



## Executive Highlights: Evaluation of the 2011 Sacramento Region Spare The Air Campaign

### **METHODOLOGY:**

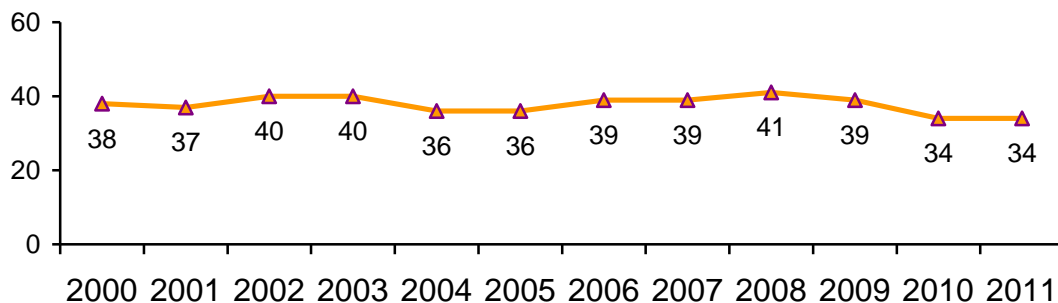
*Spare The Air advisories are issued whenever the Air Quality Index (AQI) is forecast to reach or exceed 150 anywhere in the Sacramento region. Drivers are asked to voluntarily reduce the amount of driving they do on such days. Random samples of residents with landline telephones from four air quality management districts in the Sacramento nonattainment area were interviewed. In Sacramento County an augmented random sample of cell phone users was also included in this evaluation. A total of 838 (411 when weighted proportionately) interviews were conducted following the **five** Spare The Air days in 2011. On non-Spare The Air (or Control) days 876 (343 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 (494,281) drivers in the area who are seasonal reducers. The level is not significantly different from the 12-year average of 38%.*

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



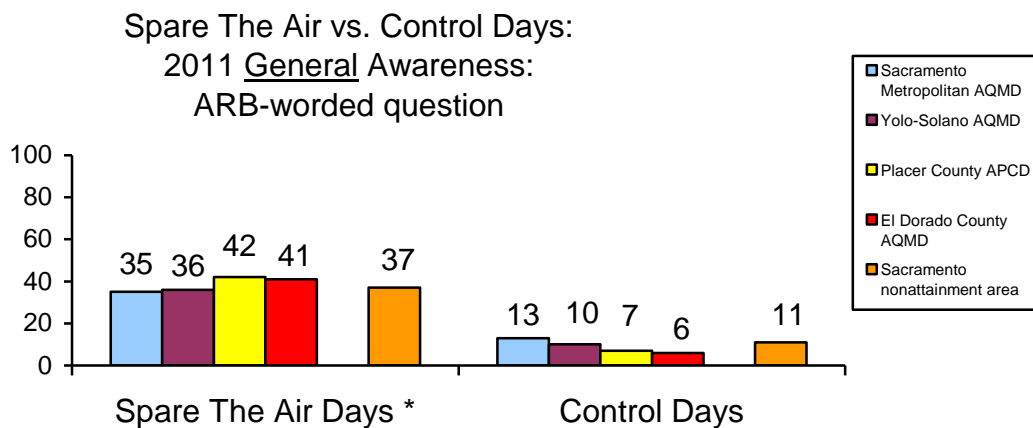
- ◆ *Summertime reducers entered their cars fewer times than those who did not usually reduce driving during the summer, although the difference was not statistically significant. On average, they made 4 fewer trips per day.*
- ◆ *These avoided trips represent a reduction of 0.9 tons per day of ozone precursors. Although not considered part of the official measurement, **this group nevertheless continues to contribute to voluntary emission reductions during the summer months.***

#### **Awareness:**

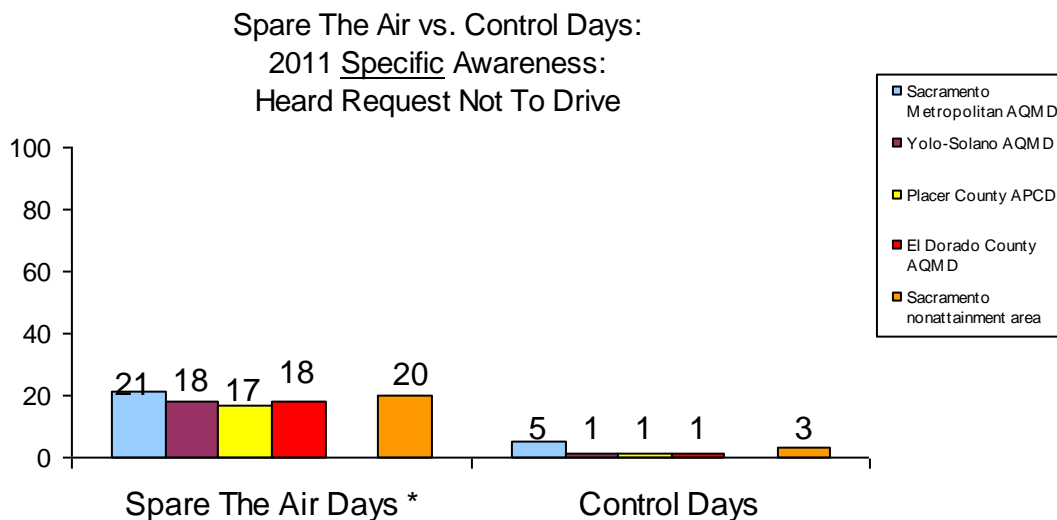
- ◆ *General awareness of Spare The Air in 2011 was low – an average of only 37% of respondents in the entire Sacramento region had heard, read, or seen the Spare The Air advertisements.*



