



Regional Planning Partnership

April 13, 2017

Ozone Motor Vehicle Emissions Budgets (MVEB) in the 8-Hour Ozone State Implementation Plan

Issue: The California Air Resources Board (CARB), in conjunction with the air districts in the Sacramento Region are in the process of developing a State Implementation Plan (SIP) for the 2008 National Ambient Air Quality Standard (NAAQS). This update will revise motor vehicle emissions budgets for ozone pre-cursors used in the transportation conformity process.

Recommendation: That the Partnership, as the designated interagency consultation body, recommend to the SACOG Board the proposed emissions budgets to be included in the regional 8-Hour Ozone State Implementation Plan (SIP).

Discussion: The California Air Resources Board (CARB), in conjunction with the air districts in the Sacramento Region, are in the process of developing a State Implementation Plan (SIP) for the 2008 National Ambient Air Quality Standard (NAAQS). The ozone standard has become more health-protective over time. The 8-hour standard has been revised from 0.08 parts per million (ppm)—the 1997 standard—to 0.075 ppm (2008 standard) for this current SIP development process. The statutory deadline to attain the 2008 NAAQS is July 20, 2027. Based upon modeling done by CARB, the ozone non-attainment portion of the SACOG region can attain the ozone standard by 2024. This early attainment demonstration is made based on existing federal, state, and local control measures. This means no additional controls will be placed upon industry (stationary sources) and no new transportation control measures (TCMs) will be required. The local air districts anticipate taking action on the SIP in fall of 2017 with approval by CARB immediately after, followed by transmittal of the SIP to the Environmental Protection Agency for final action.

The motor vehicle emissions inventory (budgets) for the 2008 NAAQS SIP for the Sacramento Federal Nonattainment Area have utilized the information contained in the 2016 Metropolitan Transportation Plan/Sustainable Communities Strategy (MTP/SCS). The performance of the MTP/SCS directly impacts emissions from mobile sources in the SIP and represents the close connections between SACOG and the air districts toward our mutual regional success. SACOG staff has worked with CARB and local air district staff on the development of the proposed conformity MVEB budgets over the last few months. The proposed budgets (CARB, 2017) incorporate the most recent on-road motor vehicle emission factors from EMFAC 2014, travel activity data, and the latest planning assumptions from SACOG’s MTP/SCS (SACOG, 2015). The table below shows the proposed MVEBs for oxides of nitrogen (NO_x) and reactive organic gases (ROG) vehicle emissions in the budget years of 2018, 2021, and 2024. Attachment A outlines in greater detail the conformity budget update.

Sacramento Federal Ozone Nonattainment Area Proposed Conformity Budgets

Year	2018		2021		2024	
Pre-cursor	ROG	NO _x	ROG	NO _x	ROG	NO _x
Budget in tons per day (tpd)	20* tpd	36 tpd	17 tpd	28** tpd	15 tpd	20 tpd

*Budgets are represented as whole integers.

**0.5 tpd is included as a safety margin in the process, which is needed primarily to allow flexibility to adjust to uncertainties about population and economic growth and other factors which may affect the actual emissions during the near-term years of the emissions budget.

Attachment

Key Staff: Matt Carpenter, Director of Transportation Services, (916) 340-6276
Renée DeVere-Oki, Team Manager Regional Air Quality Planning, (916) 340-6219
Victoria S. Cacciatore, Active Transportation Program Manager, 916-340-6214

Tables 1 and 2 show the current and proposed budgets for NO_x and ROG, the two main ozone precursor emissions, for the ozone non-attainment area. The proposed budgets are significantly lower than the budgets adopted in the 2013 State Implementation Plan Revision for the milestone year of 2021 and the attainment year of 2024. The major reasons for this change are technical: the NO_x and ROG emissions rates (i.e., the rate at which vehicles will emit these substances) are lower than the rates on which the budgets set in the prior SIP are based. The proposed budgets emission rates are from the 2014 update of CARB's "EMFAC" emissions estimating software, and will be required for air quality conformity analyses once approved by the U.S.EPA. The proposed budgets, though lower, include a "safety margin" between the estimated plan emissions in the MTP/SCS and the proposed budget. This safety margin only applies to the NO_x budget in 2021. The amount of this margin is shown in Table 2. The safety margin is needed to allow flexibility to adjust to uncertainties about population and economic growth and other factors which may affect the actual emissions during the near-term years of the emissions budget.

Table 1: Current Budgets¹
(Ozone, 2013 SIP Revision)-Developed using EMFAC2011

Sacramento Federal Ozone Nonattainment Area	2017		2018		2021		2024	
	ROG	NO _x	ROG	NO _x	ROG	NO _x	ROG	NO _x
Baseline Emissions	16.58	36.11	15.46	33.19	15.46	33.19	15.46	33.19
Safety Margin	1	2	1	3	1	3	1	3
Total	17.58	38.11	16.46	36.19	16.46	36.19	16.46	36.19
Conformity Budget	18	39	17	37	17	37	17	37

Table 2: Proposed Budgets
(Ozone, 2017 SIP Revision)-Developed using EMFAC2014:

Sacramento Federal Ozone Nonattainment Area	2018		2021		2024	
	ROG	NO _x	ROG	NO _x	ROG	NO _x
Baseline Emissions	19.85	35.38	16.24	26.96	14.03	19.55
Safety Margin	--	--	--	0.50	--	--
Total	19.85	35.38	16.24	27.46	14.03	19.55
Conformity Budget	20	36	17	28	15	20

*Budgets calculated with EMFAC2014 using SACOG 2016 MTP activity and MTC data for Eastern Solano County. Budgets are rounded up to the nearest ton.

¹ Current budgets for the 2009 Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan, 2013 SIP Revisions for the Sacramento Ozone Nonattainment Area were approved by EPA effective March 2, 2015 (80 FR 4795).