 7/11/02 Spare the Air episode. This most likely due to a change in the wording of the question, made at the request of the Air District. The initial question wording asked if respondents had heard or seen any news stories, *advertisements*, or public service announcements. After identifying an unusually high level of awareness from respondents in the first three episodes, the District requested to remove *advertisements* from the question wording to match the question wording from previous seasons.

Table 8. Recall Spare the Air Campaign Information in Past Two Days by Household Income and Gender

	Household Income						Gender	
	Overall	Less than \$50K	\$50K to \$75K	\$75K to \$100K	\$100K to \$150K	\$150K or more	Male	Female
Base	881	226	155	145	134	82	397	484
Yes	62.6%	62.8%	66.3%	62.0%	62.7%	66.7%	62.1%	63.0%
No	36.1%	35.5%	31.9%	37.1%	37.3%	33.3%	36.0%	36.2%
DK/NA	1.3%	1.8%	1.9%	0.9%	-	-	1.9%	0.8%

Table 9. Recall Spare the Air Campaign Information in Past Two Days by Age

	Age						
	Overall	16 to 24	25 to 34	35 to 44	45 to 54	55 to 64	65+
Base	881	100	158	173	174	121	132
Yes	62.6%	45.8%	55.4%	62.6%	67.8%	70.0%	72.3%
No	36.1%	52.8%	43.3%	35.8%	32.2%	29.7%	25.2%
DK/NA	1.3%	1.4%	1.4%	1.6%	-	0.2%	2.5%

Table 10. Recall Spare the Air Campaign Information in Past Two Days by County

	County									
	Overall	Alameda	Contra Costa	Marin	Napa	San Francisco	San Mateo	Santa Clara	Solano	Sonoma
Base	881	187	123	36	16	118	91	202	47	62
Yes	62.6%	60.6%	59.2%	90.9%	60.0%	65.1%	68.9%	59.7%	58.5%	57.8%
No	36.1%	37.1%	39.8%	9.1%	40.0%	33.3%	31.1%	38.9%	40.2%	40.9%
DK/NA	1.3%	2.3%	1.0%	-	-	1.6%	-	1.3%	1.2%	1.3%

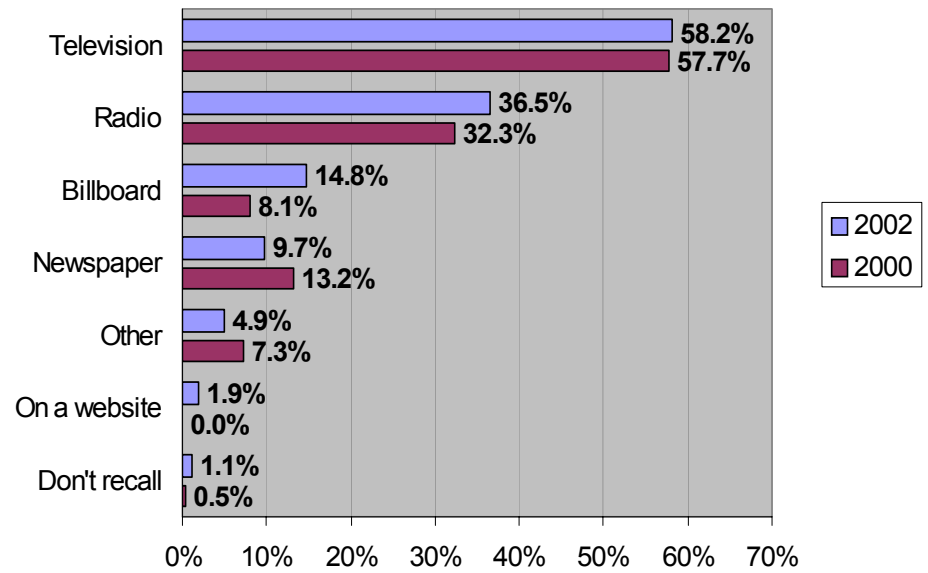
Table 11. Recall Spare the Air Campaign Information in Past Two Days by Episode Date

	Episode Date						
	Overall	07/09/02	07/10/02	07/11/02	08/09/02	08/10/02	09/19/02
Base	881	204	197	71	94	117	199
Yes	62.6%	66.7%	72.7%	67.8%	54.0%	59.8%	52.3%
No	36.1%	30.5%	26.6%	31.7%	45.0%	37.9%	47.7%
DK/NA	1.3%	2.9%	0.7%	0.6%	1.0%	2.4%	-

Those who indicated they did recall Spare the Air information were asked where they saw or heard the information. Respondents were allowed to mention more than response, so the percentages obtained represent the portion of respondents who mentioned a particular response. As shown in Figure 2, fifty-eight percent of those who recalled Spare the Air information from the past two days, saw it on television. Thirty-seven percent heard information on the radio, and 15 percent said they saw one of the Spare the Air billboards. The numbers

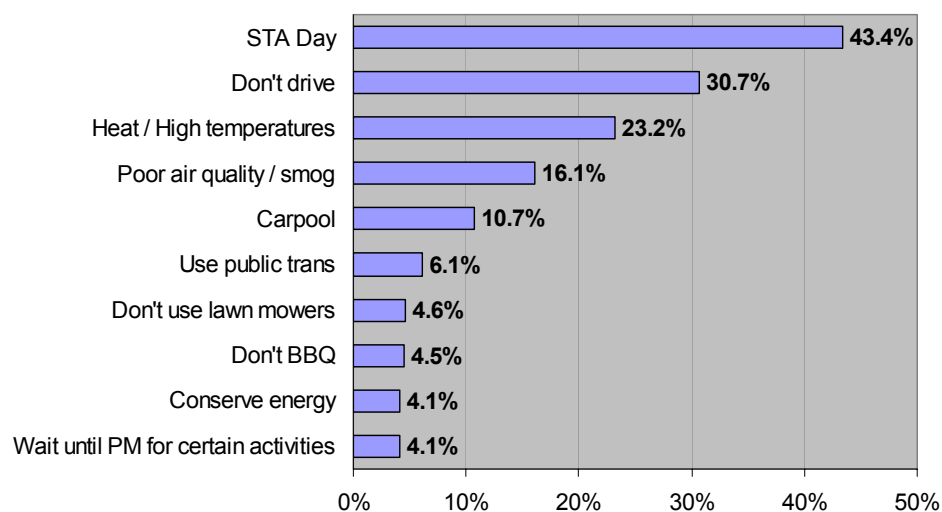
were comparable to the 2000 season, although mention of billboards nearly doubled (from 8% to 15%) between the two seasons.

Figure 2. Where Respondent Saw or Heard Spare the Air Information



Those who indicated they did recall Spare the Air information were also asked what they remember about the story or announcement. Verbatim responses were recorded and then coded into the most popular categories. And again, respondents were allowed more than one response. The top ten categories are presented in Figure 3. The most common aspects mentioned were that a Spare the Air Day had been called, the information encouraged people not to drive, and that high temperatures often mean that air quality will suffer. Poor air quality and requests to carpool were cited by more than ten percent of respondents who had seen or heard Spare the Air messaging.

Figure 3. Message Recall from Spare the Air Information



Awareness and Perceptions of BAAQMD, MTC, and the Spare the Air Campaign

Respondents were asked if they had ever heard of BAAQMD, Metropolitan Transportation Commission (MTC), and the Spare the Air Campaign. Fifty-six percent of respondents had heard of BAAQMD, and likewise, 56 percent had heard of MTC. Seventy-five percent said they had heard of the Spare the Air Campaign.

