

# Chapter 6

## Demonstration of Federal Requirements

*2015 Plan for the 1997 PM<sub>2.5</sub> Standard*  
SJVUAPCD

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## Chapter 6: Demonstration of Federal Requirements

The federal Clean Air Act (CAA), Title 1, Part D Subpart 1 (Subpart 1) and CAA Title 1, Part D Subpart 4 (Subpart 4) requires California to submit documentation to EPA that is specific to the San Joaquin Valley (Valley) to address the 1997 National Ambient Air Quality Standards (NAAQS) for PM<sub>2.5</sub>. This *2015 Plan for the 1997 PM<sub>2.5</sub> Standard (2015 PM<sub>2.5</sub> Plan)* fulfills requirements for the Valley as an area classified as a Serious nonattainment area under Subpart 4 with an additional request for an extension of the attainment deadline. Attainment of the 1997 PM<sub>2.5</sub> NAAQS by the Serious nonattainment deadline (December 31, 2015) is impracticable and pursuant to Subpart 4 Section (§) 188(e) the District is also applying for a one-time extension of the attainment date for up to five years (see Chapter 4).

This chapter demonstrates that this *2015 PM<sub>2.5</sub> Plan* satisfies the following federal requirements:

1. Fulfillment of commitments from the District's plan to address the 1997 PM<sub>2.5</sub> standard<sup>1</sup>
2. Reasonably Available Control Measures (RACM)<sup>2</sup>
3. Quantitative Milestones which demonstrate Reasonable Further Progress (RFP)<sup>3</sup>
4. Contingency measures<sup>4</sup>
5. Transportation Conformity<sup>5</sup>
6. Serious nonattainment area permitting requirements<sup>6</sup>

### 6.1 FULFILLMENT OF COMMITMENTS FROM THE DISTRICT'S *2008 PM<sub>2.5</sub> PLAN*

The State does not have an adopted air quality attainment plan currently in place that addresses Subpart 4 requirements for multiple reasons as discussed in Chapter 1. The adopted plan currently in place to address the 1997 PM<sub>2.5</sub> standard is the *2008 PM<sub>2.5</sub> Plan*,<sup>7</sup> approved by EPA in November 2011.<sup>8</sup> The District and the California Air Resources Board (ARB) each committed to specific actions to address the 1997 NAAQS. The following write-up demonstrates that the District commitments included in the *2008 PM<sub>2.5</sub> Plan* have been fulfilled. Additionally, ARB has also fulfilled their

<sup>1</sup> Designation of Areas for Air Quality Planning Purposes; California; San Joaquin Valley; Reclassification as Serious Nonattainment for the 1997 PM<sub>2.5</sub> Standards. 80 Fed. Reg. 7, pp. 1482-1491. (2015, January 12). <http://www.gpo.gov/fdsys/pkg/FR-2015-01-12/pdf/2015-00309.pdf>

<sup>2</sup> CAA Subpart 1 Section 172(c)(1). PM<sub>2.5</sub> Implementation Rule 72 FR 20609-20633.

<sup>3</sup> Federal CAA Subpart 1, Section 172(c)(2). PM<sub>2.5</sub> Implementation Rule 72 FR 20633-20642.

<sup>4</sup> Federal CAA Subpart 1, Section 172(c)(9). PM<sub>2.5</sub> Implementation Rule 72 FR 20642-20645.

<sup>5</sup> Federal CAA Subpart 1, Section 176. Also, Federal transportation conformity regulations are found in 40 CFR Part 51, subpart T – Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Developed, Funded or Approved Under Title 23 U.S.C. of the Federal Transit Laws. Part 93, subpart A of this chapter was last revised by the EPA in the August 15, 1997 Federal Register.

<sup>6</sup> Federal CAA Subpart 4, Section 189(b)(3).

<sup>7</sup> SJVAPCD. *2008 PM<sub>2.5</sub> Plan*. [http://www.valleyair.org/Air\\_Quality\\_Plans/AQ\\_Final\\_Adopted\\_PM25\\_2008.htm](http://www.valleyair.org/Air_Quality_Plans/AQ_Final_Adopted_PM25_2008.htm)

<sup>8</sup> Approval and Promulgation of Implementation Plans; California; 2008 San Joaquin Valley PM<sub>2.5</sub> Plan and 2007 State Strategy; Final Rule, 76 Fed. Reg. 217, pp. 69896-69926. (2011, November 9). (to be codified at 40 CFR Part 50) <http://www.gpo.gov/fdsys/pkg/FR-2011-11-09/pdf/2011-27232.pdf>

commitments contained in the *2008 PM<sub>2.5</sub> Plan*, and a detailed description will be included in ARB's supporting documentation for this plan's adoption by ARB, scheduled in May.

### 6.1.1 District 2008 PM<sub>2.5</sub> Plan Regulatory Commitments

The District committed to amending and/or adopting 13 emission reducing control measures for stationary and area sources within the Valley. The following table summarizes these commitments and the completion date of such commitment.

