



## Land Use & Natural Resources Committee

## Item # 16-12-6 Information

November 23, 2016

### **Extension of the Spare The Air Transportation Control Measure in the 8-Hour Ozone State Implementation Plan**

**Issue:** Should SACOG recommend the extension of Spare The Air as a Transportation Control Measure in the update of the regional 8-Hour Ozone State Implementation Plan (SIP) and maintain the existing funding level commitment?

**Recommendation:** For information only. The Transportation Committee will take action on this item.

**Discussion:** The California Air Resources Board (CARB), in conjunction with the air districts in the Sacramento region, is in the process of developing a regional State Implementation Plan (SIP) for the 2008 Ozone National Ambient Air Quality Standard (NAAQS) of 75 parts per billion (ppb). The statutory deadline to attain the 2008 NAAQS is 2026. Based upon modeling done by CARB, the non-attainment portion of the SACOG region can attain the ozone standard earlier than the statutory deadline. Because the region is able to attain the 2008 ozone standard early, the attainment plan the air districts are jointly developing will rely on previous control measures. This means that no additional controls beyond what is currently implemented would be placed upon industry (stationary sources) or the transportation sector (mobile sources) as part of the regional SIP.

As part of the SIP development process, SACOG was required to conduct an analysis to identify any new reasonably available control measures (RACM). The findings of the analysis were presented to the committees in November, and Board action was taken on the determination that there were no new candidate measures that could individually or collectively advance attainment by one year.

The absence of new measures does not preclude considering the extension of existing Transportation Control Measures (TCMs). As a best practice, TCMs contained in SIPs identify final program/project implementation dates; in line with this practice all existing SACOG TCMs projects and programs will be considered fully implemented as of 2018. As a SIP best practice, including these timeframes allows regions and air districts to assess TCMs in light of changes in regulations, new technologies, and effectiveness. This is similar to evaluations currently underway on the rideshare program that is housed under SACOG's Transportation Demand Management Program and the approach taken on Sacramento Emergency Clean Air & Transportation Grant Program (SECAT), which has allowed the region to achieve emission reductions in advance of CARB 2014 Truck and Bus regulations being fully implemented.

The health standard for ozone has become more health-protective over time. The 8-hour standard has been revised from 84 ppb – the 1997 standard when SACOG's TCMs were last identified – to 75 ppb (2008 standard) for this current SIP development process. The next SIP update, which will happen in 2021, will continue this health-protective trend-line and drop to 70 ppb (2015 standard). The 2015 8-hour NAAQS of 70 ppb is the current standard, effective July 2016, and the next few years of data gathering at the regional air quality monitoring sites will be the basis for determining the next type of SIP that will be developed, as well as the next attainment date.

Noting the ability of the SIP for the 2008 standard to influence the parameters of the 2015 standard, SACOG staff in conjunction with Sacramento Metropolitan Air Quality Management District (SMAQMD) staff are recommending the extension of the Spare The Air Program as a TCM, since it directly targets the days and exceedances that will be the basis for determining the type and timing of the next SIP. The extension also demonstrates to the U.S. Environmental Protection Agency (EPA) a regional commitment to targeting emission reductions from the transportation sector – the largest regional ozone emission source.

The current 6-county TCM commitment for Spare The Air, \$600,000 per year for the years 2008 to 2018, has been fully implemented with Congestion Mitigation and Air Quality (CMAQ) funding from SACOG, the El Dorado County Transportation Commission (EDCTC), and Placer County Transportation Planning Agency (PCTPA). Matching funds for the program come from each air district's DMV fees and/or Sacramento County's Measure A.

If the SIP is adopted including the recommended Spare The Air TCM for the years 2019 through 2024, SACOG would commit a 4-county population pro-rata share of a total target of \$600,000 per year. A separate funding action would be required by SACOG, EDCTC and PCTPA to actually program their pro-rata shares of the funding target, and SMAQMD would need to continue to provide local match.

The Spare The Air program was created to engage the general public in voluntarily helping to reduce ground-level ozone air pollution. With data based on annual surveys, coupled with comprehensive emission reductions methodology approved by CARB and the U.S. EPA, the Sacramento region's Spare The Air program is successful in reducing ozone precursors. In 2015, 0.28 tons of ozone precursors per Spare The Air day were reduced by drivers who heard a request to reduce driving because of a Spare The Air alert and purposely reduced the number of trips they took for air quality reasons. In addition, 0.86 tons per day of ozone precursors were reduced by "seasonal reducers" who reduce the amount of driving they do during the summer to avoid adding to air pollution. The general public's air quality awareness in the Sacramento region exists because the Spare The Air program has educated the public since 1995.

Larry Greene, Executive Director/Air Pollution Control Officer of SMAQMD, will provide a presentation to the committee on program highlights and future implementation details. Attachment A is a report on the program.