Those who had heard of the entities were asked whether their opinion was favorable, unfavorable, or neutral. The overall responses are presented in Table 12. Responses were largely favorable or neutral for all three entities. Almost five times as many respondents had a favorable opinion of BAAQMD than an unfavorable opinion, and more than three-quarters of respondents (77%) had a favorable opinion of the Spare the Air Campaign.

Table 12. Opinions of BAAQMD, MTC, and Spare the Air Campaign

	BAAQMD	MTC	STA Campaign
Favorable	41%	34%	77%
Neutral	41%	45%	18%
Unfavorable	9%	11%	3%
Not sure	9%	10%	2%

Respondents were also asked if they had heard, read, or seen, any news stories, advertisements, or public service announcements about the same three entities in the past six months. Table 13 presents the percentage of respondents, overall, who had and had not received information in the past six months. A small percentage of respondents overall said they had seen or heard information about either BAAQMD or MTC (22% and 18%). Just more than half (53%) of respondents said they had seen or heard information about the Spare the Air Campaign.

Table 13. Saw or Heard Information about BAAQMD, MTC, and Spare the Air Campaign in Past 6 Monthsⁱⁱⁱ

	BAAQMD	MTC	STA Campaign
Yes	22%	18%	53%
No	78%	82%	47%

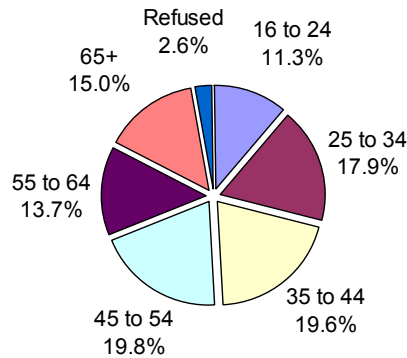
ⁱⁱⁱThis table includes respondents who indicated they had not ever heard of the entities (Question 20). Although these respondents skipped Question 22 in the interview, which asked whether or not they had seen any information from the entities in the last six months, as one can assume that those who indicated they had never heard of an entity would not recall having received any information from that entity in the past six months -- therefore they have been coded as 'no' and included in this table.

Demographics of the Study

This section of the summary report presents the demographic information for the 2002 study.

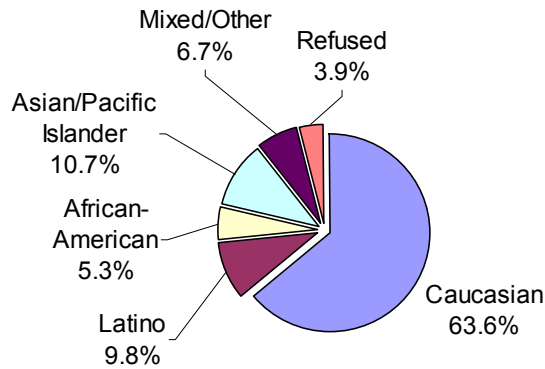
Figure 4 shows that interviews were distributed consistently across all age groups.

Figure 4. Age



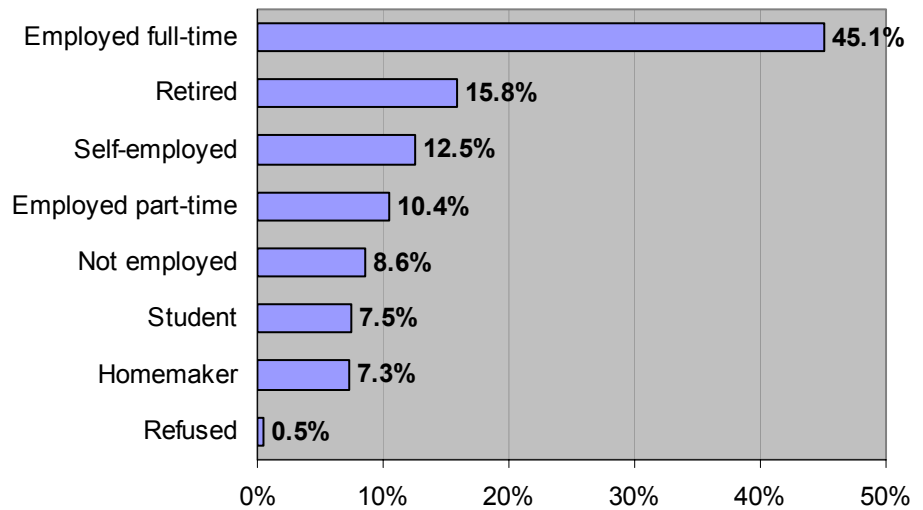
Respondents were asked to indicate their ethnicity. Figure 5 provides the responses, grouped into the general categories of 'Caucasian', 'Latino', 'African-American', 'Asian/Pacific Islander', and 'Mixed/Other'. Four percent refused to give their ethnic background.

Figure 5. Ethnicity



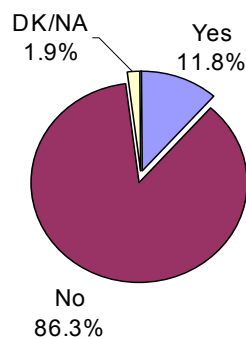
As shown in Figure 6, 45 percent of the respondents indicated they were ‘employed full-time’. Another 23 percent said they were ‘self employed’ or ‘employed part-time’. Eight percent indicated they were students. It should be noted that respondents were allowed multiple responses, so the percentages add to more than one hundred.

Figure 6. Employment Status



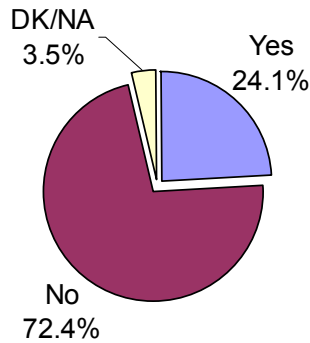
Those who indicated they were employed were asked if their employer notified them of poor air quality days. As seen in Figure 7, approximately 12 percent of employed individuals received notice of poor air quality days from their employer.

Figure 7. Employer Notifies Employees of Poor Air Quality Days



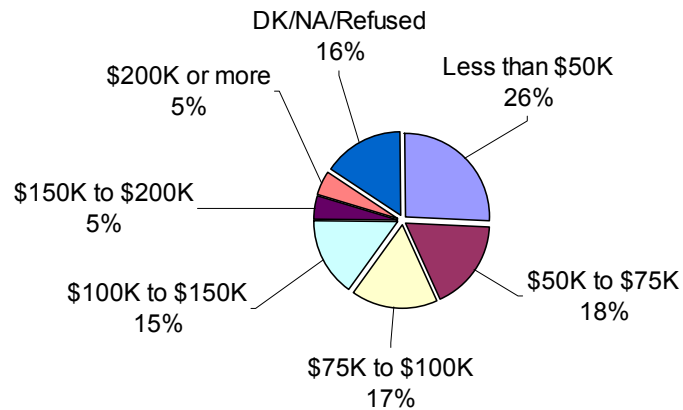
Those who indicated they were employed were also asked if their employer encouraged alternative modes of transportation on poor air quality days. As shown below in Figure 8, approximately one-quarter (24%) of employed individuals said their employer encouraged them to chose alternative modes of transportation on poor air quality days.

Figure 8. Employer Encourages Alternative Modes of Transportation on Poor Air Quality Days



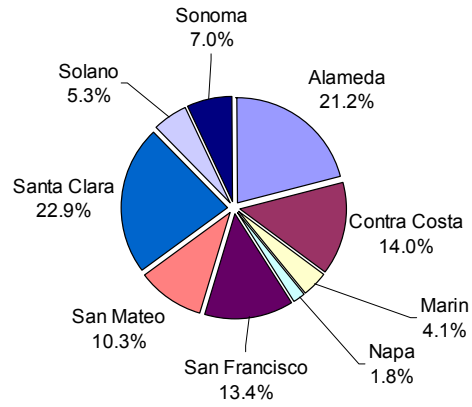
The last question of the survey asked respondents to indicate their household income. Though 16 percent refused, or did not know, their household income, an 84 percent response rate is considerably high for such a question.