**Table 6-1 2008 PM<sub>2.5</sub> Plan Stationary Source Regulatory Commitments**

| 2008 Plan CM# | Measure Name   | Amendment/Adoption Date | Plan Commitment Met? |
|---------------|--|-------------------------|----------------------|
| S-AGR-1       | Open Burning   | 05/15/2010              | Yes                  |
| S-COM-1       | Boilers, Steam Generators and Process Heaters (>5 MMBtu/hr)          | 10/16/2008              | Yes                  |
| S-COM-2       | Boilers, Steam Generators and Process Heaters (2 to 5 MMBtu/hr)      | 05/19/2011              | Yes                  |
| S-COM-3       | Boilers, Steam Generators and Process Heaters (0.075 to <2 MMBtu/hr) | 12/17/2009              | Yes                  |
| S-COM-5       | Stationary Gas Turbines  | 09/20/2007              | Yes                  |
| S-COM-6       | Reciprocating Internal Combustion Engines                            | 08/18/2011              | Yes                  |
| S-COM-7       | Glass Melting Furnaces   | 05/19/2011              | Yes                  |
| S-COM-9       | Residential Water Heaters  | 03/19/2009              | Yes                  |
| S-COM-10      | Natural Gas-Fired, Fan Type Residential Central Furnace              | 01/22/2015              | Yes                  |
| S-COM-14      | Wood Burning Fireplaces and Wood Burning Heaters                     | 10/16/2008              | Yes                  |
| S-IND-9       | Commercial Charbroiling  | 09/17/2009              | Yes                  |
| S-IND-21      | Flares   | 06/18/2009              | Yes                  |
| M-TRAN-1      | Employer Based Trip Reduction Programs                               | 06/20/2013              | Yes                  |

### 6.1.2 District 2008 PM<sub>2.5</sub> Plan Emission Reduction Commitments

In the *2008 PM<sub>2.5</sub> Plan*, the District committed to achieve the total quantity of emission reductions identified in Table 6-2: 8.98 tons NO<sub>x</sub>/day, 6.7 tons PM<sub>2.5</sub>/day, and 0.92 tons SO<sub>x</sub>/day. These emission reductions were to be achieved by the above-mentioned stationary source regulatory commitments, but the commitment can be fulfilled with alternative SIP-creditable methods if necessary.

The analysis to determine if the *2008 PM<sub>2.5</sub> Plan* emission reductions commitments were met included the following steps:

1. Comparison of the emission reduction commitments from the *2008 PM<sub>2.5</sub> Plan* to the actual emission reductions achieved through prohibitory rule adoption/amendment actions as shown in Table 6-2. In addition to the measures

included in the 2008 PM<sub>2.5</sub> Plan the District adopted amendments to Rule 4901<sup>9</sup> in 2014 that significantly strengthened the rule requirements. These amendments achieved a minimum of 0.5 tpd of directly emitted PM<sub>2.5</sub> reductions in 2014 for the two months of wintertime implementation at the end of 2014.

**Table 6-2 Summary Comparison of Plan Commitments to Actual Emission Reductions (Annual Average Emissions (tpd))**

| 2008 Plan CM# | Rule # | Measure/Rule Name   | Plan Projected Reductions (tpd) |                   |                 | Actual Emission Reductions (tpd) |                   |                 |
|---------------|--------|---|---------------------------------|-------------------|-----------------|----------------------------------|-------------------|-----------------|
|               |        |   | NO <sub>x</sub>                 | PM <sub>2.5</sub> | SO <sub>x</sub> | NO <sub>x</sub>                  | PM <sub>2.5</sub> | SO <sub>x</sub> |
| S-AGR-1       | 4103   | Open Burning  | 2.65                            | 3.49              | 0.14            | 1.87                             | 2.91              | 0.05            |
| S-COM-1       | 4306   | Boilers, Steam Generators and Process Heaters (>5 MMBtu/hr)                 | 1.52                            | 0.24              | 0.76            | 3.3                              | 0.24              | 3.60            |
| S-COM-2       | 4307   | Boilers, Steam Generators and Process Heaters (2 to 5 MMBtu/hr) (Rule 4307) | 0                               | 0                 | 0               | 1.2                              | 0                 | 0               |
| S-COM-3       | 4308   | Boilers, Steam Generators and Process Heaters (0.075 to <2 MMBtu/hr)        | 0.55                            | 0                 | 0               | 2.77                             | 0                 | 0               |
| S-COM-5       | 4703   | Stationary Gas Turbines   | 2.21                            | 0                 | 0               | 2.20                             | 0                 | 0               |
| S-COM-7       | 4354   | Glass Melting Furnaces  | 1.58                            | 0                 | 0               | 1.12                             | 0                 | 0               |
| S-COM-9       | 4902   | Residential Water Heaters   | 0.40                            | 0                 | 0               | 0.50                             | 0                 | 0               |
| S-COM-14      | 4901   | Wood Burning Fireplaces and Wood Burning Heaters                            | 0.07                            | 0.69              | 0.02            | 0.12                             | 2.40              | 0.02            |
| n/a           | 4901   | Wood Burning Fireplaces and Wood Burning Heaters (adopted 9/2014)           | ---                             | ---               | ---             | 0                                | 0.5               | 0               |
| S-IND-9       | 4692   | Commercial Charbroiling   | 0                               | 2.28              | 0               | 0                                | 0.02              | 0               |
| M-TRAN-1      | 9410   | Employer Based Trip Reduction Programs                                      | 0                               | 0                 | 0               | 0.05                             | 0                 | 0               |
| <b>TOTAL</b>  |        |   | <b>8.98</b>                     | <b>6.7</b>        | <b>0.92</b>     | <b>13.13</b>                     | <b>6.07</b>       | <b>3.67</b>     |

