



Land Use & Natural Resources Committee

January 31, 2013

Proposed Update to Sacramento Ozone Pre-Cursor Emissions Budgets

Issue: The California Air Resources Board (CARB), in conjunction with the air districts in the Sacramento Region are in the process of updating the Ozone State Implementation Plan (SIP). This update will revise motor vehicle emissions budgets for ozone pre-cursors used in the transportation conformity process.

Recommendation: For information only.

Discussion: In 2009 the boards of the Sacramento Metropolitan Air Quality Management District (AQMD), El Dorado AQMD, Feather River AQMD, Yolo-Solano AQMD, and Placer County Air Pollution Control District passed resolutions adopting the "Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan" (Plan). This Plan was then incorporated into the ozone State Implementation Plan by CARB and forwarded onto the Environmental Protection Agency (EPA) for approval. Contained within the Plan were vehicle emissions budgets for the ozone pre-cursors oxides of nitrogen (NO_x) and reactive organic gases (ROG). The budgets were classified as effective for use in the transportation conformity process by the Environmental Protection Agency (EPA) in August 2009. Aside from classifying the vehicle emissions budgets as effective for use, EPA has not yet taken action on the Plan as a whole. EPA has been waiting for various rules contained within the statewide portion of the Plan to be adopted, and for CARB and the Sacramento Regional Air Districts (Districts) to prepare an update to the Plan showing the application of these rules.

In September 2012, with the needed statewide rules adopted and in place, the Districts and CARB began work on the Plan update. The Draft Plan now reflects, on the transportation side, the adoption of the Statewide Truck and Bus Rule (Rule) which deals with mobile emissions from trucks and buses, and reflects the use of the latest transportation emissions modeling software EMFAC 2011. SACOG staff in conjunction with staff from SMAQMD and CARB have developed new transportation conformity budgets on behalf of the region; these budgets were presented to the Regional Planning Partnership as part of the interagency consultation process and consensus was reached on their use.

The transportation conformity budgets reflect the latest available data and accommodate the needed changes related to budget setting on the other non-mobile components of the ozone SIP. Attachment A provides both a detailed write up and visual tools to fully explain the change. The ozone emissions budgets as shown will be incorporated into a more comprehensive update of the 2009 ozone SIP and submitted in early 2013 to EPA for review and approval.

Approved by:

Mike McKeever
Chief Executive Officer

MM:RDO:ts
Attachment

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Table 1 shows the current and proposed budgets for NOx and ROG, the two main ozone precursor emissions, for the ozone non-attainment area. Figures 1 and 2 show the budgets as well as estimates of emissions from the 2008 MTP, and the recently adopted 2012 MTP/SCS, for reference purposes. The proposed budgets are significantly lower than the budgets adopted in 2009. The major reasons for this change are technical: the NOx and ROG emissions rates (i.e., the rate at which vehicles will emit these substances) are currently thought to be generally lower than the rates on which the budgets set in the 2009 SIP are based. The changes in rates are included in the recently released 2011 update of CARB's "EMFAC" emissions estimating software, and will be required for air quality conformity analyses at some point in the future. The proposed budgets, though lower, include a "safety margin" between the estimated plan emissions in the MTP/SCS and the proposed budget. The amount of this margin is shown in Table 1. The safety margin is needed primarily to allow flexibility to adjust to uncertainties about rate of growth and other factors which may affect the actual emissions estimates during the life of the emissions budget.

Table 1. Current and Proposed Budgets for Ozone Precursors

	NOx			ROG		
	2014	2017	2018	2014	2017	2018
Current Budget¹ (Tons Per Day)	61	48	34²	32	29	24²
ARB Inventories for Conformity ³ (Tons Per Day)	46	37	34	21	17	16
Proposed Safety Margin	<u>3</u>	<u>2</u>	<u>3</u>	<u>2</u>	<u>1</u>	<u>1</u>
Proposed Budgets	49	39	37	23	18	17

Source: SMAQMD and SACOG, December 2012.

Notes:

¹ Current budgets reported in "Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan", dated December 19, 2008, and provisionally approved by US EPA in July 2009. The ozone precursor estimates underlying the budgets were prepared using **EMFAC2007**, based on the vehicle activities forecasted by SACOG for the 2008 Metropolitan Transportation Plan.

² Although Year 2018 budgets show significant decreases from Year 2017 values for both NOx and ROG, US EPA did not approved Year 2018 budgets, and the operative budget values for years 2018 and beyond are the Year 2017 values.