Figure 9. Household Income



The County in which the respondent lived was determined by the zip code, area code, and phone exchange of the individual.

Figure 10. County



Emission Reduction Estimates

This section of the report provides estimates of the emission reduction impacts of the summer 2002 Spare the Air campaign. BAAQMD has estimated emission reductions for the past several seasons. This year, the method changed slightly to incorporate two enhancements.

First, emission factors used to calculate emission reduction from the reduction of trips (cold starts) and vehicle miles of travel (running emissions) were updated to use new EMFAC2000 model results, provided by ARB.

Second, the method for calculating trip and VMT reductions, and determining the proportion of ‘reducers’ among the driving population was modified to use the new ARB/EPA Method for Quantifying the Emission Impacts of Episodic Public Education Programs. BAAQMD participated in the study.

Using data gathered via the telephone survey, emissions impacts from the trip reduction effects of the program are calculated using the ARB/EPA methodology. The basic steps include:

- Step 1 – Estimate Total Number of Reducers
Apply the proportion of reducers determined from the survey to the population of all drivers in the region to determine the total number of commuters who reduced trips on the Spare the Air days.
- Step 2 – Estimate Average Trip Reduction
Determine the average number of trips reported by each reducer from the survey.
- Step 3 – Apply Correction Factor to Self-reported Trip Reduction
Apply the ARB/EPA correction factor for adjusting self-reported trip reduction to derive adjusted average trip reduction.
- Step 4 – Estimate Total Adjusted Trips Reduced
Apply the adjusted number of trips reduced to the total number of reducers from Step 1 to derive total trips reduced. Then, apply the proportion of work and non-work trips reduced (based on survey results) to derive the number of commute and non-commute trips reduced.
- Step 5 – Estimate VMT Reduction
Apply regional average trip lengths for work and non-work travel reduced to total work and non-work trips reduced to derive total VMT reduction.
- Step 6 – Estimate Emission Reductions
Apply trip end and VMT emission factors for each key pollutant to the work and non-work trip and VMT reduction estimates to derive total emissions reduced per day by pollutant.

The main differences between these methods and that used by the BAAQMD in the past are three-fold:

1. The ARB method uses a slightly different line of questioning to determine the proportion of drivers who ‘purposely reduce’ their driving on Spare the Air days.
2. The ARB method includes questions on self-reported trip reduction among these reducers, but adjusts the self-reported average trip reduction to account for over-reporting of trip reduction. The research project from which this method is derived, determined that reducers report (in a summary question) two trips for every one trip reduced, based on detailed trip information via an elaborate research design on Spare the Air versus non-Spare the Air and among reducers and non-reducers.
3. The ARB method uses regional trip lengths applied to the proportion of reduced trips that are work trips versus non-work trips to account for different emission factors for commute trips versus all trips given the difference in trip length and speeds.

Appendix A includes the calculation of travel and emission reductions for NO_x, ROG and PM₁₀ using the survey results and the ARB/EPA method. The results for key indicators are provided in Table 14 and comparative results for 2000.

Table 14. Estimated Emission Reduction Results for 2002 (and 2000)

Indicator	2000	2002
Drivers in Region	4,530,000	4,750,000
Proportion of Reducers	3.0%	3.6%
Average Trips Reduced	2.0 (assumed)	2.6 (reported) 1.46 (adjusted)
Average Trip Length	4.5 miles	13.69 miles (commute) 5.37 miles (all trips)
Daily NO _x Reduction	2.04 tons	1.776 tons
Daily ROG Reduction	2.28 tons	1.86 tons
Daily PM ₁₀ Reduction	0.62 tons	0.4 tons
Number of Spare the Air Days	5	7
Total NO _x	10.2 tons	12.4 tons
Total ROG	11.4 tons	13.0 tons
Total PM ₁₀	3.1 tons	2.8 tons

The Bay Area summer ozone Spare the Air campaign in 2002 reduced 1.776 tons per day of NO_x (on Spare the Air days), 1.86 tons of ROG and 0.4 tons of PM₁₀ by influencing over 170,000 drivers to reduce almost 250,000 daily trips and over 1.6 million miles of travel among 3.6% of the drivers in the region.

While the emission reduction per Spare the Air day was slightly less in 2002, the overall impact for the season was slightly higher for most pollutants given the slight increase in the number of STA days.

Appendix A - Calculation of Emission Reduction Impacts

Using the summer survey results discussed in this report and applying the recommended ARB/EPA method, including the correction factor, to the Bay Area Spare the Air campaign for 2002, the following impacts can be derived:

- Step 1 - Estimate the Total Number of Reducers

The proportion of Reducers from Questions 3 and 9 of the survey 3 can be extrapolated to the total population of drivers in the region to estimate the total number of users.

In the Bay Area, the proportion of reducers was approximately 3.68% of drivers. If there were approximately 4,750,000 drivers within the Bay Area in 2002,^{iv} the number of Reducers (using the Sacramento finding) would be *171,000 Reducers*. These Reducers form the basis for trip, VMT and emission reduction estimates.

$$4,750,000 \text{ (drivers in region)} \times 0.036 \text{ (\% Reducers)} = 171,000 \text{ reducers}$$

- Step 2 - Estimate the Average Trip Reduction

From Questions 4 and 9, the average number of self-reported trips can be derived for the sample of Reducers (that reduced for Spare the Air or air quality reasons).

In the Bay Area, the average self-reported trip reduction was 2.6 one-way driver trips.

- Step 3 - Apply Self-Reported Trip Reduction Correction Factor

From the ARB/EPA research, a correction factor was developed to relate the actual trip reduction to stated reduction (2.6 trips reduced). This correction factor is 0.56. Thus, due to over-reporting of trips reduced, respondents claim to have reduced twice as many trips than they actually do based on detailed analysis of behavior on Spare the Air and non-Spare the Air days and among reducers and non-reducers.^v

^{iv}According to MTC and DMV, there were 4,754,156 licensed drivers in the 9-county Bay Area in 2001, the most recent year for which data is available. Given the BAAQMD boundaries are slightly smaller (to not include parts of Sonoma and Solano Counties), the 2001 estimate for the entire Bay Area serves as a reasonable approximate for the 2002 driving population, taking into account growth from 2001, but the smaller area represented by the District.

^vSee ESTC, 'Quantification Methods for Identifying Emission Reductions Resulting from Seasonal and Episodic Public Education Programs: Final Research Report' prepared for CARB, April 2003 for a full explanation of the derivation and justification for the self-reporting correction factor.

In the Bay Area, the 2.6 average stated trips reduced, when adjusted with the trip reduction correction factor (0.56) would be 1.46 trips reduced per Reducer.
 $2.6 \text{ (self-reported trips reduced)} \times 0.56 \text{ (correction factor)} = 1.46 \text{ adjusted trips reduced.}$

■ Step 4a - Estimate Total Adjusted Trips Reduced

To estimate the total number of trips reduced, the adjusted trip reduction factor is applied to the total Reducers.