2. Application of trading ratios for direct PM<sub>2.5</sub>, NO<sub>x</sub>, and SO<sub>x</sub> were applied as shown in Table 6-3. According to the Weight of Evidence (WOE) for the development of the plan to address the 1997 PM<sub>2.5</sub> Standard, 1 ton of direct PM<sub>2.5</sub> reductions is equivalent to 9 tons of NO<sub>x</sub> reductions (1:9 trading ratio).<sup>10</sup> In addition to the trading ratio developed for the plan to address the 1997 PM<sub>2.5</sub> Standard, extensive modeling conducted for the District's 2012 PM<sub>2.5</sub> Plan addressing the 2006 federal PM<sub>2.5</sub> standard demonstrated that one ton of direct PM<sub>2.5</sub> reductions is equivalent to 4 tons of SO<sub>x</sub> reductions (1:4 trading ratio).<sup>11</sup>

<sup>9</sup> SJVAPCD. Rule 4901 Final Draft Staff Report.

[http://www.valleyair.org/Board\\_meetings/GB/agenda\\_minutes/Agenda/2014/September/final/07.pdf](http://www.valleyair.org/Board_meetings/GB/agenda_minutes/Agenda/2014/September/final/07.pdf)

<sup>10</sup> SJVAPCD. 2008 PM<sub>2.5</sub> Plan. Appendix H: Weight of Evidence. (2008, April 30)

[http://www.valleyair.org/Air\\_Quality\\_Plans/AQ\\_Final\\_Adopted\\_PM25\\_2008.htm](http://www.valleyair.org/Air_Quality_Plans/AQ_Final_Adopted_PM25_2008.htm)

<sup>11</sup> SJVAPCD. 2012 PM<sub>2.5</sub> Plan. Appendix G: Weight of Evidence. (2012, December 20)

[http://www.valleyair.org/Air\\_Quality\\_Plans/PM25Plans2012.htm](http://www.valleyair.org/Air_Quality_Plans/PM25Plans2012.htm)

These ratios are conservative estimates summarizing the plan as a whole, not reflecting ratios for New Source Review (NSR).

3. Comparison of the 2008 PM<sub>2.5</sub> Plan emission reduction commitment to actual emissions reduced through the District's adopted control strategies (including application of trading ratios for PM<sub>2.5</sub> precursors). Overall, the District's adopted control strategies achieve emissions reductions in excess of the PM<sub>2.5</sub> emission reduction commitment included in the 2008 PM<sub>2.5</sub> Plan.

**Table 6-3 Demonstration of Sufficient Emissions Reductions (Annual Average)**

|   | Pollutant   | Emissions Reductions (tpd) | Data reference    |
|---|---|----------------------------|-------------------|
|   | <b>PM<sub>2.5</sub></b>   |                            |                   |
| A | <i>Actual Emissions Reduced</i>                                       | 6.1                        | Table 6-2         |
| B | <i>Add PM<sub>2.5</sub> reductions, traded from SO<sub>x</sub></i>    | 0.7                        | 1:4 trading ratio |
| C | <i>Add PM<sub>2.5</sub> reductions, traded from NO<sub>x</sub></i>    | 0.5                        | 1:9 trading ratio |
| D | Total emissions reductions achieved                                   | 7.3                        | (A+B+C)=D         |
| E | Emissions Reduction Commitment  | 6.7                        | Table 6-2         |
| F | <b><i>Emission Reduction Commitment met?</i></b>                      | <b>Yes</b>                 | D-E=F             |
|   | <b>NO<sub>x</sub></b>   |                            |                   |
| G | <i>Actual Emissions Reduced</i>                                       | 13.1                       | Table 6-2         |
| H | <i>Subtract NO<sub>x</sub> reductions, trade for PM<sub>2.5</sub></i> | 4.2                        | 1:9 trading ratio |
| I | Total emissions reductions achieved                                   | 8.9                        | (G-H)=I           |
| J | Emissions Reduction Commitment  | 8.9                        | Table 6-2         |
| K | <b><i>Emission Reduction Commitment met?</i></b>                      | <b>Yes</b>                 | I-J=K             |
|   | <b>SO<sub>x</sub></b>   |                            |                   |
| L | <i>Actual Emissions Reduced</i>                                       | 3.7                        | Table 6-2         |
| M | <i>Subtract SO<sub>x</sub> reductions, trade for PM<sub>2.5</sub></i> | 2.8                        | 1:4 trading ratio |
| N | Total emissions reductions achieved                                   | 0.9                        | (L-M)=N           |
| O | Emissions Reduction Commitment  | 0.9                        | Table 6-2         |
| P | <b><i>Emission Reduction Commitment met?</i></b>                      | <b>Yes</b>                 | (N-O)=P           |

