



## Executive Highlights:

### Evaluation of the 2014 Sacramento Region Spare The Air Campaign (Revised 2-25-15)

#### **METHODOLOGY:**

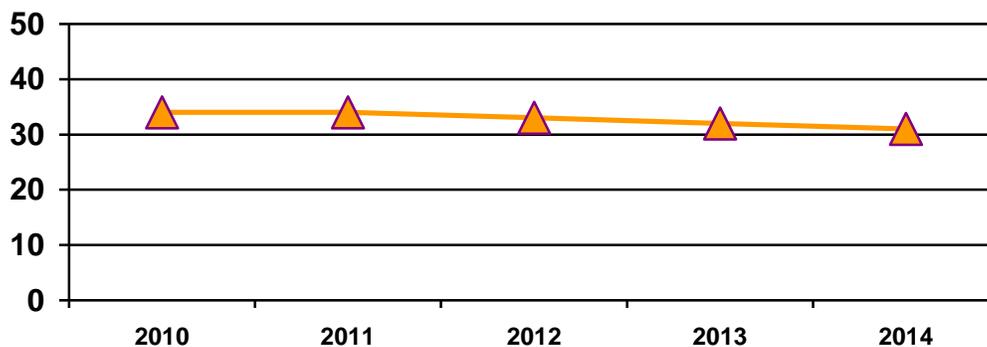
Spare The Air alerts are issued whenever the Air Quality Index (AQI) is forecast to reach or exceed 127 anywhere in the Sacramento region. Drivers are asked to voluntarily reduce the amount of driving they do on such days. Random samples of residents with landline telephones from four air districts representing five counties in the Sacramento Nonattainment Area were interviewed. A total of 838 (361 when weighted proportionately) interviews were conducted following the **four** Spare The Air days in 2014. On non-Spare The Air (or Control) days 861 (347 weighted) interviews were conducted on matched days of the week.

#### **SUMMARY RESULTS:**

##### **Summertime Seasonal Trip Reductions:**

- ◆ Nearly one third (31%) of all respondents in the Sacramento Nonattainment Area are seasonal reducers – that is, they say they usually reduce the amount of driving they do during the summer to avoid adding to air pollution. This translates into nearly half a million (465,246) drivers in the area who are seasonal reducers. The level is not significantly different from the five-year average of 33%.

**Year-To-Year Comparison of Percent of Respondents Who Seasonally Reduce Driving to Avoid Adding to Air Pollution: Sacramento Core Region**



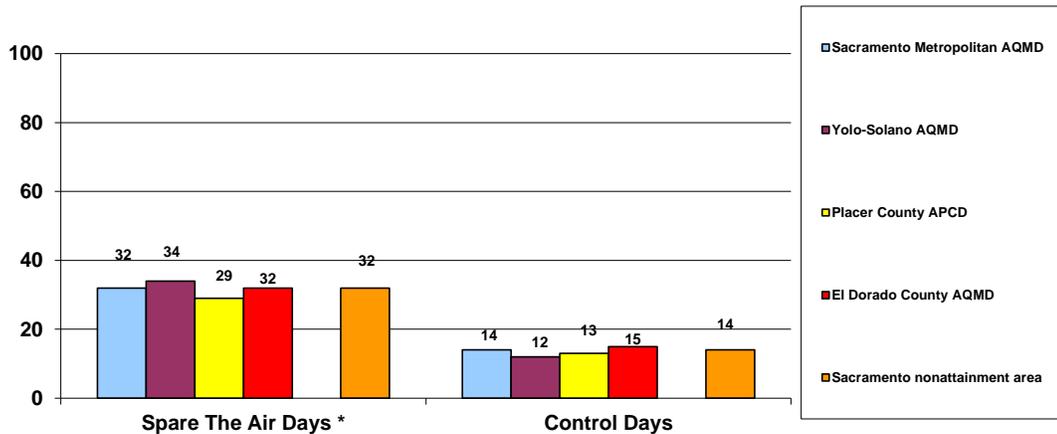
- ◆ Summertime driving reducers made fewer trips than those who did not change their driving habits during the summer: on average, they made .51 fewer trips per day.
- ◆ The number of trips avoided by summertime seasonal reducers translates into a reduction of 0.65 tons per day of ozone precursors during the summer of 2014. Although not considered part of the official measurement, **this group nevertheless continues to contribute to voluntary emission reductions during the summer months.**



**Awareness:**

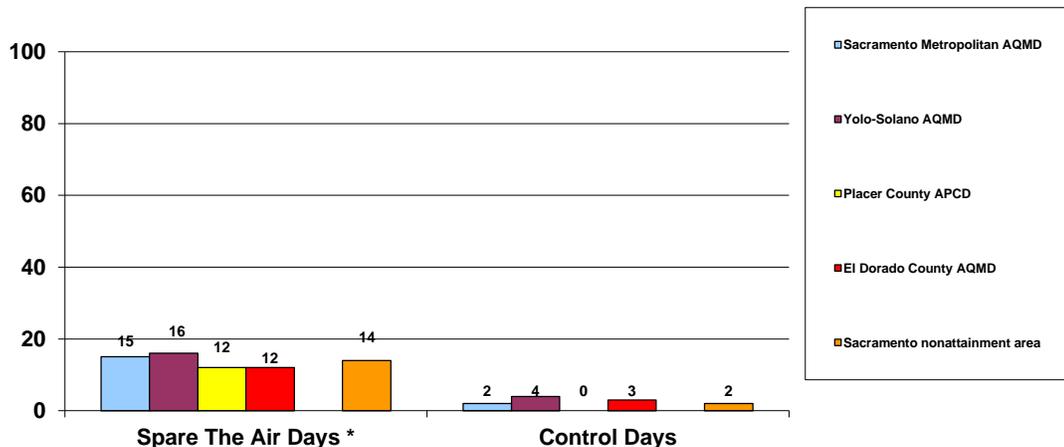
- ◆ For general awareness, an average of 32% of respondents in the entire Sacramento region had heard, read, or seen the Spare The Air advertisements. This translates to an estimated **480,253 drivers** in the entire Nonattainment Area who were aware of Spare The Air in general.
- ◆ Significantly more respondents interviewed following Spare The Air days were aware of the program than were their Control day counterparts, once again indicating that the message is still getting through and being heard by residents.