In the Bay Area, the 171,000 Reducers, each reducing an adjusted average of 1.46 trips, would realize an *overall regional Spare the Air day trip reduction of 249,600*.
 $171,000 \text{ (Reducers)} \times 1.46 \text{ (average adjusted trips reduced)} = 249,600 \text{ (total trips reduced)}$

■ Step 4b - Derive Proportion of Work and Non-work Trips Reduced

From Question 7, the proportion of trips reduced that are work trips versus non-work trips is derived. These proportions can be applied to the total adjusted trips reduced from Step 4a to derive the proportion of work and non-work trips reduced.

The Bay Area survey found that work trips comprised 13% of trips reduced and 87% were from non-work trips. Using these proportions, and the total adjusted trip reduction, we can derive the number of work and non-work trips reduced. If 13% were work trips and 87% non-work trips, the total works trip reduced would be 32,456 and *the total non-work trips reduced would be 217,204*.

$249,600 \text{ trips reduced} \times 0.13 \text{ (\% work trips)} = 32,456 \text{ work trips reduced}$

$249,600 \text{ trips reduced} \times 0.87 \text{ (\% non-work trips)} = 217,204 \text{ non-work trips reduced}$

■ Step 5 - Estimate VMT Reduction

To estimate VMT reduction, the total estimated trips reduced are multiplied by the regional average trip lengths, obtained from regional planning sources.^{vi}

Using the number of work and non-work trips reduced and regional average trip lengths for each, the *total VMT reduction would be 1,610,708 miles*.

$32,456 \text{ work trips reduced} \times 13.69 \text{ miles} = 444,323 \text{ miles reduced}$

$217,204 \text{ non-work trips reduced} \times 5.37 \text{ miles} = 1,166,385 \text{ mile reduced}$

^{vi}Average trip length for work trips and non-work trips for 2000 provided by MTC.

444,323 work miles reduced + 1,166,385 non-work miles reduced = 1,610,708 miles reduced

■ Step 6 - Estimate Emission Reduction

Using the California Air Resources Board's (ARB's) average auto emission factors for 2002 (e.g. program evaluation year), the emission reductions from the public education campaign can be estimated by applying the Trip End emission factors to total vehicle trip reduction and VMT emission factors to total VMT reduction. This analysis is performed for nitrogen oxides (NO_x), reactive organic gases (ROG), and particulate matter (PM₁₀).

NO_x

Using a commute trip end NO_x emission factor for 2002 of 0.905 grams, an average emission factor of 0.757 grams for all other trip ends, and a VMT factor of 0.881 grams per mile^{vii} (from EMFAC 2000, v. 2.02), the *estimated emission reduction for each Spare the Air day is 1.776 tons* as derived for the Bay Area thusly:

- a) 32,456 work trips (starts) reduced x 0.905 grams/commute start = 29,373 grams = 64.7 lbs. or 0.032 tons per day
- b) 217,204 non-work trips (starts) reduced x 0.757 grams/ average start = 164,423 grams = 362.2 lbs. or 0.181 tons per day
- c) 1,610,708 miles reduced x 0.881 grams = 1,419,034 grams = 3,125.6 lbs. or 1.563 tons per day
- d) 64.7 lbs. + 362.2 lbs. + 3,125.6 lbs. = 3,552.5 lbs. NO_x per Spare the Air day
- e) 0.032 tons + 0.181 tons + 1.563 tons = 1.776 tons NO_x per Spare the Air day

ROG

Using a commute trip end ROG emission factor for 2002 of 2.363 grams, an average emission factor of 1.413 grams for all other trip ends, and a VMT factor of 0.813 grams per mile (from EMFAC 2000, v.2.02), the *estimated emission reduction for each Spare the Air day is 1.86 tons* as derived for the Bay Area thusly:

^{vii}Emission factors provided by ARB, based on EMFAC2000, version 2.02.

a) $32,456 \text{ trips (starts) reduced} \times 2.363 \text{ grams/start} = 76,694 \text{ grams} = 168.9 \text{ lbs. or } 0.084 \text{ tons per day}$

b) $217,204 \text{ trips (starts) reduced} \times 1.413 \text{ grams/start} = 306,909 \text{ grams} = 676 \text{ lbs. or } 0.338 \text{ tons per day}$

c) $1,610,708 \text{ miles reduced} \times 0.813 \text{ grams} = 1,309,506 \text{ grams} = 2,884.4 \text{ lbs. or } 1.44 \text{ tons per day}$

d) $168.9 \text{ lbs.} + 676 \text{ lbs.} + 2,884.4 \text{ lbs.} = 3,729.3 \text{ lbs. ROG per Spare the Air day}$

e) $0.084 \text{ tons} + 0.338 \text{ tons} + 1.44 \text{ tons} = 1.86 \text{ tons ROG per Spare the Air day}$

PM₁₀

Using a VMT PM₁₀ emission factor for 2002 of 0.224 grams (from EMFAC 2000, v.2.02), the *estimated emission reduction for each Spare the Air day is 0.354 tons* as derived for the Bay Area thusly:

a) $1,610,708 \text{ miles reduced} \times 0.224 \text{ grams} = 360,799 \text{ grams} = 794.7 \text{ lbs. or } 0.4 \text{ tons per day}$

Appendix B - Confidence Intervals for Key Variables

For the interested reader, we have included tables that present the confidence intervals and related statistics concerning the estimates and proportions for key variables discussed in this report. Because all estimates are based on a *sample* of drivers in the Air District, rather than *all* drivers in the Air District, it is likely that the estimates differ slightly from the actual, ‘true’ values. The confidence interval tables are thus useful in that they establish an upper and lower bound in which one can be 95 percent confident that the ‘true’ value lies. For example, the first of these tables (Table 15, below) indicates that the mean number of trips taken by non-Spare the Air Driving Reducers is 3.05, and that we can be 95 percent confident that the *actual* average number of trips made by drivers in the District is between 2.85 and 3.24.

Table 15. Confidence Intervals for Number of Mean Number of Trips

		Mean Number of Trips	
		STA Reducers	Non STA Reducers
Sample Size		32	707
Mean		2.65276	3.04661
Sum		85.16180	2153.68300
Minimum		0	0
Maximum		10	30
Range		10	30
Standard Deviation		2.22528	2.65813
Variance		4.95188	7.06564
Standard Error of the Mean		0.39275	0.09998
Skewness		1.22880	3.19941
Kurtosis		2.30235	24.26040
Confidence Intervals (95% confidence)	Lower Bound	1.88298	2.85066
	Upper Bound	3.42254	3.24256

Table 16. Confidence Intervals for Mean Number of Trips Reduced

		Mean Trip Reduction	
		STA Reducers	Non STA Reducers
Sample Size		32	93
Mean		2.59297	1.64625
Sum		83.24220	153.73810
Minimum		1	1
Maximum		6	6
Range		5	5
Standard Deviation		1.33980	0.86371
Variance		1.79505	0.74599
Standard Error of the Mean		0.23646	0.08938
Skewness		0.71241	2.31750
Kurtosis		-0.00637	8.09380
Confidence Intervals (95% confidence)	Lower Bound	2.12950	1.47107
	Upper Bound	3.05643	1.82143

Table 17. Confidence Intervals for Mean Miles per Trip Reduced

		Mean Mile Reduction	
		STA Reducers	Non STA Reducers
Sample Size		32	93
Mean		13.45754	7.53815
Sum		432.02870	703.96350
Minimum		1	1
Maximum		60	55
Range		59	54
Standard Deviation		14.50755	11.71453
Variance		210.46900	137.23020
Standard Error of the Mean		2.56048	1.21222
Skewness		1.99996	2.77023
Kurtosis		3.25989	7.33293
Confidence Intervals (95% confidence)	Lower Bound	8.43901	5.16219
	Upper Bound	18.47607	9.91410