As demonstrated in Table 6-3, the District exceeded its 2008 PM<sub>2.5</sub> Plan emissions reductions commitments. Furthermore, the District also achieved significant SIP-creditable emissions reductions in 2014 that are not included in the above determination, including 1.03 tons NO<sub>x</sub>/day of emissions reduced through on-site mitigation measures under the Indirect Source Review rule (District Rule 9510), and 14.72 tons NO<sub>x</sub>/day and 0.56 tons PM<sub>2.5</sub>/day of emissions reduced through SIP-creditable incentive programs (as documented through District Rule 9610, more information at [http://www.valleyair.org/MOP/mop9610\\_idx.htm](http://www.valleyair.org/MOP/mop9610_idx.htm)).

## 6.2 REASONABLY AVAILABLE CONTROL MEASURES (RACM)

A PM<sub>2.5</sub> attainment plan must demonstrate implementation of RACM (reasonably available control measures), summarized as the collection of reasonable emissions reductions that, taken as a group, advance attainment of an air quality standard by at least one year. In other words, the total of all potential emissions reductions opportunities that are *not* included as plan commitments must not advance attainment by one year. Measures that are not necessary to satisfy Reasonable Further Progress (RFP) or expeditious attainment are also not required RACM for the area.

To advance attainment by at least one year, the collective emissions reductions that could be achieved through unused but reasonably available controls would have to achieve the 2020 emissions levels by 2019 in the Valley.

The majority of NO<sub>x</sub> emissions reductions are occurring as adopted regulations are fully implemented through fleet turn-over and normal equipment replacement. As demonstrated in Appendix B, 93% of NO<sub>x</sub> reductions from the 2012 base emission inventory to attainment in 2020 come from mobile sources. These reductions cannot be expedited through additional stationary and area source regulations, for which the District has regulatory authority.

Based on the difference between 2019 and 2020 emissions levels shown in the following table, unused control measures would have to achieve 10.7 tons per day (tpd) of NO<sub>x</sub> reductions to advance attainment by one year. However, as previously discussed, there are no unused control measures in this plan because every reasonable control measure is used in this plan and the most stringent measures possible are currently in place in the Valley. There are no emissions reductions associated with unused regulatory control measures.

**Table 6-4 Emissions Reductions Needed to Advance Attainment by One year**

| Pollutant         | 2019 Emissions (tpd) | 2020 Emissions (tpd) | Emissions Reductions Needed to Advance Attainment by One Year (tpd) (2019-2020) |
|-------------------|----------------------|----------------------|---|
| PM <sub>2.5</sub> | 62.9                 | 62.8                 | 0.1   |
| NO <sub>x</sub>   | 217.6                | 206.9                | 10.7  |
| SO <sub>x</sub>   | 7.8                  | 7.8                  | 0.0   |

RACM are, by definition, reasonable. Although an air quality attainment plan must include a thorough analysis of reasonably available measures, reasonability must drive the analysis. Any measure that is absurd, unenforceable, impractical, or would cause severely disruptive socioeconomic impacts is unreasonable. This analysis must consider all agencies' opportunities together, but the starting point is the separate analyses of each agency:

- **District:** all reasonable control measures under the District's jurisdiction are being implemented. The District has adopted many of the toughest stationary and area sources rules in the nation. There are no reasonable regulatory control measures

excluded from use in this plan; therefore, there are no emissions reductions associated with unused regulatory control measures.

- **ARB:** all reasonable control measures under ARB's jurisdiction for mobile sources are being implemented. Given the significant emission reductions needed for attainment in California, ARB has adopted some of the most stringent control measures nationwide for on-road and off-road mobile sources and the fuels that power them. There are no reasonable regulatory control measures excluded from use in this plan; therefore, there are no emissions reductions associated with unused regulatory control measures.
- **Metropolitan Planning Organizations (MPOs):** all reasonable control measures under MPO jurisdiction are being implemented. There are no reasonable regulatory control measures excluded from use in this plan; therefore, there are no emissions reductions associated with unused regulatory control measures.

### 6.3 QUANTITATIVE MILESTONES AND REASONABLE FURTHER PROGRESS (RFP)

CAA Subpart 4 §189(c)(1) requires plans submitted to EPA to contain quantitative milestones which are to be achieved every three years until the area is re-designated attainment and which demonstrate reasonable further progress as defined in §171. CAA Subpart 1 §171(1) defines reasonable further progress (RFP) as incremental emission reductions leading to the attainment date. EPA's interpretation of the RFP requirement for federal PM<sub>2.5</sub> standards is "generally linear progress" from the base year to the attainment year, demonstrated at RFP milestone years.<sup>12</sup> "Generally linear progress" is calculated in an exactly linear fashion.