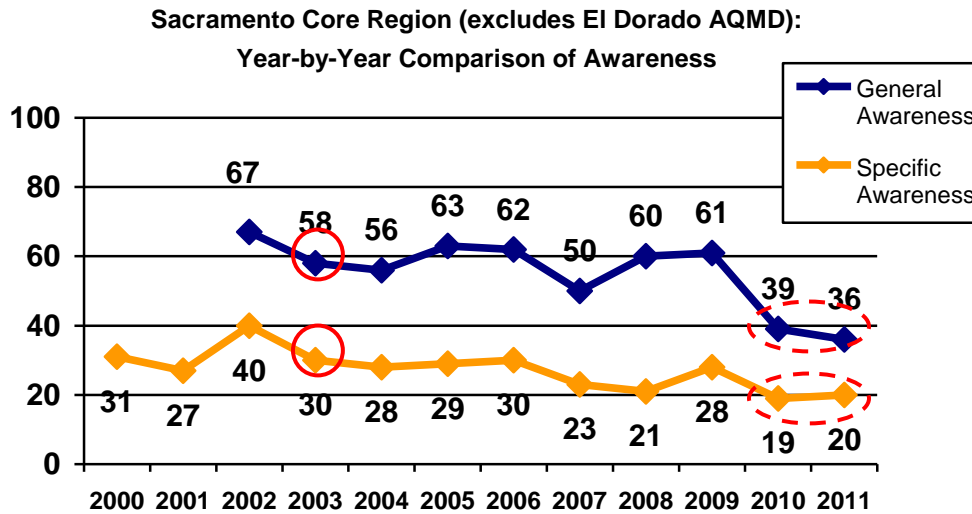
- ◆ This could well be due to a summer of relatively good air quality -- there were only five Spare The Air days this season and four of the five days unusually occurred in September.
- ◆ Further analysis showed that awareness increased to 63% on the second day of a two-day episode, indicating that **the media continues to be effective in reaching the population, but that the impact may need to be cumulative.**
- ◆ In terms of general awareness and adjusting for Control day responses, results indicate that 377,980 drivers in the entire nonattainment area were aware of Spare The Air.
- ◆ 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.



- ◆ Only 20% of respondents in the entire 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 nearly a quarter of a million (247,141) drivers in the region remembered the request not to drive.



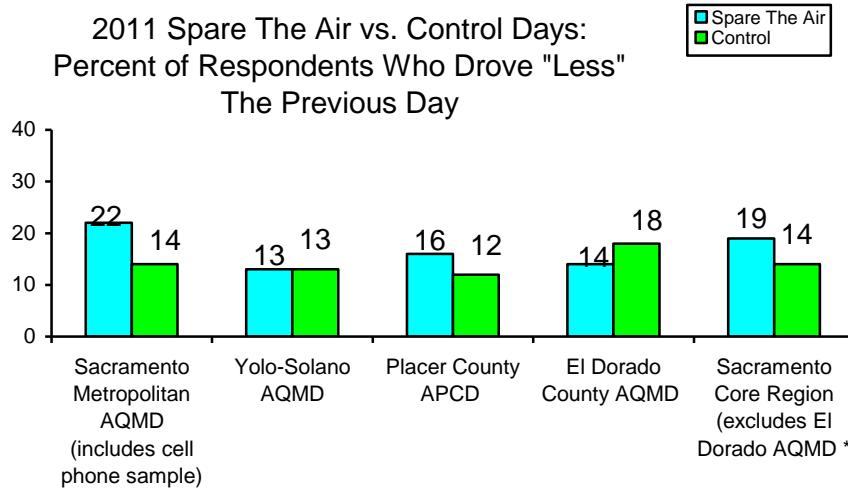
- ◆ Levels of both types of awareness were highest in 2002 in the Sacramento Core Region, and at their lowest both last year and this year.



Circled percentages represent significant highs and lows.  
Levels in dashed circles are not different from each other.