Table 18. Confidence Intervals for Percentage of Spare the Air Driving Reducers

Spare the Air Reducers (Driving)		
Universe Estimate (adult residents)		6000000
Sample Size		881
STA Reducers		32
Non-STA Reducers		849
Proportion of STA Reducers		3.63224%
Proportion of Non-STA Reducers		96.36776%
Maximum Margin of Error (95% confidence)		1.23535%
Confidence Interval for Proportion of STA Reducers	Lower Bound	2.39689%
	Upper Bound	4.86758%

Table 19. Confidence Intervals for Spare the Air Product Reducers

Spare the Air Reducers (Product)		
Universe Estimate (adult residents)		6000000
Sample Size		881
Product Reducers		36
Non-Product Reducers		845
Proportion of Product Reducers		4.08627%
Proportion of Non-Product Reducers		95.91373%
Maximum Margin of Error (95% confidence)		1.30719%
Confidence Interval for Proportion of Product Reducers	Lower Bound	2.77907%
	Upper Bound	5.39346%

Table 20. Confidence Intervals for Awareness of Spare the Air

Awareness of Spare the Air		
Universe Estimate (adult residents)		6000000
Sample Size		881
Aware		551
Not Aware		330
Proportion of Aware		62.54257%
Proportion of Not Aware		37.45743%
Maximum Margin of Error (95% confidence)		0.031959
Confidence Interval for Proportion of Awareness of STA	Lower Bound	59.34667%
	Upper Bound	65.73846%

Appendix C - Questionnaire and Overall Percentages

Godbe Research & Analysis
April 2003
Toplines for 2002 Season (881 Interviews)

BAAQMD SPARE THE AIR STUDY

CONVENTIONAL ROUNDING RULES (.5 OR ABOVE IS ROUNDED UP TO THE NEXT WHOLE NUMBER, AND .4 OR BELOW IS ROUNDED DOWN TO THE PREVIOUS NUMBER) APPLY TO THE PERCENTAGES ON THE FOLLOWING PAGES. AS A RESULT, THE PERCENTAGES BELOW MAY NOT ADD UP TO 100 PERCENT.

Hello. My name is _____, and I'm calling on behalf of GRA, a public opinion research firm. We're conducting a survey concerning issues of importance to residents of the Bay Area region and we'd like to get the opinions of a driver in your household. It should just take a few minutes of their time.

(IF NEEDED) This is a survey only and I am not selling anything.

For statistical reasons, I would like to interview the youngest male driver who is at home right now.

(IF MALE DRIVER NOT AVAILABLE)

Then I would like to interview the youngest female driver who is at home right now.

(IF NO DRIVER EVER IN HOUSEHOLD, TERMINATE. IF DRIVER IN HOUSEHOLD BUT NOT CURRENTLY AVAILABLE, ATTEMPT TO SCHEDULE CALLBACK.)

(IF THE PERSON ASKS WHO THE SURVEY IS FOR, LET THEM KNOW THAT YOU CAN TELL THEM AT THE CONCLUSION OF THE INTERVIEW)

i. Do you regularly drive a vehicle four or more days per week?

Yes----- 84% (SKIP TO Q1)
No----- 16%

ii. What is your reason for not driving four or more days per week?

Don't have a car/driver's license ----- 19% (SKIP TO Q10)
Economic/convenience related -----4% (SKIP TO Q10)
Air quality related-----2% (SKIP TO Q10)
Other (SPECIFY:)------ 75% (SKIP TO Q10)

1. We're interested in the travel behavior of people in the Bay Area -- specifically the number and types of trips that they make in a day. A 'trip' is defined as traveling from one place to another and then stopping. For example, if you left your house and went to the store, that is one trip. Leaving the store and going to work or coming back home is another trip. Another example would be if you left your house and went to the bus or train station, which is one trip. Taking the bus or train to your work would be a second trip. (MAKE SURE THEY UNDERSTAND WHAT A 'TRIP' IS).

Please take a moment to think back over your day. Excluding any trips that were made 'on-the-job', such as driving a delivery truck, as well as any trips made on an airplane, how many trips did you make today?

Mean Number of Trips Overall-----	3.03
00 to 01 -----	25%
02 to 03 -----	38%
04 to 05 -----	25%
06 to 07 -----	8%
08 to 10 -----	4%
11 to 20 -----	1%
21 to 30 -----	0%

IF Q1 = 0 or 99 SKIP TO Q3

2. Sometimes people will purposely increase the amount of driving they do in a day. An example of purposely increasing driving would be if a person decided to drive to the store when they normally would have walked, bicycled, or taken a bus. Did you purposely increase the amount of your driving today?

(IF RESPONDENT ASKS TO CLARIFY WHAT PURPOSELY INCREASING DRIVING IS, SAY "It means deciding to drive someplace when you would usually travel there without driving.")

Yes-----	7%
No-----	93%

3. Sometimes people will purposely decrease the amount of driving they do in a day. An example of purposely decreasing driving would be if a person decided to take a bus, walk, bike or ride with someone else to work when they normally would have driven, or if someone decided to simply not take a trip they would have normally taken in a car. Did you purposely decrease the amount of your driving today?

(IF RESPONDENT ASKS TO CLARIFY WHAT PURPOSELY DECREASING DRIVING IS, SAY "It means deciding to go someplace without driving when you normally would have driven or deciding not to make a trip that you would normally would have made in a car.")

Yes----- 17%
No----- 82% (SKIP TO Q10)
(DON'T READ) DK/NA----- 1% (SKIP TO Q10)

4. You indicated that you purposely decreased the amount of your driving today. How many driving trips did you purposely decrease today?

Average trips decreased ----- 1.89
1 to 3 ----- 90%
4 to 6 ----- 8%
7 to 10----- 0%
Refused----- 2%

ASK Q5 THROUGH Q9 FOR EACH TRIP DECREASED (Q4)

Numbers presented in Q5 through Q9 represent the overall responses for all trips reduced.

5. Thinking of the (first/second/third...) driving trip you decreased, how did you decrease this trip?

Did not make the trip today ----- 38% (SKIP TO Q7)
Carpool/vanpool passenger ----- 15%
Public transportation ----- 3%
Combined trips----- 3% (SKIP TO Q7)
Bicycled----- 6% (SKIP TO Q7)
Walked----- 21% (SKIP TO Q7)
Worked from home (telecommuted)----- 0% (SKIP TO Q7)
Used the Internet to complete a task
(other than telecommuting)----- 0% (SKIP TO Q7)
Other (SPECIFY:)------ 10% (SKIP TO Q7)
Refused----- 3% (SKIP TO Q7)

6. Did you have to drive or be driven somewhere to catch your ride, such as to a transit stop or a Park and Ride lot?

Yes----- 34%
No----- 66%
(DON'T READ) DK/NA----- 0%

7. (IF Q5 = 1 THEN ASK:) What was the purpose of the trip going to be? (IF Q5 = ANYTHING OTHER THAN 1, ASK:) What was the purpose of this trip?

Going to or from work ----- 13%
Going to or from school-----3%
Shopping (mall, groceries)----- 34%
Recreation and entertainment (out for dinner,
movies, beach, gym)----- 17%
Scheduled appointments, lessons, or practices
(doctors, music, little league, soccer) -----4%
Other (SPECIFY:)------ 21%
(DON'T READ) DK/NA-----5%

8. How many miles would you say that this trip was, or would have been? (IF RESPONDENT SAYS THEY ARE UNSURE, ASK THEM TO GIVE THEIR BEST ESTIMATE)

Average miles of reduced trip----- 9.05
1 to 10----- 76%
11 to 20----- 16%
21 to 50-----5%
51 to 100 -----2%

9. Why did you purposely decrease this driving trip? (DO NOT PROMPT FOR SPECIFIC ANSWERS)

32 of the 881 respondents (3.6%) indicated they decreased at least one trip because of Spare the Air ads or air quality reasons.

