



## Executive Highlights: Evaluation of the 2016 Sacramento Region Spare The Air Campaign

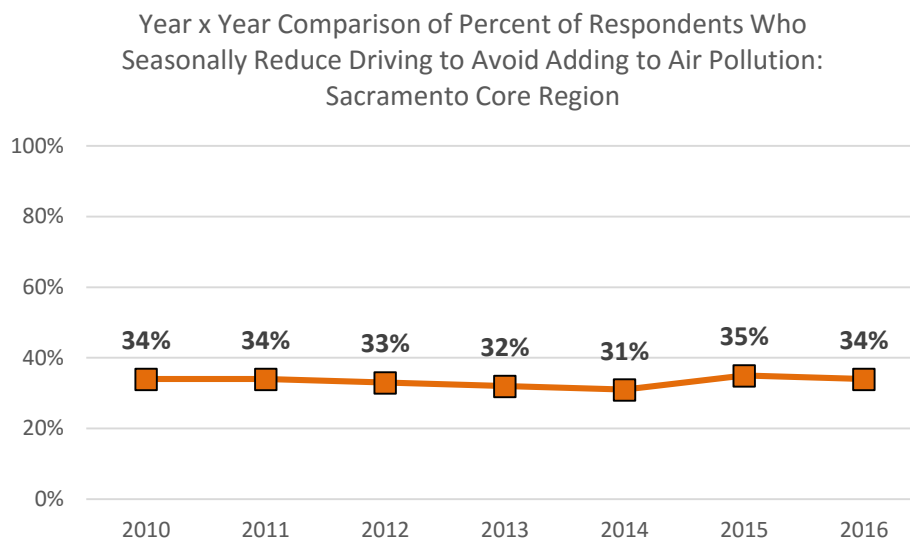
### METHODOLOGY:

Spare The Air alerts are issued whenever the Air Quality Index (AQI) is forecast to reach or exceed 126 anywhere in the Sacramento region. Drivers are asked to voluntarily reduce the amount of driving they do on such days. Random samples of listed residents with landline and mobile telephones from four air districts representing five counties in the Sacramento Nonattainment Area were interviewed. A total of 1078 (577 when weighted proportionately) interviews were conducted following the 17 Spare The Air days in 2016. On non-Spare The Air (or Control) days 864 (488 weighted) interviews were conducted on matched days of the week.

### SUMMARY RESULTS:

#### Summertime Seasonal Trip Reductions:

- ◆ Over one third (34%) 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 (548,235) drivers in the area who are seasonal reducers. The level is not significantly different from the six-year average of 33%.

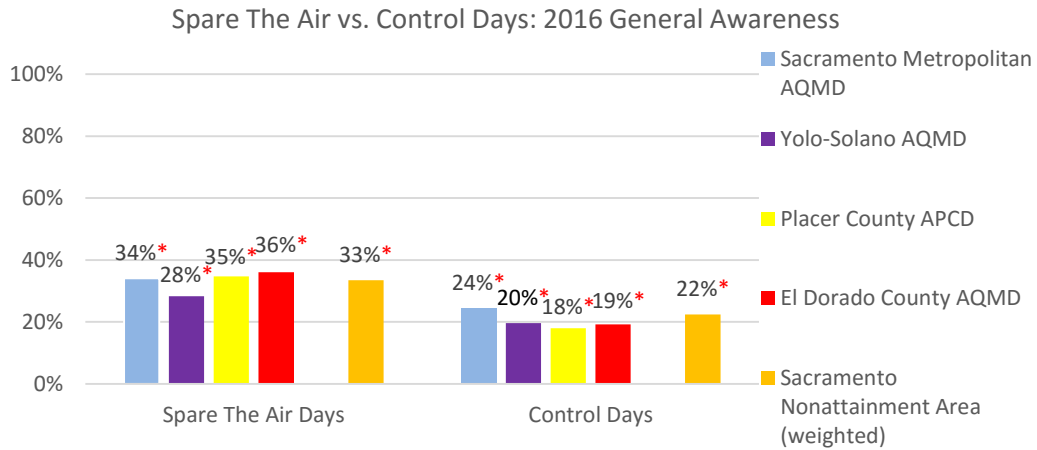


- ◆ Summertime driving reducers made fewer trips than those who did not change their driving habits during the summer: on average, they made .63 fewer trips per day.
- ◆ The number of trips avoided by summertime seasonal reducers translates into a reduction of 0.95 tons per day of ozone precursors during the summer of 2016, which is .09 tons more per day than summer of 2015. Although not considered part of the official measurement, **these Spare The Air success stories continue to contribute to voluntary emission reductions during the summer months.**