Analyses for this plan demonstrate that 2020 is the most expeditious attainment date practicable for the Valley. The baseline year for this *2015 PM<sub>2.5</sub> Plan* is 2012. For the 1997 federal PM<sub>2.5</sub> standard, the RFP milestone years are 2014 and 2017.<sup>13</sup> RFP is demonstrated for the nonattainment area as a whole. RFP requirement targets and attainment demonstrations are as follows:

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<sup>12</sup> 72 FR 20633, codified at 40 CFR 51 Subpart Z Section 51.1000 (Definitions)

<sup>13</sup> U.S. Environmental Protection Agency (2012, March 2). Memorandum from the Office of Air Quality Planning and Standards: Implementation Guidance for the 2006 24-Hour Fine Particle (PM<sub>2.5</sub>) National Ambient Air Quality Standards (NAAQS). Page 16. Retrieved from [http://www.epa.gov/ttn/naaqs/pm/pdfs/20120302\\_implement\\_guidance\\_24-hr\\_pm2.5\\_naqs.pdf](http://www.epa.gov/ttn/naaqs/pm/pdfs/20120302_implement_guidance_24-hr_pm2.5_naqs.pdf)



1. Determine the Emissions Inventory of the Valley with the Plan control strategy for the baseline year, the RFP years, and the attainment year.

**Table 6-5 Emissions Inventory with Plan Control Strategy (tpd)**

| Pollutant                | 2012  | 2014  | 2017  | 2020  |
|--------------------------|-------|-------|-------|-------|
| Direct PM2.5 (Table B-1) | 66.0  | 63.3  | 62.5  | 62.8  |
| NOx (Table B-2)          | 332.2 | 284.2 | 235.7 | 206.9 |
| SOx (Table B-3)          | 8.1   | 7.4   | 7.6   | 7.8   |

2. Determine the total reductions from the 2012 baseline emission inventory that must be achieved to reach attainment.

**Table 6-6 Total Reductions Necessary to Reach Attainment (tpd)**

| Pollutant    | 2012 Baseline Emissions Inventory | Attainment Emissions Level | Reductions Needed |
|--------------|-----------------------------------|----------------------------|-------------------|
| Direct PM2.5 | 66.0                              | 62.8                       | 3.2               |
| NOx          | 332.2                             | 206.9                      | 125.3             |
| SOx          | 8.1                               | 7.8                        | 0.3               |

3. Determine the fraction of reductions that are achieved in each RFP milestone year (as per EPA guidance regarding demonstrating RFP). The base year of 2012 and attainment year of 2020 span an 8-year period.
  - 2014 occurs at year two of eight (2/8), so **25.0%** of the needed emissions reductions should occur by 2014.
  - 2017 occurs at year five of eight (5/8), so **62.5%** of the needed emissions reductions should occur by 2017.
4. Determine the RFP target emissions levels using reduction fractions.