Spare the Air or ads asking people to
drive less----- 25%
Air quality reasons -----5%
Other ----- 71%

10. OK, let me change subjects a bit. I'm going to read through a short list of activities, and as I read each, please tell me if you would normally do this activity. Would you normally use _____ today? (IF RESPONDENT INDICATES THEY WOULD NORMALLY PERFORM AN ACTIVITY, FOLLOW WITH:) Did you actually _____ today?

RANDOMIZE	NORMALLY USE?			ACTUALLY USE TODAY?		
	Yes	No	DK/NA	Yes	No	DK/NA
A. Aerosol hairspray-----	14%	85%	1%	71%	29%	0%
B. Insecticides -----	12%	88%	0%	39%	61%	0%
C. Air fresheners -----	24%	76%	1%	61%	39%	0%
D. Cologne or perfume-----	40%	59%	0%	76%	24%	0%
E. Lighter fluid for barbeques ----	12%	87%	1%	19%	80%	1%
F. Gas powered garden equipment -----	11%	89%	0%	29%	71%	0%
G. Furniture polish -----	15%	84%	1%	28%	72%	0%
H. Household cleaner sprays ----	41%	58%	0%	43%	57%	0%

FOR EACH ITEM IN Q10 IN WHICH THE RESPONDENT NORMALLY USES AN ITEM, BUT DID NOT TODAY, ASK Q11

11. Why did you choose not to use _____ (ITEM FROM Q10) today? (DO NOT READ ITEMS BELOW)

36 of the 881 respondents (4.1%) indicated they did not use at least one product listed in Q10 because of Spare the Air ads or air quality reasons. End of the season analyses will detail product usage.

	Percentage of those who said they normally use product that did not use product that day because of STA or air quality concerns	Percentage of total sample (881) that chose not to use product because of STA or air quality concerns
A. Aerosol hairspray-----	4.000%	0.568%
B. Insecticides -----	5.769%	0.681%
C. Air fresheners -----	1.442%	0.341%
D. Cologne or perfume-----	1.130%	0.454%
E. Lighter fluid for barbeques --	3.636%	0.454%
F. Gas powered garden equipment -----	7.447%	0.795%
G. Furniture polish -----	2.256%	0.341%
H. Household cleaner sprays --	3.836%	1.589%

12. In the past two days, have you heard, read, or seen any news stories or public service announcements about Spare the Air, poor air quality, or requests to drive less in this area, or to not use certain products that affect air quality?

Yes----- 63%
 No----- 36% (Skip to Q15)
 (DON'T READ) DK/NA----- 1% (Skip to Q15)

13. Where did you see or hear the news story, advertisement, or public service announcement? (DON'T READ CHOICES: MULTIPLE RESPONSE PERMITTED)

Television ----- 58%
 Radio ----- 37%
 Magazine ----- 0%
 Newspaper----- 10%
 On a website ----- 2%
 Mail piece ----- 1%
 Billboard ----- 15%
 Other ----- 5%
 Don't recall ----- 1%

14. What do you remember about the story, advertisement or announcement?

Verbatim responses have been coded into the following categories. As multiple responses were allowed for this question, the numbers add to more than 100 and thus represent the percentage of individuals - among those who said 'Yes' to Question 12 - who mentioned a particular message.

STA Day----- 43%
 Heat / High temperatures ----- 23%
 Poor air quality / smog ----- 16%
 Use public trans ----- 6%
 Carpool ----- 11%
 Ride bike ----- 2%
 Walk ----- 1%
 Don't BBQ----- 5%
 Don't drive----- 31%
 Don't use aerosol----- 3%
 Don't use gas-powered tools ----- 2%
 Don't use lawn mowers ----- 5%
 Wait until PM for certain activities ----- 4%
 Conserve energy ----- 4%
 Other ----- 28%
 Can't remember ----- 4%

15. Are you currently employed full time, employed part time, self-employed, a student, a homemaker, retired or are you not currently employed right now? (MULTIPLE RESPONSE PERMITTED)

Employed full-time -----	45%
Employed part-time -----	10%
Self-employed -----	13%
Student -----	8%
Homemaker -----	7% (SKIP TO Q20)
Retired -----	16% (SKIP TO Q20)
Not employed -----	9% (SKIP TO Q20)
(DON'T READ) Refused -----	1% (SKIP TO Q20)

ASK Q16 ONLY IF Q15 = 4

16. How do you normally commute to school? (MULTIPLE RESPONSE PERMITTED)

Drive vehicle alone -----	54%
Carpool -----	13%
Vanpool -----	2%
Public transit -----	15%
Bicycle -----	6%
Motorcycle -----	0%
Walk or jog -----	18%
Online schooling from home -----	2%
Other -----	2%
Refused -----	2%

ASK Q17 ONLY IF Q15 = 1, 2, OR 3 OTHERWISE SKIP TO Q20

17. How do you normally commute to work? (MULTIPLE RESPONSE PERMITTED)

Drive vehicle alone -----	80%
Carpool -----	8%
Vanpool -----	0%
Public transit -----	7%
Bicycle -----	3%
Motorcycle -----	1%
Walk or jog -----	3%
Online schooling from home -----	0%
Other -----	7%
Refused -----	1%

18. Does your employer notify you of poor air quality days?

Yes----- 12%
 No----- 86%
 (DON'T READ) DK/NA-----2%

19. Does your employer encourage you to drive less, car pool, or use public transportation on poor air quality days?

Yes----- 24%
 No----- 72%
 (DON'T READ) DK/NA-----4%

20. OK, let me change gears a bit. Have you ever heard of _____? (CODE DK/NA AS 'NO')

RANDOMIZE	<u>Yes</u>	<u>No</u>
A. Bay Area Air Quality Management District-----	56%	44%
B. Metropolitan Transportation Commission -----	56%	44%
C. The Spare the Air Campaign -----	75%	25%

QUESTIONS 21 AND 22 ARE TO BE ASKED FOR EACH Q20 ITEM THAT THE RESPONDENT HAS HEARD OF (=1)

21. Generally speaking, would you say you have a favorable or unfavorable opinion of _____ (ITEM FROM Q20), or do you have no opinion either way? (GET ANSWER THEN ASK:) Would that be very or somewhat (favorable/unfavorable)?

	Bay Area Quality Management District	Metropolitan Transportation Commission	The Spare the Air Campaign
Very favorable	18%	15%	47%
Somewhat favorable	23%	19%	30%
Neutral	41%	45%	18%
Somewhat unfavorable	5%	6%	2%
Very unfavorable	4%	5%	1%
DK/NA	9%	10%	2%

22. In the past six months, have you heard, read, or seen any news story, advertisements, or public service announcements about (ITEM FROM Q20)? (CODE NOT SURE AS 'NO')

	Bay Area Quality Management District	Metropolitan Transportation Commission	The Spare the Air Campaign
Yes	38%	37%	70%
No	60%	62%	30%
Refused	2%	1%	1%

To wrap things up, I have a few background questions for comparison purposes.