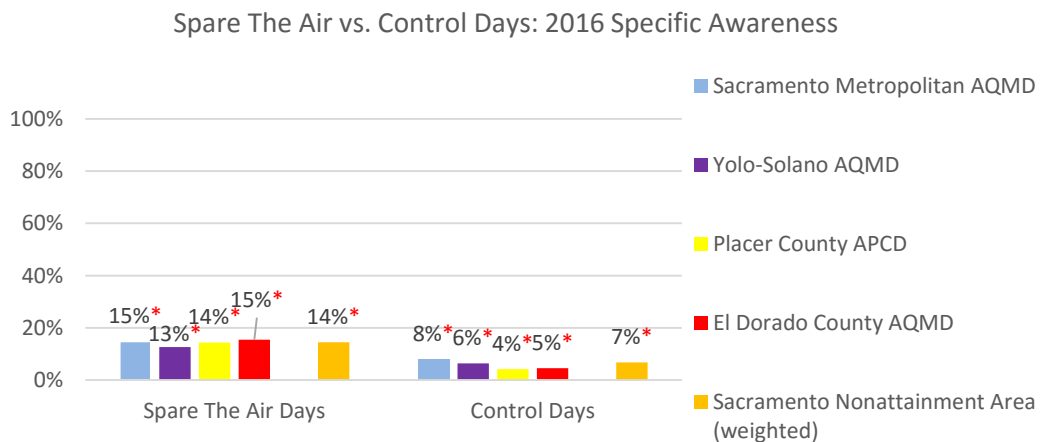
**Awareness:**

- ◆ For general awareness, an average of 33% of respondents in the entire Sacramento region had heard, read, or seen the Spare The Air advertisements. This translates to an estimated **532,111 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.



\* indicates statistically significant differences between Spare The Air and Control percentages.

- ◆ 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 **112,872 drivers** in the region remembered the request not to drive.



\* indicates statistically significant differences between Spare The Air and Control percentages.

**Driving Reduction:**

- ◆ Nearly one in five (19%) 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, 0.8% of respondent drivers met the 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 significantly lower than 2015 (2.8%), but is consistent with each other season since 2010.
- ◆ In the Sacramento Nonattainment Area, a total of **51,600 trips were avoided by purposeful reducers** each Spare The Air day in 2016 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>	7,915	4	31,660
<i>Yolo-Solano AQMD</i>	0	2	0
<i>Placer County APCD</i>	3,030	3	9,090
<i>El Dorado County AQMD</i>	1,464	4	5,856
<i>Sacramento Nonattainment Area</i>	12,900 <sup>1</sup>	4	<b>51,600 trips</b>

**Estimated Emission Reductions:**

- ◆ The 2016 Spare The Air voluntary driving reduction program was successful in reducing air pollution in the Sacramento Nonattainment Area by an estimated **0.14 tons of ozone precursors per Spare The Air day**. This is due specifically to drivers who heard a request to reduce driving and purposefully reduced the number of trips they took on Spare The Air days for air quality reasons.
- ◆ In the Sacramento Metropolitan AQMD -- 0.09 tons of ozone precursors were reduced per Spare The Air day.

<sup>1</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.

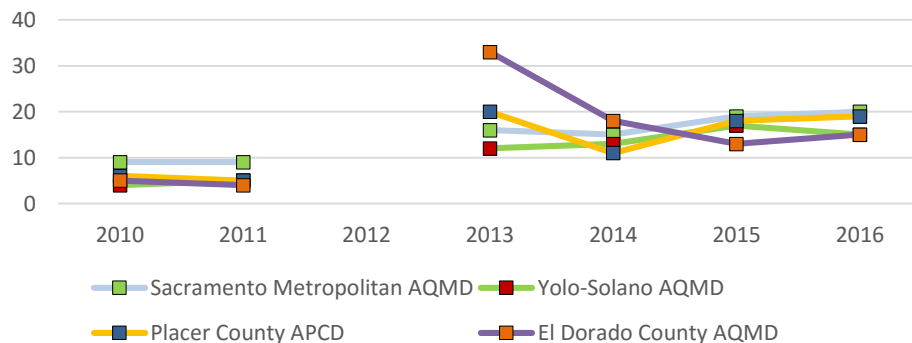


Sacramento Nonattainment Area	Percent of Respondent Drivers Who Drove Less for Air Quality Reasons <sup>2</sup>	X Number of Licensed Drivers in Sacramento Nonattainment Area (1,612,457 Total)	X Mean Number of Single Trips Reduced Per Day (3)	X 2.50 Grams of Ozone Precursors Per Trip (EMFAC 2014) 2016 summer	= Estimated Tons per Day of Ozone Precursors Reduced
<b>Spare The Air Days</b>	<b>0.8% (4 / 577)</b>	<b>42,298</b>	<b>126,894</b>	<b>129,000 grams</b>	<b>0.14 tons</b>
<b>Control Days</b>	<b>0.0% (0/488)</b>	<b>0</b>	<b>0</b>	<b>0 grams</b>	<b>0.00 tons</b>
<b>Estimated Tons of Ozone Precursors Reduced Per Day: (STA Day Reductions minus Control Day Reductions)</b>					<b>0.14 tons</b>

**Summer 2016 Health Issues:**

- ◆ Nineteen percent (19%) of households in the Sacramento Nonattainment Area reported breathing problems on Spare The Air days in 2016. However, 15% of households in the Sacramento Nonattainment Area reported breathing problems on Control days.
- ◆ Control day interviews began in August instead of September as in previous years. It's possible that many Control respondents in 2016 may have legitimately experienced health effects from poor summer air, accounting for the similar percentages between Spare The Air and Control days.
- ◆ Reports of health concerns in each of the individual air districts have remained consistent since 2014. Frequency of concerns from 2013 through 2016 suggests a greater sensitivity to air pollution than what respondents experienced in 2010 and 2011. Health effects were not surveyed in 2012.

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



<sup>2</sup> In addition, in the case of Spare The Air respondents, these drivers had to say they had heard the Spare The Air alert (the ARB general awareness question - Q12b).