**Table 6-7 Target Emissions Levels for RFP Milestone Years (tpd)**

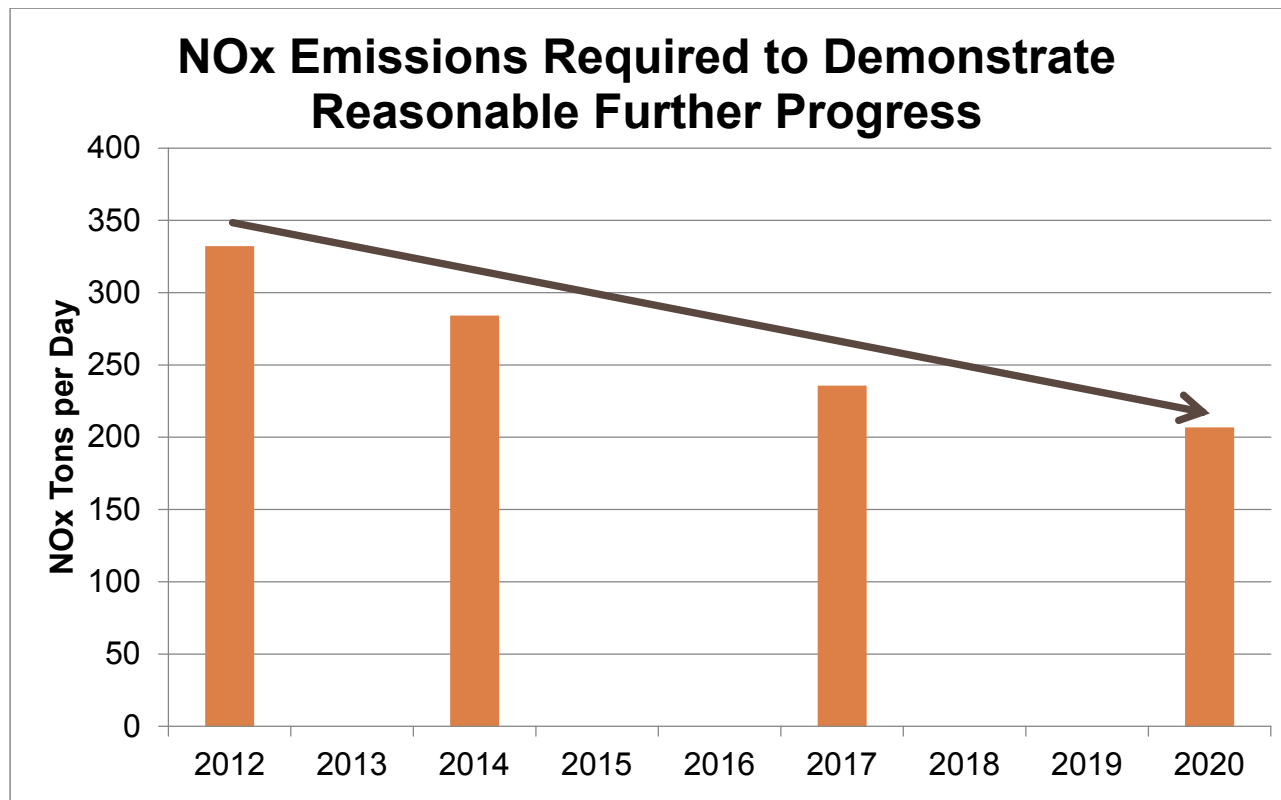
| Pollutant    | 2012 Emissions Inventory | Reductions Needed | 2014                           |                                  | 2017                           |                                  |
|--------------|--------------------------|-------------------|--------------------------------|----------------------------------|--------------------------------|----------------------------------|
|              |                          |                   | Tons to be reduced (B x 25.0%) | RFP target emissions level (A-C) | Tons to be reduced (B x 62.5%) | RFP target emissions level (A-E) |
|              |                          |                   | A                              | B                                | C                              | D                                |
| Direct PM2.5 | 66.0                     | 3.2               | 0.8                            | 65.2                             | 2.0                            | 64.0                             |
| NOx          | 332.2                    | 125.3             | 31.3                           | 300.9                            | 78.3                           | 253.9                            |
| SOx          | 8.1                      | 0.3               | 0.1                            | 8.0                              | 0.2                            | 7.9                              |

- Compare RFP target emissions level (Table 6-7) to the projected emissions inventory (Table 6-5) to determine compliance with RFP targets.

**Table 6-8 RFP Target Demonstration (2014 and 2017)**

|              | 2014                       |                               |                 | 2017                       |                               |                 |
|--------------|----------------------------|-------------------------------|-----------------|----------------------------|-------------------------------|-----------------|
|              | RFP target emissions level | Projected emissions inventory | RFP target met? | RFP target emissions level | Projected emissions inventory | RFP target met? |
| Direct PM2.5 | 65.2                       | 63.3                          | Yes             | 64.0                       | 62.5                          | Yes             |
| NOx          | 300.9                      | 284.2                         | Yes             | 253.9                      | 235.7                         | Yes             |
| SOx          | 8.0                        | 7.4                           | Yes             | 7.9                        | 7.6                           | Yes             |

**Figure 6-1 NOx RFP Demonstration – Linear Progress Toward Attainment**



## 6.4 CONTINGENCY MEASURES

Contingency measures are extra emissions reductions that go into effect without further regulatory action. In an attainment plan, the measures must be “extra” in the sense that the reductions are not accounted for in RFP or in the attainment demonstration. Contingency reductions must start occurring automatically, without any further regulatory action, in the following scenarios:

- **RFP contingencies:** Used if planned emissions controls fail to reach the emissions targets specified in the attainment plan for RFP. The need to implement RFP contingencies is based on the emissions inventory in the RFP milestone years.
- **Attainment contingencies:** Used if a region fails to attain a federal standard by the final attainment date. The need to implement attainment contingencies is based on ambient air quality data as of the end of the attainment year. If EPA finds that an area fails to attain a standard on time, contingency reductions must be implemented automatically. An area often must adopt a new attainment plan, and sometimes other penalties apply as well, depending on the requirements associated with the standard in question.

The contingency years for this plan are the RFP milestone years (2014 and 2017) and the attainment year (2020). The total emissions reductions available from contingency measures should be equivalent to about one year of reductions needed for RFP<sup>14</sup>. This is based on the overall level of reductions needed to demonstrate attainment (see Table 6-6) divided by the number of years between the base year and the attainment year (8 years). Table 6-9 shows the resulting contingency need for each pollutant.

**Table 6-9 Contingency Emissions Reductions Target (tpd)**

|              | Contingency Need =<br>“One year’s worth of RFP” |
|--------------|---|
| Direct PM2.5 | 0.4   |
| NOx          | 15.7  |
| SOx          | 0.0   |

Interpollutant trading can be used to demonstrate equivalent emissions reductions levels between PM2.5 and NOx reductions strategies. The current modeling using Valley-wide emissions reductions demonstrates that the greatest benefits are achieved from reductions in directly emitted PM2.5, followed by NOx (based on EPA’s relative response factor procedures (RRF)). RRF results show that directly emitted PM2.5 emission reductions are approximately nine times more effective than NOx reductions. Refer to Appendix A for the complete analysis and discussion.