Approved by:

Mike McKeever  
Chief Executive Officer

MM:RP:ds  
Attachment

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## Executive Highlights: Evaluation of the 2015 Sacramento Region Spare The Air Campaign

### **METHODOLOGY:**

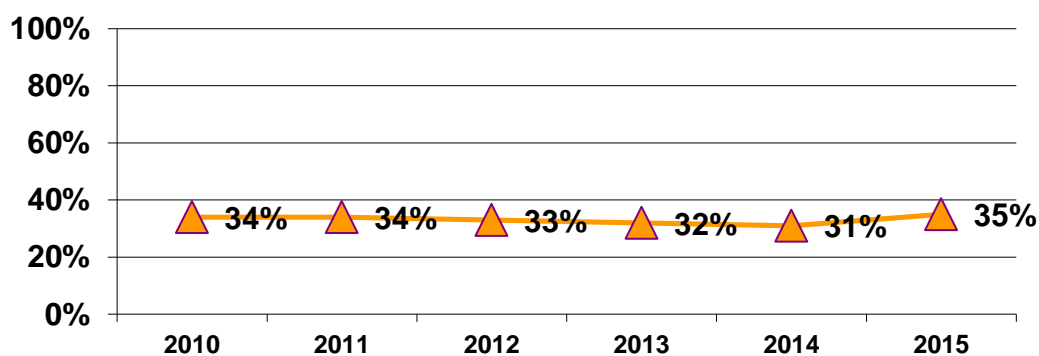
Spare The Air alerts are issued whenever the Air Quality Index (AQI) is forecast to reach or exceed 127 anywhere in the Sacramento region. Drivers are asked to voluntarily reduce the amount of driving they do on such days. Random samples of listed residents with landline telephones from four air districts representing five counties in the Sacramento Nonattainment Area were interviewed. A total of 1008 (470 when weighted proportionately) interviews were conducted following the **five** Spare The Air days in 2015. On non-Spare The Air (or Control) days 1004 (489 weighted) interviews were conducted on matched days of the week.

### **SUMMARY RESULTS:**

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

- ◆ Nearly one third (35%) 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 (528,730) drivers in the area who are seasonal reducers. The level is not significantly different from the six-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**



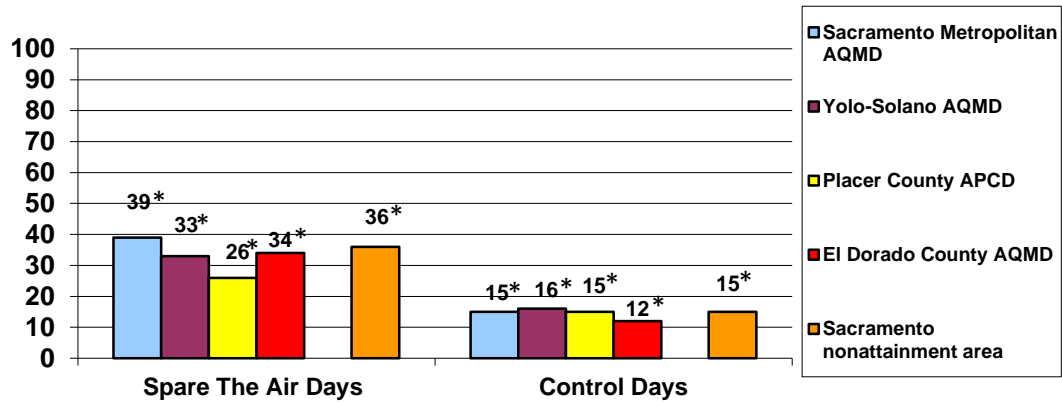
- ◆ Summertime driving reducers made fewer trips than those who did not change their driving habits during the summer: on average, they made .57 fewer trips per day.
- ◆ The number of trips avoided by summertime seasonal reducers translates into a reduction of 0.86 tons per day of ozone precursors during the 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 36% of respondents in the entire Sacramento region had heard, read, or seen the Spare The Air advertisements. This translates to an estimated **543,837 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.

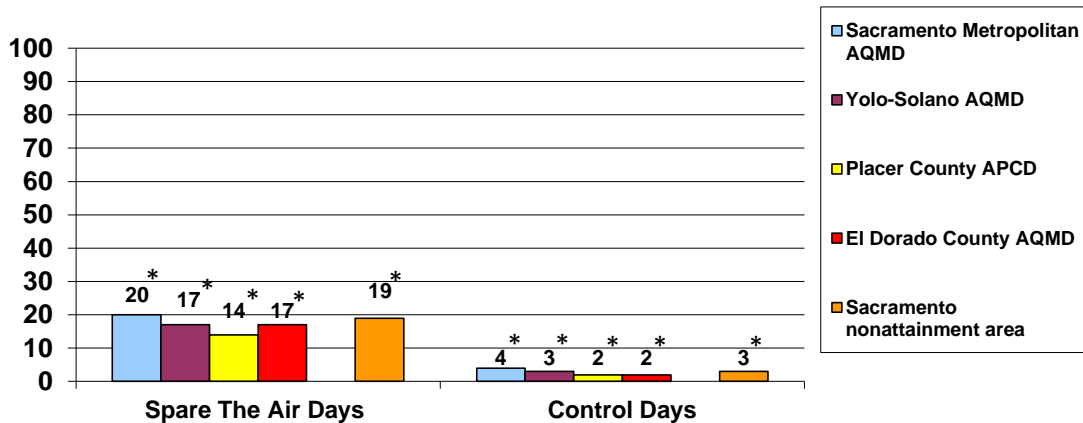
**Spare The Air vs. Control Days: 2015 General Awareness**



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

- ◆ An average of 19% 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 **241,705 drivers** in the region remembered the request not to drive.

