



## Executive Highlights: Evaluation of the 2017 Sacramento Region Spare The Air Campaign

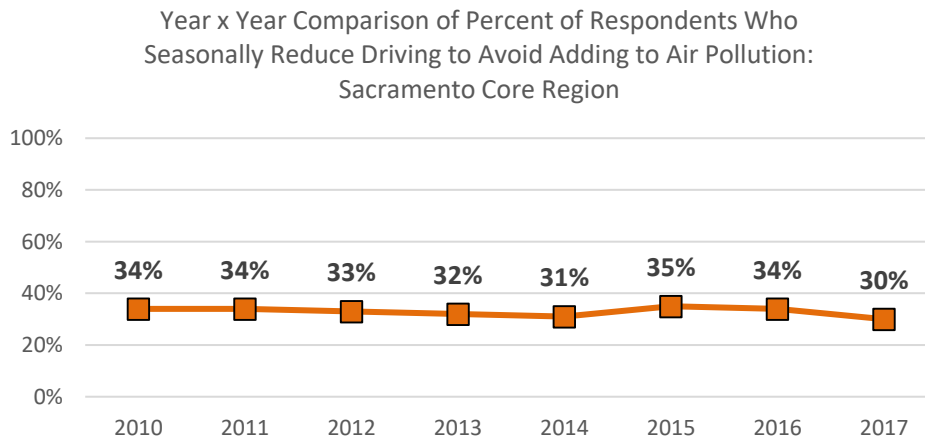
### METHODOLOGY:

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 residents from four air districts representing five counties in the Sacramento Nonattainment Area were interviewed. A total of 1,118 (573 when weighted proportionately) interviews were conducted following 13 of the 17 Spare The Air days in 2017. On non-Spare The Air (or Control) days 938 (378 weighted) interviews were conducted on matched days of the week.

### SUMMARY RESULTS:

#### Summertime Seasonal Trip Reductions:

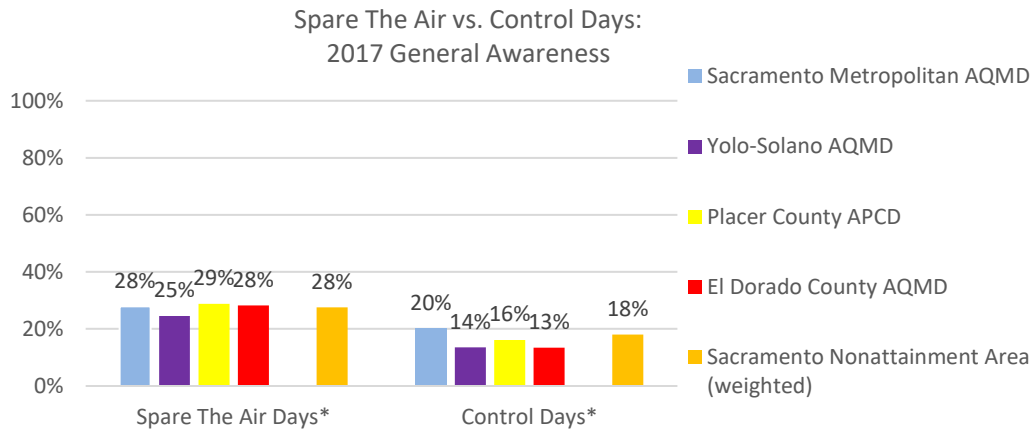
- ◆ Nearly one third (30%) of all respondents in the Sacramento Nonattainment Area are seasonal reducers – that is, they say they usually reduce the amount of driving they do during the summer to avoid adding to air pollution. This translates into 494,540 drivers. This year’s percentage of seasonal reducers in the Sacramento Core Region is not significantly different from the eight-year average of 33%. That the program continues to inspire seasonal reduction is testament to the efforts spent keeping Spare The Air effective.



- ◆ Summertime driving reducers made fewer trips than those who did not change their driving habits during the summer: on average, they made .85 fewer trips per day.
- ◆ The number of trips avoided by summertime seasonal reducers translates into a **reduction of 1.02 tons per day of ozone precursors during the summer of 2017, which is .07 tons more per day than the summer of 2016**. 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.