<sup>14</sup> Clean Air Fine Particle Implementation Rule [PM2.5 Implementation Rule]. 72 Fed. Reg. 79, pp. 20586–20667. At 20642-43. (2007, April 25). Retrieved from <http://www.gpo.gov/fdsys/pkg/FR-2007-04-25/pdf/E7-6347.pdf#page=1>

### 6.4.1 What Qualifies as a Contingency Measure?

Contingency measures must be fully adopted rules or control measures that are ready to be implemented quickly without significant additional action by the state or local agency or by EPA<sup>15</sup>. The plan should contain trigger mechanisms and a schedule for the contingency measure implementation. Contingency measures can include measures already adopted and scheduled for implementation, as long as these measures are not relied on to provide emissions reductions needed to provide for RFP or expeditious attainment.

Based on these general contingency requirements, the District is utilizing two types of contingency measures:

- A. Surplus reductions from implementation of traditional regulations
- B. SIP-creditable incentive-based emissions reductions

### 6.4.2 Surplus Reductions from Implementation of Traditional Regulations

Although contingency measures must be surplus to RFP and attainment calculations, areas are not required to wait until there is an RFP or attainment failure to implement the measures. As shown in the RFP demonstration in this chapter, significant regulatory emissions reductions are being achieved by 2014 and 2017 – more than the minimum needed to demonstrate RFP in those years. As such, the difference between the RFP target emissions level and the actual projected emissions level can serve as contingency reductions in 2014 and 2017. Using the data in Table 6-8, Table 6-10 shows amount of reductions available in 2014 and 2017.

**Table 6-10 Reductions Surplus to RFP for Contingency (tpd)**

| Year  | 2014                       |                               |             | 2017                       |                               |             |
|-------|----------------------------|-------------------------------|-------------|----------------------------|-------------------------------|-------------|
|       | RFP target emissions level | Projected emissions inventory | Contingency | RFP target emissions level | Projected emissions inventory | Contingency |
| PM2.5 | 65.2                       | 63.3                          | 1.9         | 64.0                       | 62.5                          | 1.5         |
| NOx   | 300.9                      | 284.2                         | 16.7        | 253.9                      | 235.7                         | 18.2        |

As the 2020 attainment contingency need would not occur until 2021 (since attainment would be based on air quality data collected through the end of 2020), the additional PM2.5 and NOx reductions occurring between 2020 and 2021 can serve as attainment contingencies (Table 6-11). Additionally, the District recently adopted amendments to Rule 4901 in September 2014 that significantly strengthened the rule requirements and achieve a minimum of 1.1 tons of PM2.5 per day in 2020 (not assuming any transition to cleaner wood burning devices under the rule).

<sup>15</sup> Clean Air Act Section 172(c)9, 40 CFR 51.1012.

**Table 6-11 Attainment Contingencies Traditional Regulatory Reductions (tpd)**

| Emission |   | 2020 emissions | 2021 emissions | Attainment Contingency |
|----------|---|----------------|----------------|------------------------|
| PM2.5    | Adopted Measures  | 62.8           | 62.3           | <b>0.5</b>             |
|          | Additional Surplus Reductions from September 2014 Amendments to Rule 4901 |                |                | <b>1.1</b>             |
|          | Total   |                |                | <b>1.6</b>             |
| NOx      | Adopted Measures  | 206.9          | 194.9          | <b>12.0</b>            |

The control measures achieving the contingency reductions in Tables 6-10 and 6-11 are as follows:

- **Adopted stationary and area source measures for NOx and PM2.5 contingency:** The NOx and PM2.5 contingency reductions are from adopted District rules:
  - Rule 4901 (Wood Burning Fireplaces and Wood Burning Heaters)
  - Rule 4306 (Boilers, Steam Generators and Process Heaters (>5 MMBtu/hr))
  - Rule 4308 (Boilers, Steam Generators and Process Heaters (0.075 to <2 MMBtu/hr))
  - Rule 4905 (Natural Gas-Fired, Fan-Type Central Furnaces)
- **Adopted mobile source measures for NOx and PM2.5 contingency:** Most of the total NOx contingency reductions are from adopted mobile source control measures for the following sources:
  - Passenger cars, light-duty vehicles, and medium-duty vehicles
  - Heavy-duty trucks
  - Buses
  - Commercial harbor craft
  - Motor homes
  - Off-road equipment

### 6.4.3 SIP-Creditable Incentive-Based Emissions Reductions

As discussed in Appendix E of this plan, voluntary incentive programs achieve emissions reductions beyond those achieved by regulations alone. Incentive programs accelerate the adoption of cleaner technologies and encourage the use of cleaner technologies by those not yet subject to air quality regulations. Incentives allow the District to reduce emissions from source categories outside of the District's traditional regulatory authority, as well as source categories where financial hardship would otherwise prevent traditional control strategies from being implemented. As discussed in Appendix E, the District adopted new Rule 9610 (State Implementation Plan Credit for Emission Reductions Generated through Incentive Programs) in 2013, providing an administrative mechanism for the state to take credit for incentive based emissions reductions in the SIP.