Spare The Air vs. Control Days: 2014 General Awareness



- ◆ An average of 14% of respondents in the Sacramento Nonattainment Area were aware of the specific episodic request not to drive on Spare The Air days. Adjusting for Control day responses, this means that **195,103 drivers** in the region remembered the request not to drive.

Spare The Air vs. Control Days: 2014 Specific Awareness





**Driving Reduction:**

- ◆ Just over one in five (22%) respondents in the Sacramento Nonattainment Area as a whole said they drove less on Spare The Air days.
- ◆ Using the strict ARB methodology, and after weighting, nearly one percent (0.8%) of respondent drivers met the strict ARB standard of “purposeful reducer” -- they drove less on Spare The Air days because they heard the Spare The Air alerts and wanted to improve air quality in the region.
- ◆ The 0.8% percent of purposeful reducers in the Sacramento Nonattainment Area is a five year high, but only marginally higher than the 0.4% average.
- ◆ In the Sacramento Nonattainment Area, a total of **36,018 trips were avoided by purposeful reducers** each Spare The Air day in 2014 due to the campaign.

| <i>Air District</i>                              | <i>Estimated Number of Purposeful Reducers</i> | <i>Mean # of Trips Avoided for Air Quality Reasons</i> | <i>Estimated Number of Single Trips Reduced</i> |
|--|--|--|---|
| <i>Sacramento Metropolitan AQMD</i>              | 7,623  | 3  | 22,869  |
| <i>Yolo-Solano AQMD</i>                          | 839  | 0 <sup>1</sup>   | 0 <sup>1</sup>                                  |
| <i>Placer County APCD</i>                        | 3,371  | 3  | 10,113  |
| <i>El Dorado County AQMD</i>                     | 0  | 0  | 0   |
| <i>Sacramento Nonattainment Area<sup>2</sup></i> | 12,006 <sup>3</sup>                            | 3  | <b>36,018 trips</b>                             |

**Estimated Emission Reductions:**

- ◆ The 2014 Spare The Air voluntary driving reduction program was successful in reducing air pollution in the Sacramento Nonattainment Area by an estimated **0.12 tons of ozone precursors per Spare The Air day**. This is due specifically to drivers purposefully reducing the number of trips they took on Spare The Air days for air quality reasons.
- ◆ This was also true in the Sacramento Metropolitan AQMD -- 0.07 tons of ozone precursors were reduced per Spare The Air day.

<sup>1</sup> It is unclear exactly why the only reducer in Yolo-Solano AQMD self-reported reducing 0 trips. Examination of the case suggests the respondent misunderstood the question and reported the number of trips they made, instead of the number of trips they reduced (answer to q4a is 0 trips).

<sup>2</sup> Includes El Dorado County AQMD.

<sup>3</sup> The results for the Sacramento Nonattainment Area as a whole are not the simple sum of the individual air districts, but rather, are weighted results that reflect the relative proportional distribution of residents in the area.



| Sacramento Nonattainment Area   | Percent of Respondent Drivers Who Drove Less for Air Quality Reasons | X<br>Number of Licensed Drivers in Sacramento Nonattainment Area (1,500,792 Total) | X<br>Mean Number of Single Trips Reduced Per Day (3) | X<br>2.90 Grams of Ozone Precursors Per Trip (EMFAC 2011 V2.3) 2014 summer | =<br>Estimated Tons per Day of Ozone Precursors Reduced |
|---|--|--|--|--|---|
| <b>Spare The Air Days</b>   | <b>0.8%<br/>(3 / 361)</b>  | <b>12,006</b>  | <b>36,018</b>  | <b>104,452 grams</b>   | <b>0.12 tons</b>  |
| <b>Control Days</b>   | <b>0.0%<br/>(0 / 347)</b>  | <b>0</b>   | <b>0</b>   | <b>0 grams</b>   | <b>0.00 tons</b>  |
| <b><i>Estimated Tons of Ozone Precursors Reduced Per Day: (STA Day Reductions minus Control Day Reductions)</i></b> |  |  |  |  | <b>0.12 tons</b>  |

**Summer 2014 Health Issues:**

- ◆ Fourteen percent (14%) of households in the Sacramento Nonattainment Area reported breathing problems on Spare The Air days in 2014. However, 14% of households in the Sacramento Nonattainment Area reported breathing problems on Control days.
- ◆ In addition, no discernable trends arose in breathing difficulty responses between air districts.
- ◆ No difference between Spare The Air and Control day responses coupled with no discernable trends between air districts suggests that the King Fire influenced Control day reported health effects.

Year-to-Year Comparison of Percent of Respondents Whose Households Experienced Breathing Problems on Spare The Air days