**Spare The Air vs. Control Days: 2015 Specific Awareness**



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

**Driving Reduction:**

- ◆ One in five (20%) 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, 2.8% 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 2.8% percent of purposeful reducers in the Sacramento Nonattainment Area is a six year high, significantly higher than each previous year since 2010.
- ◆ In the Sacramento Nonattainment Area, a total of **126,876 trips were avoided by purposeful reducers** each Spare The Air day in 2015 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>
<b>Sacramento Metropolitan AQMD</b>	<b>38,376</b>	<b>3</b>	<b>115,128</b>
<b>Yolo-Solano AQMD</b>	<b>849</b>	<b>4</b>	<b>3,396</b>
<b>Placer County APCD</b>	<b>1,928</b>	<b>2</b>	<b>3,856</b>
<b>El Dorado County AQMD</b>	<b>589</b>	<b>1</b>	<b>589</b>
<b>Sacramento Nonattainment Area<sup>1</sup></b>	<b>42,292<sup>2</sup></b>	<b>3</b>	<b>126,876 trips</b>

**Estimated Emission Reductions:**

- ◆ The 2015 Spare The Air voluntary driving reduction program was successful in reducing air pollution in the Sacramento Nonattainment Area by an estimated **0.28 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.
- ◆ This was also true in the Sacramento Metropolitan AQMD -- 0.28 tons of ozone precursors were reduced per Spare The Air day.

<sup>1</sup> Includes El Dorado County AQMD.

<sup>2</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.

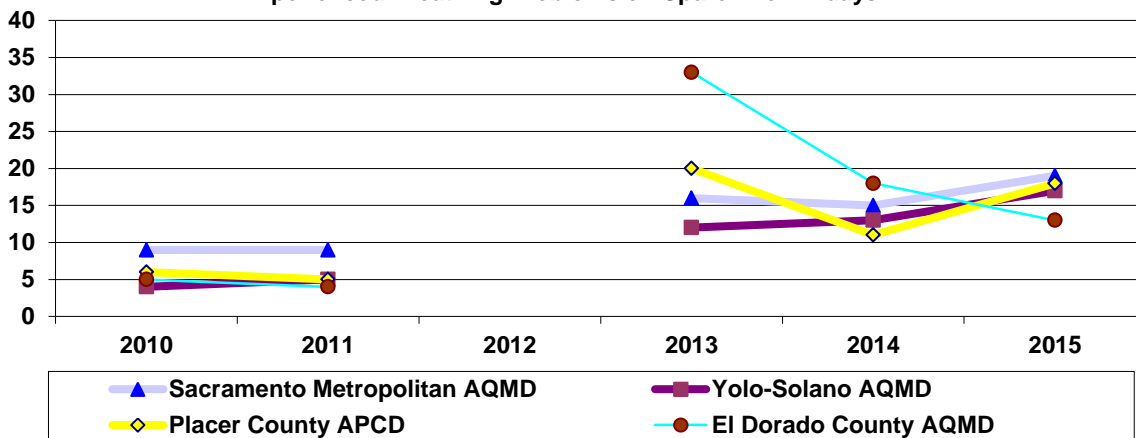


Sacramento Nonattainment Area	Percent of Respondent Drivers Who Drove Less for Air Quality Reasons <sup>3</sup>	X Number of Licensed Drivers in Sacramento Nonattainment Area (1,510,657 Total)	X Mean Number of Single Trips Reduced Per Day (3)	X 2.58 Grams of Ozone Precursors Per Trip (EMFAC 2011 V2.3) 2015 summer	= Estimated Tons per Day of Ozone Precursors Reduced
<b>Spare The Air Days</b>	<b>2.8% (13 / 470)</b>	<b>42,298</b>	<b>126,894</b>	<b>327,386 grams</b>	<b>0.36 tons</b>
<b>Control Days</b>	<b>0.4% (2/489)</b>	<b>9,094</b>	<b>27,282</b>	<b>70,388 grams</b>	<b>0.08 tons</b>
<b>Estimated Tons of Ozone Precursors Reduced Per Day: (STA Day Reductions minus Control Day Reductions)</b>					<b>0.28 tons</b>

**Summer 2015 Health Issues:**

- ◆ Fourteen percent (18%) of households in the Sacramento Nonattainment Area reported breathing problems on Spare The Air days in 2015. However, 15% of households in the Sacramento Nonattainment Area reported breathing problems on Control days.
- ◆ Wildfire smoke may have influenced Control day health concerns. As a result, few differences are found between Spare The Air and Control Day health effects.
- ◆ Reports of health concerns in each of the individual air districts are very similar to 2014. Consistent health concern rates from 2013 through 2015 suggest 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>3</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).