A. Including yourself, how many licensed drivers live in your household?

0 to 1	27%
2 to 3	63%
4 to 6	9%
7 to 10	0%
Refused	1%

B. In what year were you born?

18 to 24	11%
25 to 34	18%
35 to 44	20%
45 to 54	20%
55 to 64	14%
65+	15%
Refused	3%

C. What ethnic group do you consider yourself a part of or feel closest to? (IF RESPONDENT HESITATES, READ LIST)

Caucasian/White -----	64%
Latino/Hispanic -----	10%
African-American/Black-----	5%
Korean-American -----	0%
Japanese-American -----	0%
Chinese-American -----	2%
Vietnamese-American -----	0%
Other-Asian-American -----	7%
Pacific Islander -----	1%
Mixed-----	0%
Other -----	6%
DK/NA-----	4%

D. I have just one more question for you. I am going to read some income categories. Please stop me when I reach the category that best describes your total household income.

\$49,999 or less -----	26%
\$50,000 to \$74,999 -----	18%
\$75,000 to \$99,999 -----	17%
\$100,000 to \$149,999-----	15%
\$150,000 to \$199,999-----	5%
\$200,000 or more -----	5%
(DON'T READ) DK/NA/Refused-----	16%

**Those are all the questions I have for you.
Thank you very much for participating. This survey was sponsored by the
Bay Area Air Quality Management District**

E. Respondent's Gender:

Male -----	45%
Female-----	55%

Region:

Alameda	21%
Contra Costa	14%
Marin	4%
Napa	2%
San Francisco	13%
San Mateo	10%
Santa Clara	23%
Solano	5%
Sonoma	7%

Episode Date:

07/09/02	23%
07/10/02	22%
07/11/02	8%
08/09/02	11%
08/10/02	13%
09/19/02	23%

**BAAQMD WINTER SEASON
SPARE THE AIR STUDY**

Hello. My name is _____, and I'm calling on behalf of GRA, a public opinion research firm. We're conducting a survey concerning issues of importance to residents of the Bay Area region and we'd like to get the opinions of your household. It should just take a few minutes of their time.

(IF NEEDED) This is a survey only and I am not selling anything.

For statistical reasons, I would like to interview the youngest male, 18 years old or older, who is at home now.

(IF MALE NOT AVAILABLE)

Then I would like to interview the youngest female who is at home now.

CONVENTIONAL ROUNDING RULES (.5 OR ABOVE IS ROUNDED UP TO THE NEXT WHOLE NUMBER, AND .4 OR BELOW IS ROUNDED DOWN TO THE PREVIOUS NUMBER) APPLY TO THE PERCENTAGES ON THE FOLLOWING PAGES. AS A RESULT, THE PERCENTAGES BELOW MAY NOT ADD UP TO 100 PERCENT.

1. Do you have a fireplace, pellet stove, or woodstove in your home or apartment?
(MULTIPLE RESPONSE OK)

Fireplace -----	52%	(ASK Q1A)
Pellet stove -----	2%	(ASK Q1B)
Woodstove -----	11%	(ASK Q1C)
None -----	39%	(SKIP TO Q5)

1A. How many fireplaces do you have in your home or apartment?

One -----	87%
Two -----	10%
Three -----	1%
Four -----	1%
Five or more -----	1%
(DON'T READ) DK/NA -----	0%

1B. How many pellet stoves do you have in your home or apartment?

One	86%
Two	14%
Three	0%
Four	0%
Five or more	0%
(DON'T READ) DK/NA	0%

1C. How many woodstoves do you have in your home or apartment?

One	86%
Two	14%
Three	0%
Four	0%
Five or more	0%
(DON'T READ) DK/NA	0%

2. Generally speaking, do you use your fireplace, pellet stove, or woodstove for heating, creating atmosphere in your home or for disposing of paper and combustible waste? (MULTIPLE RESPONSE OK)

Heating	48%
Creating atmosphere	35%
Disposing of paper and combustible waste	4%
Other (SPECIFY: _____)	0%
Don't use it at all	27%

3. Generally speaking do you use your fireplace, pellet stove, or woodstove around the holidays only, throughout the fall and winter, both, or neither?

Around the holidays only	14%	(SKIP TO Q4)
Throughout the fall and winter	38%	(CONTINUE WITH Q3A)
Both	20%	(CONTINUE WITH Q3A)
Neither	25%	(SKIP TO Q4)
(DON'T READ) DK/NA	4%	(SKIP TO Q4)

Next, I'd like to ask about your fireplace, pellet stove or woodstove usage throughout the fall and winter months.

3A. During the months of October and November, how many times a week do you use your fireplace, pellet stove, or woodstove?

Once a week -----	23%
Twice a week-----	14%
Three times a week-----	10%
Four times a week -----	6%
Five times a week-----	5%
Six times a week -----	1%
Seven times a week / every night -----	15%
(DON'T READ) Not at all -----	12%
(DON'T READ) Depends on weather -----	13%
(DON'T READ) DK/NA-----	1%

3B. During the months of December and January how many times a week do you use your fireplace, pellet stove or wood stove?

Once a week -----	18%
Twice a week-----	17%
Three times a week-----	11%
Four times a week -----	6%
Five times a week-----	11%
Six times a week -----	1%
Seven times a week / every night -----	21%
(DON'T READ) Not at all -----	1%
(DON'T READ) Depends on weather -----	11%
(DON'T READ) DK/NA-----	1%

3C. During the months of February and March how many times a week do you use your fireplace, pellet stove or wood stove?

Once a week -----	21%
Twice a week-----	13%
Three times a week-----	10%
Four times a week -----	5%
Five times a week-----	4%
Six times a week -----	2%
Seven times a week / every night -----	9%
(DON'T READ) Not at all -----	22%
(DON'T READ) Depends on weather -----	12%
(DON'T READ) DK/NA-----	2%

4. During this winter, have you heard, read, or seen any news stories, advertisements, or public service announcements about Spare the Air Tonight, poor air quality, or requests to use your fireplace, pellet stove, or woodstove less in this area, or to not use certain products that affect air quality?

Yes----- 56% (CONTINUE WITH Q4A)
 No----- 43% (Skip to Q5)
 (DON'T READ) DK/NA----- 1% (Skip to Q5)

4A. Where did you see or hear the news story, advertisement, or public service announcement? (DON'T READ CHOICES: MULTIPLE RESPONSE PERMITTED)

Television ----- 49%
 Radio ----- 29%
 Magazine ----- 2%
 Newspaper----- 27%
 On a website ----- 0%
 Mail piece ----- 1%
 Billboard ----- 2%
 Email ----- 3%
 Other ----- 3%
 Don't recall ----- 2%

4B. What do you remember about the story, advertisement or announcement?

Air quality----- 16%
 Ban woodstoves/ restrict burning----- 10%
 Limit car use ----- 4%
 More pollution/ health issues ----- 8%
 Limit fireplace use----- 12%
 Spare the Air Day ----- 14%
 Other ----- 11%
 DK/NA----- 28%

4C. Did you change your usage of your fireplace, pellet stove or woodstove as a result of the story, advertisement or announcement?

Yes----- 19% (Continue with 4D)
 No----- 79% (Skip to Q5)
 (DON'T READ) DK/NA----- 2% (Skip to Q5)

4D. Did you increase your burning, decrease your burning, or stop your burning?

Increase burning-----0%
Decrease burning -----58%
Stop burning -----35%
(DON'T READ) DK/NA-----8%

5. Do you think there are any negative health effects associated with breathing wood smoke?

Yes-----49% (CONTINUE WITH Q5A)
No-----39% (SKIP TO Q6)
(DON'T READ) DK/NA-----12% (SKIP TO Q6)

5A. What are the negative health effects associated with breathing wood smoke?

Air pollution -----3%
Health problems (general) -----13%
Respiratory problems -----61%
Toxic chemicals/ Carbon Monoxide -----9%
Other -----4%
DK/NA-----10%

6. Different neighborhoods in the Bay Area experience different levels of air pollution from wood smoke. Does your neighborhood have a wood smoke problem?