**Driving Reduction:**

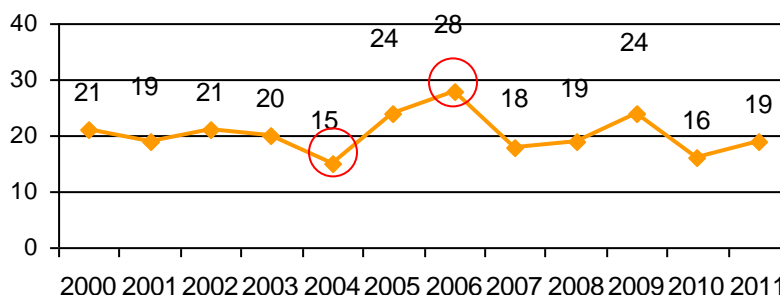
- ◆ About one in five (19%) of respondents in the Sacramento region as a whole said they drove “less” on Spare The Air days. The percentage was highest among Sacramento Metropolitan residents (20%), and lowest among Yolo-Solano AQMD residents (13%).
- ◆ Significantly more respondents drove less on Spare The Air days than on Control days; another indication of the continuing effectiveness of the program.



\* Indicates a statistically significant difference between Spare The Air day and Control day responses.

- Over the last 12 years, the highest percentage of those who drove less on Spare The Air days in the Sacramento Core Region occurred in 2006 (28%), and the lowest percentage occurred in 2004 (15%). This year's results were similar to the 12-year average of 20%.

Year-by-Year Comparison: Percent of Respondents Who Drove "Less" on Spare The Air Days: Sacramento Core Region (excludes El Dorado County AQMD)



- During the summer of 2011, only 0.5% of all respondent drivers in the entire Sacramento nonattainment area were classified "purposeful reducers" -- they purposefully drove less on Spare The Air days because they heard the Spare The Air advisories and wanted to improve air quality in the region. This percentage, although low, is not statistically different from the 12-year average of 1.4%.
- When extrapolated to the population, this meant that 7,269 drivers in the region purposefully made fewer trips on Spare The Air days. They avoided making an average 2.5 single trips on Spare The Air days, translating into a total of 18,172 trips avoided. There was only one driver who specifically avoided making trips for air quality reasons on Control days.

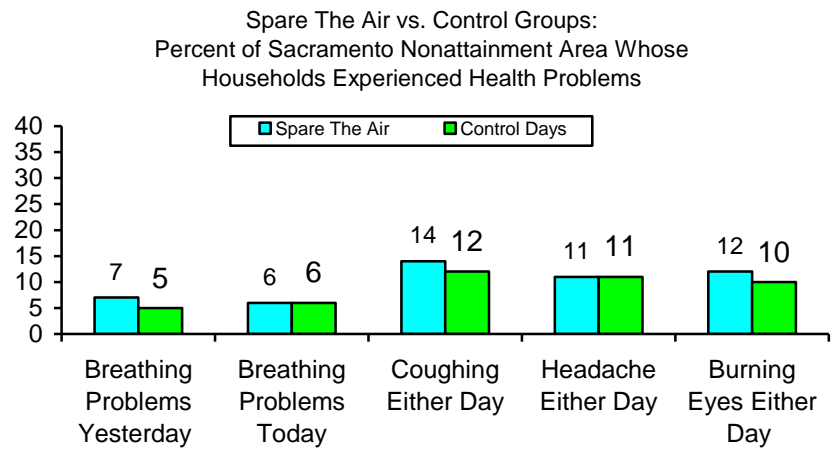
**Estimated Emission Reductions:**

- The 2011 Spare The Air voluntary driving reduction program was successful in reducing air pollution in the entire Sacramento nonattainment area by an estimated 0.08 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.

Sacramento nonattainment Area	Percent of Respondent Drivers who Drove Less for Air Quality Reasons	x Number of Licensed Drivers in SNA (1,453,768 Total)	x Mean Number of Single Trips Reduced Per Day	x 3.96Grams of Ozone Precursors Per Trip (EMFAC 2007 V2.3) 2011 summer	= Estimated Tons Per Day of Ozone Precursors Reduced
Spare The Air Days	0.5% (2 / 411)	7,269	x 2.5 = 18,172	71,962 grams	0.08tons
Control Days	0.3% (1 / 343)	4,361	0	0 grams	0 tons
Estimated Tons of Ozone Precursors Reduced Per Day: (STA Day Reductions – Control Day Reductions)					<b>0.08 tons</b>

**Health Effects:**

- ◆ Seven percent (7%) of households in the entire Sacramento nonattainment area reported breathing problems on Spare The Air days in 2011. This was not significantly different from the 5% of households interviewed on Control days. Nevertheless, correcting for Control day responses, this translates into 17,384 additional households that were affected specifically by ozone pollution on Spare The Air days during the summer of 2011.



- ◆ There are fewer health problems now than 12 years ago: the percentage of households experiencing breathing difficulties in the Sacramento Core Region on Spare The Air days has declined to 8% from a high of 15% in 2000. This is a reflection of improved summer air quality in the region.

