Transportation Conformity Budgets for the San Joaquin Valley PM2.5 SIP Plan Supplement

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California Environmental Protection Agency
Air Resources Board

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I. BACKGROUND

Section 176(c) of the Clean Air Act (Act) establishes transportation conformity requirements which are intended to ensure that transportation activities do not interfere with air quality progress. The Act requires that transportation plans, programs, and projects that obtain federal funds or approvals conform to applicable State Implementation Plans (SIP) before being approved by a Metropolitan Planning Organization. Conformity to a SIP means that proposed activities must not:

- Cause or contribute to any new violation of any standard,
- Increase the frequency or severity of any existing violation of any standard in any area, or
- Delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.

II. SUPPLEMENTAL CONFORMITY BUDGETS FOR THE 24-HOUR PM2.5 STANDARD IN THE SAN JOAQUIN VALLEY

On April 16, 2015 the Governing Board of the San Joaquin Valley Air Pollution Control District (District) approved the *2015 Plan for the 1997 PM2.5 Standard* (2015 Plan), which demonstrates attainment of the 15 ug/m^3 annual PM2.5 standard in 2020 and the 65 ug/m^3 24-hour PM2.5 standard in 2018. The 2015 Plan contains transportation conformity budgets for the annual PM2.5 standard in 2017 and 2020. On May 21, 2015 the Board held a public meeting and approved the 2015 Plan, which was submitted to United States Environmental Protection Agency (U.S. EPA) for approval. At the request of U.S. EPA, ARB staff is proposing additional transportation conformity motor vehicle emissions budgets for 2018.

Section 93.124(e) of the federal conformity rule states that nonattainment areas with more than one Metropolitan Planning Organization (MPO) may establish motor vehicle emission budgets for each MPO in the nonattainment area. The 2015 Plan establishes county-level emission budgets for each MPO in the San Joaquin Valley (Valley).

Air Resources Board (ARB or Board) staff developed the proposed budgets in consultation with the eight Valley MPOs, U.S. EPA, and the District. The transportation conformity budgets in this supplement use travel activity projections provided by the Valley MPOs consistent with the 2015 federal Transportation Improvement Plan (2015 FTIP), and with the annual budgets previously submitted for each of the eight valley MPOs. The 2018 activity was modeled by the Valley MPOs.

The budgets have been constructed using winter average daily emissions, consistent with the on-road emissions inventory in the 2015 Plan and the 24-hour attainment demonstration, using the following method:

1) Sum the county-by-county emissions results from EMFAC to get a Valley-wide total;

2) Round the Valley-wide totals up to:
   a. the nearest whole ton for NOx;
   b. the nearest tenth of a ton for PM2.5;
3) Reallocate the rounded total Valley-wide emissions to each county proportional to each county's contribution to the total; and
4) Calculate the budget by rounding each county's emissions to the nearest tenth ton (for both NOx and PM2.5) using conventional rounding.

The attachment to this supplement provides more detailed calculations.

Table 1. San Joaquin Valley Winter PM2.5 Conformity Budgets

County Subarea	2018 (tons per winter day*)	
	PM2.5	NOx
Fresno	0.9	29.9
Kern (SJV)	0.8	27.7
Kings	0.1	5.5
Madera	0.2	5.5
Merced	0.3	10.3
San Joaquin	0.6	14.4
Stanislaus	0.4	11.4
Tulare	0.4	10.3

*Budgets are rounded up to the nearest tenth ton (0.1).

III. EMISSIONS TRADING MECHANISM

Section 93.124(b) of the federal conformity rule allows for the SIP to establish emissions trading mechanisms between budgets for pollutants or precursors, or among budgets allocated to mobile and other sources. The 2008 PM2.5 Plan (as revised in 2011) included an emissions trading mechanism, which was approved by U.S. EPA and effective January 9, 2012, applicable to analysis years after 2014. The 2015 Plan, including this supplement, allows trading from the motor vehicle emissions budget for the PM2.5 precursor NOx to the motor vehicle emissions budget for primary PM2.5 using a 9 to 1 ratio (see: http://www.arb.ca.gov/planning/sip/planarea/Staff_Report_SJV_2015_PM25_SIP.pdf).

The NOx emissions reductions available for trading are only those remaining after the NOx budget is met. Each agency responsible for demonstrating transportation conformity shall clearly document the calculations used in the trading. Any additional reductions of NOx or PM2.5 emissions in the conformity analysis will also be clearly documented.

IV. STAFF RECOMMENDATION

ARB staff has reviewed the transportation conformity budgets in this supplement to the 2015 Plan and has concluded that they meet the applicable Act requirements. The transportation conformity budgets are consistent with the 2015 Plan's emission inventories and the 2018 attainment demonstration for the 65 $\mu g/m^3$ 24-hour PM2.5 standard. Therefore, staff recommends that the Board approve this supplement to the San Joaquin Valley's PM2.5 Plan as a revision to the California SIP.

Attachment: Budget Detail for the Transportation Conformity Budgets for the San Joaquin Valley PM2.5 Plan

San Joaquin Valley Draft 24 hr PM2.5 Motor Vehicle Emissions Budgets

(tons per winter average day)

* Established by conventional rounding.

2018 Motor Vehicle Emissions Budgets

2015 FSTIP MPO activity data

County	Fresno		Kern		Kings		Madera		Merced		San Joaquin		Stanislaus		Tulare		San Joaquin Valley Air Basin	
	PM2.5	NOx	PM2.5	NOx	PM2.5	NOx	PM2.5	NOx	PM2.5	NOx	PM2.5	NOx	PM2.5	NOx	PM2.5	NOx	PM2.5	NOx
Baseline EMFAC2014 V1.0.7	0.89	29.68	0.78	27.47	0.14	5.47	0.17	5.51	0.27	10.25	0.59	14.33	0.38	11.29	0.35	10.21		
Total	**0.89**	**29.68**	**0.78**	**27.47**	**0.14**	**5.47**	**0.17**	**5.51**	**0.27**	**10.25**	**0.59**	**14.33**	**0.38**	**11.29**	**0.35**	**10.21**	**3.58**	**114.20**
Air Basin Total																	**3.6**	**115**
Disaggregated County Totals	**0.898**	**29.886**	**0.781**	**27.661**	**0.142**	**5.511**	**0.175**	**5.544**	**0.274**	**10.320**	**0.597**	**14.427**	**0.380**	**11.373**	**0.353**	**10.277**		
Budget*	**0.9**	**29.9**	**0.8**	**27.7**	**0.1**	**5.5**	**0.2**	**5.5**	**0.3**	**10.3**	**0.6**	**14.4**	**0.4**	**11.4**	**0.4**	**10.3**	**3.6**	**115.0**