Yes-----6%
No-----89%
(DON'T READ) DK/NA-----6%

(ASK QUESTION 7, 8 & 9 IF Q1=1)

7. Do you have a gas fireplace or an EPA certified woodstove, insert or pellet stove?

Yes-----38%
No-----54%
(DON'T READ) DK/NA-----7%

8. Instead of using traditional fireplaces or old woodstoves, gas fireplaces and EPA certified woodstoves, inserts or pellet stoves burn much cleaner and are less polluting than traditional fireplaces.

Would you be willing to replace your traditional fireplace or old woodstove with a gas fireplace?

Yes----- 24%
No----- 59%
(DON'T READ) DK/NA----- 17%

9. Would you be willing to replace your traditional fireplace or old woodstove, with an EPA certified woodstove or pellet stove?

Yes----- 27%
No----- 59%
(DON'T READ) DK/NA----- 14%

-
10. Local governments throughout the Bay Area are considering ordinances that would require all new housing construction to use only gas fireplaces, EPA certified fireplace inserts, certified woodstoves, or pellet stoves. Would you support or oppose this local ordinance?

Support ----- 54%
Oppose ----- 27%
(DON'T READ) DK/NA----- 19%

11. During the winter do you drive a vehicle more, about the same or less than in the summer?

Drive more -----6% (Continue with Q11A)
Drive about the same ----- 67% (Skip to Q12)
Drive less----- 19% (Continue with Q11A)
(DON'T READ) Don't drive -----9% (Skip to Q12)
(DON'T READ) DK/NA-----1% (Skip to Q12)

11A. Why is that?

Weather-----	32%
Don't travel as much-----	17%
School/ work-----	5%
Less to do -----	23%
Recreation/ vacation time -----	16%
Other -----	7%

12. OK, let me change gears a bit. Have you ever heard of _____? (CODE DK/NA AS 'NO')

RANDOMIZE	<u>Yes</u>	<u>No</u>
A. Bay Area Air Quality Management District-----	59%	41%
B. Metropolitan Transportation Commission -----	45%	55%
C. The Spare the Air Tonight Campaign ---	48%	53%

QUESTIONS 13 AND 14 ARE TO BE ASKED FOR EACH Q12 ITEM THAT THE RESPONDENT HAS HEARD OF (=1)

13. Generally speaking, would you say you have a favorable or unfavorable opinion of _____ (ITEM FROM Q12), or do you have no opinion either way? (GET ANSWER THEN ASK:) Would that be very or somewhat (favorable/unfavorable)?

	Bay Area Air Quality Management District	Metropolitan Transportation Commission	The Spare the Air Tonight Campaign
Very favorable	11%	14%	24%
Somewhat favorable	20%	16%	28%
No Opinion Either Way	50%	51%	41%
Somewhat unfavorable	6%	9%	3%
Very unfavorable	8%	5%	3%
DK/NA	5%	5%	2%

14. In the past six months, have you heard, read, or seen any news story, advertisements, or public service announcements about _____ (ITEM FROM Q12)? (CODE NOT SURE AS 'NO')

	Bay Area Air Quality Management District	Metropolitan Transportation Commission	The Spare the Air Tonight Campaign
Yes	40%	30%	45%
No	59%	69%	54%
Refused	1%	1%	1%

A. Including yourself, how many licensed drivers live in your household?

0 to 1 -----	32%
2 to 3 -----	60%
4 to 6 -----	7%
7 to 10-----	1%
Refused-----	1%

B. Age

18 to 29	15%
30 to 39	18%
40 to 49	18%
50 to 64	27%
65+	18%
Refused	5%

C. Do you live in an apartment, condo, townhome, single-family home, or mobilehome?

Apartment	16%
Condo	2%
Townhome	4%
Single-family home	73%
Mobilehome	4%
Refused	1%

D. How old is your home?

0 to 10 years	20%
11 to 20 years	18%
21 to 30 years	20%
31 to 40 years	10%
41 to 50 years	8%
Over 50 years	10%
DK/NA	15%

E. What ethnic group do you consider yourself a part of or feel closest to? (IF RESPONDENT HESITATES, READ LIST)

Caucasian/White	64%
Latino/Hispanic	11%
African-American/Black	6%
Korean-American	0%
Japanese-American	1%
Chinese-American	0%
Vietnamese-American	0%
Other-Asian-American	3%
Pacific Islander	2%
Mixed	2%
Other	4%

DK/NA-----8%

F. I have just one more question for you. I am going to read some income categories. Please stop me when I reach the category that best describes your total household income.

\$49,999 or less ----- 33%
\$50,000 to \$74,999 ----- 20%
\$75,000 to \$99,999 ----- 13%
\$100,000 to \$149,999-----9%
\$150,000 to \$199,999-----3%
\$200,000 or more -----2%
(DON'T READ) DK/NA/Refused----- 21%

**Those are all the questions I have for you.
Thank you very much for participating. This survey was sponsored by the
Bay Area Air Quality Management District**

G. Respondent's Gender:

Male ----- 44%
Female----- 56%

PHONE: _____

DATE OF INTERVIEW: _____ VALIDATED BY: _____

INTERVIEWER: _____ NUMBER: _____

BAY AREA AIR QUALITY MANAGEMENT DISTRICT
Inter-Office Memorandum

To: Chairperson Ross and
Members of the Public Outreach Committee

From: Teresa Lee
Director of Public Information & Outreach

Date: April 8, 2003

Re: 2004 Clean Air Calendar

RECOMMENDED ACTION

Staff requests input from the Committee about the continued production of the annual Clean Air Calendars.

BACKGROUND

Since the late 1990's, the Air District has produced an annual Clean Air Calendar. The Committee has requested background information on the production of the calendar, including whether staff should continue its production.

DISCUSSION

As an outreach tool, the Air District has been producing a Clean Air Calendar for the past five years. Initially, the calendar included children's art work, along with descriptions of Air District functions and programs, such as the Board of Directors, inspection, air monitoring, the Spare and Air and Smoking Vehicle programs, etc. More recently, the calendar has contained different Bay Area scenes, along with an inset photo of an Air District function or program and descriptive text.

In the last two years 10,000 copies of the calendar have been printed and distributed to:

- The Board of Directors
- Spare the Air employers
- Bay Area elected officials
- Bay Area health professionals
- Local news directors
- Senior facilities, recreation centers and libraries
- Schools
- Fire departments
- Public access cable stations
- Members of the Kaila Kids Club and
- Remainder to the general public upon request.

The calendar has been publicized on the District website and on the 1-800- HELP-AIR line. In a previous year, a television meteorologist (Roberta Gonzales) also advertised the calendar on her station.

AGENDA NO. 7

The calendars have been popular with our constituents, and all but a handful are distributed by the second week in January.

BUDGET CONSIDERATIONS/FINANCIAL IMPACT

The cost for last year's calendar included:

- \$10,500 for printing 10,000 calendars,
- \$2,500 for graphic design and
- \$600 for the photographs used
- Total is \$13, 600, or \$1.36 per calendar, plus postage.

The retail unit price for a commercial calendar is in the \$12.95 – \$9.99 range with the wholesale price typically one-half of the retail price. The \$1.36 unit price for a short run calendar (10,000 units) is a very reasonable cost.

If the calendar is to continue, costs for a 2004 edition would be in a similar range. Funding for the calendar was included in the 2002/03 budget from the general fund.

Respectfully submitted,

Teresa Lee
Director of Public Information & Outreach

Reviewed by: Peter Hess

FORWARDED: _____