³ Estimates of NOx and ROG prepared by the California Air Resources Board, using **EMFAC2011** and vehicle activities forecasted by SACOG for the 2012 MTP/SCS.

Figure 1. NOx Emissions Budgets and MTP Emissions Estimates

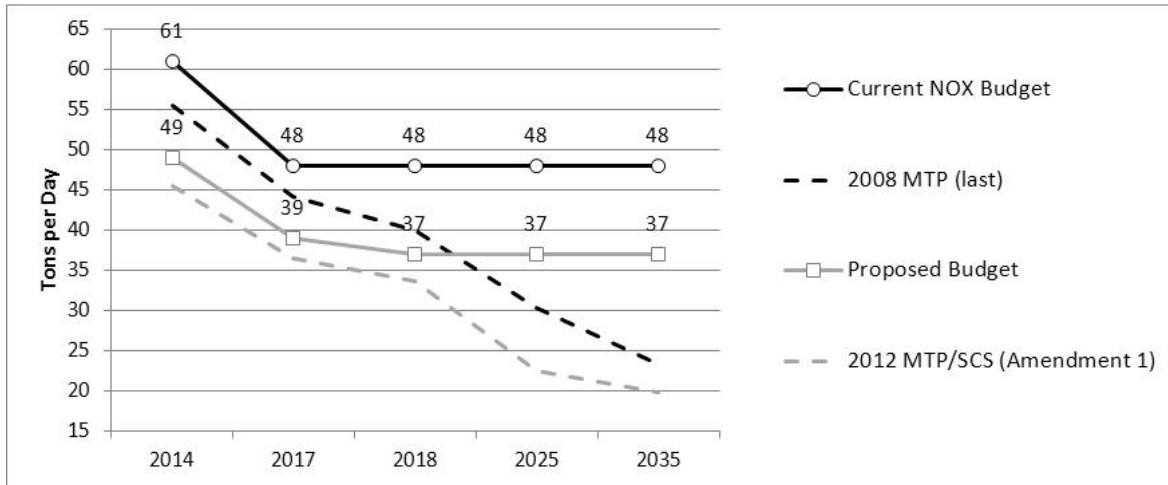
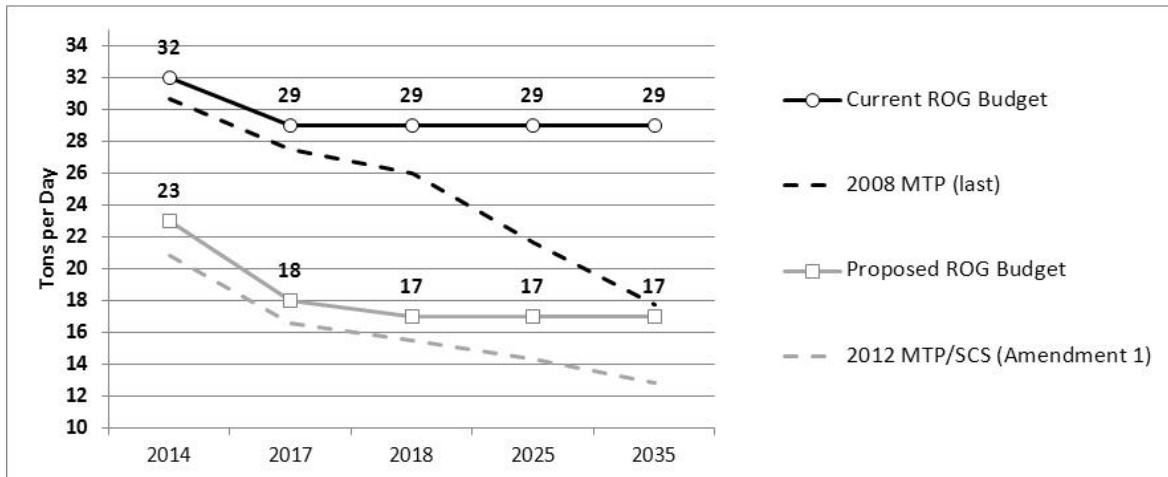


Figure 2. ROG Emissions Budgets and MTP Emissions Estimates



Source for both Figures: SACOG, December 2012.

-“Current Budget...” values from “Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan”, dated December 19, 2008.

-“2008 MTP (last)...” values estimated using EMFAC2007 and vehicle activities from 2008 MTP travel forecasts.

-“Proposed Budget...” values are the budget as described in memo and Table 1, including safety margin.

-“2012 MTP/SCS (Amendment 1)” values estimated using EMFAC2011 and vehicle activities from the first amendment to the 2012 MTP/SCS.