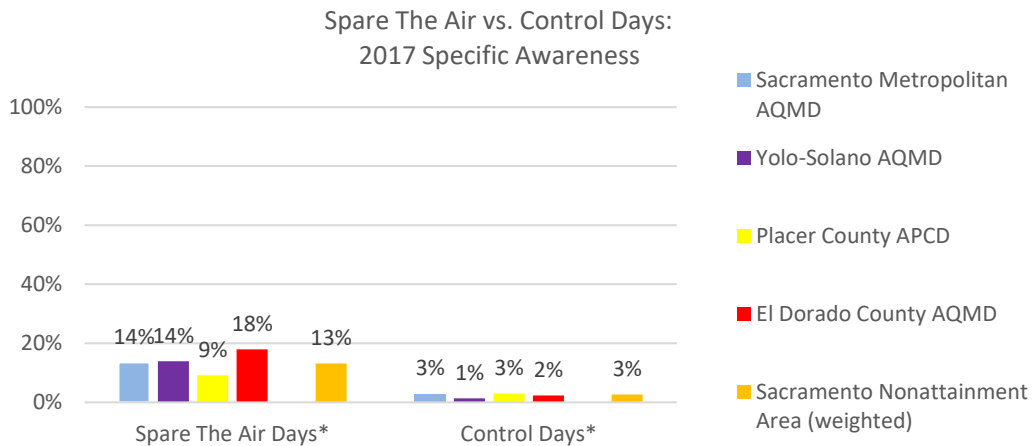
**Awareness:**

- ◆ For general awareness, an average of 28% of respondents in the entire Sacramento region had heard, read, or seen the Spare The Air advertisements. This translates into an estimated **461,570 drivers** in the entire Nonattainment Area who were aware of Spare The Air in general.
- ◆ Levels of both general and specific awareness of Spare The Air were significantly higher when respondents were interviewed following Spare The Air days than on Control days, an indication that the episodic announcements are effective at reaching the Sacramento region’s residents throughout the summer.



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

- ◆ An average of 13% 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 **161,246 drivers** in the region remembered the request not to drive.



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

**Driving Reduction:**

- ◆ One in five (20%) respondents in the Sacramento Nonattainment Area said they drove less on Spare The Air days, which is consistent with the eight-year average of 20%.
- ◆ Using the strict ARB methodology, and after weighting, 0.1% 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 0.1% percent of purposeful reducers in the Sacramento Nonattainment Area is significantly lower than 2015 (2.8%), but is not significantly different from the eight-year average.
- ◆ In the Sacramento Nonattainment Area, a total of **1,649 trips were avoided by purposeful reducers** on each of the 17 Spare The Air days in 2017 due to the campaign.

<i>Air District</i>	<i>Total Number of Drivers</i>	<i>Percent of Purposeful Reducers</i>	<i>Percent of Control 'Reducers'</i>	<i>Estimated Number of Purposeful Reducers in 2017 [(Reducers - Control)*Drivers]</i>
<b>Sacramento Metropolitan AQMD</b>	1,011,962	0.0%	0.0%	0
<b>Yolo-Solano AQMD</b>	230,682	0.4%	0.0%	923
<b>Placer County APCD</b>	281,954	0.0%	0.0%	0
<b>El Dorado County AQMD</b>	123,869	0.0%	0.0%	0
<b>Sacramento Nonattainment Area</b>	1,648,467	0.1%	0.0%	<b>1,649 Purposeful Reducers</b>

**Estimated Emission Reductions:**

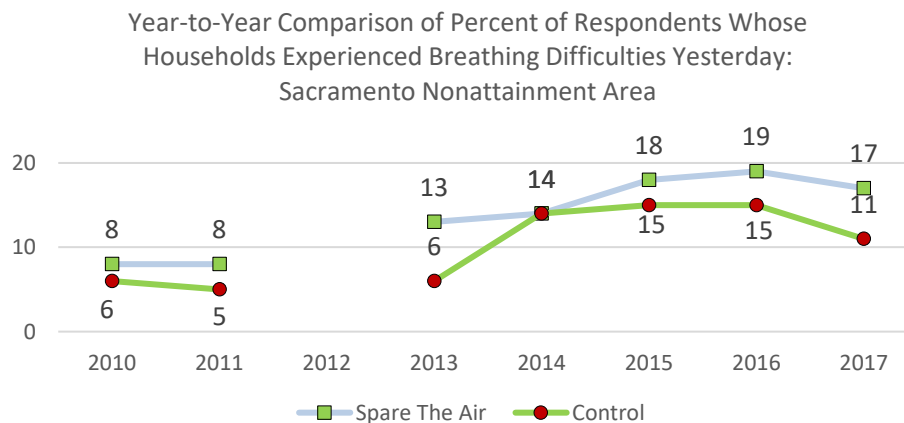
- ◆ The 2017 Spare The Air voluntary driving reduction program was successful in reducing air pollution in the Sacramento Nonattainment Area by an estimated **0.016 tons of ozone precursors on each of the 17 Spare The Air days**. This is due specifically to drivers who heard a request to reduce driving and purposefully reduced the number of trips they took on Spare The Air days for air quality reasons.
- ◆ Emission reductions per Spare The Air day in 2017 were less than recent years, but overall the data indicate the program can be successful at reducing emissions.



Sacramento Nonattainment Area	Percent of Respondent Drivers Who Drove Less for Air Quality Reasons <sup>1</sup>	X Number of Licensed Drivers in Sacramento Nonattainment Area (1,648,46 Total)	X Mean Number of Single Trips Reduced Per Day (4)	X 2.21 Grams of Ozone Precursors Per Trip (EMFAC 2014) 2017 summer	= Estimated Tons per Day of Ozone Precursors Reduced
Spare The Air Days	0.1% (.29/573)	1,649	6,596	14,577 grams	0.016 tons
Control Days	0.0% (0/379)	0	0	0 grams	0.00 tons
<b>Estimated Tons of Ozone Precursors Reduced Per Day: (STA Day Reductions minus Control Day Reductions)</b>					<b>0.016 tons</b>

**Summer 2017 Health Issues:**

- ◆ Seventeen percent (17%) of households in the Sacramento Nonattainment Area reported breathing problems on Spare The Air days in 2017. However, 11% 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 2017 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 2014 through 2017 suggests a greater sensitivity to air pollution than what respondents experienced in 2010 and 2011. Health effects were not surveyed in 2012.



<sup>1</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).