### 6.4.4 Sufficient Contingency Reductions

Areas like the Valley that have significant nonattainment challenges have developed several generations of aggressive and far-reaching emission reduction measures to meet various Clean Air Act requirements. The result of this "no stone left unturned" policy is that when viable emission reductions are identified, they are implemented to contribute to expeditious attainment. Reductions are not usually held in reserve to be used only if an area fails to meet a milestone. As a result, contingency measure demonstrations in the Valley have been a challenge, historically. Towards that end, this chapter has outlined two types of contingency measures that could be used to meet the contingency reductions required for this plan:

- Surplus from traditional regulations
- SIP-creditable incentives

Table 6-12 shows how this approach generates enough emissions reductions to meet the contingency reductions required for this plan. The below demonstration focuses on direct PM<sub>2.5</sub> and NO<sub>x</sub> since contingencies are only required for these pollutants (see Table 6-9).

**Table 6-12 Demonstration of Sufficient Contingency Reductions**

|   | 2014 | 2017 | 2020  | Data reference                 |
|---|------|------|-------|--------------------------------|
| <b>PM2.5</b>  |      |      |       |                                |
| <i>Surplus from traditional regulations</i>   | 1.9  | 1.5  | 1.6   | Tables 6-10, 6-11              |
| <i>Subtract PM2.5 reductions, trade for NOx</i>   | 0.0  | 0.0  | -1.2  | 1:9 trading ratio*             |
| Total contingency reductions achieved   | 1.9  | 1.5  | 0.4   |                                |
| Contingency reductions required   | 0.4  |      |       | Table 6-9                      |
| Contingency need met?   | Yes  | Yes  | Yes   |                                |
|   |      |      |       |                                |
| <b>NOx</b>  |      |      |       |                                |
| <i>Surplus from traditional regulations</i>   | 16.7 | 18.2 | 12.0  | Tables 6-10, 6-11              |
| <i>Substitute PM2.5 reductions</i>  | 0.0  | 0.0  | +10.8 | Above, with 1:9 trading ratio* |
| Total contingency reductions achieved   | 16.7 | 18.2 | 22.8  |                                |
| Contingency reductions required   | 15.7 |      |       | Table 6-9                      |
| Contingency need met?   | Yes  | Yes  | Yes   |                                |
| * 1 ton of direct PM2.5 emissions reductions is equivalent to 9 tons of NOx reductions as demonstrated in the WOE. These ratios are conservative estimates summarizing the plan as a whole, not reflecting ratios appropriate for New Source Review (NSR) |      |      |       |                                |

## 6.5 TRANSPORTATION CONFORMITY

Section 176(c) of the Federal Clean Air Act (CAA) establishes transportation conformity requirements which are intended to ensure that transportation activities do not interfere with air quality progress. The CAA 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 (MPO). Conformity to a SIP means that proposed activities must not:

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

A SIP analyzes the region's total emissions inventory from all sources for purposes of demonstrating RFP, attainment, or maintenance. The portion of the total emissions inventory from on-road highway and transit vehicles in these analyses becomes the "motor vehicle emissions budget."<sup>16</sup> Motor vehicle emissions budgets are the mechanism for ensuring that transportation planning activities conform to the SIP.

<sup>16</sup> Federal transportation conformity regulations are found in 40 CFR Part 51, subpart T – Conformity to State or Federal Implementation Plans of Transportation Plans, Programs, and Projects Developed, Funded or Approved Under Title 23 U.S.C. of the Federal Transit Laws. Part 93, subpart A of this chapter was revised by the EPA in the August 15, 1997 Federal Register.

Budgets are set for each criteria pollutant or its precursors, and it is set for each RFP milestone year and the attainment year. Subsequent transportation plans and programs produced by transportation planning agencies are required to conform to the SIP by demonstrating that the emissions from the proposed plan, program, or project do not exceed the budget levels established in the applicable SIP.

### 6.5.1 PM2.5 Requirements for Conformity

On April 25, 2007 EPA published in the Federal Register the *Clean Air Fine Particle Implementation Rule* (Final Rule) implementing the 1997 PM2.5 NAAQS (see 72 FR 20586). The Final Rule addresses the types of motor vehicle emissions that must be addressed when setting transportation conformity budgets. In the Final Rule, EPA notes that: “RFP plans, attainment demonstrations, and maintenance plans must include a budget for direct PM2.5 emissions, except for certain cases as described below. All PM2.5 SIP budgets would include directly emitted PM2.5 motor vehicle emissions from tailpipe, brake wear, and tire wear. States should also consider whether re-entrained road dust or highway and transit construction dust are significant contributors and should be included in the PM2.5 budget.” (72 FR 20645) The rule goes on to state that: ‘Under certain circumstances, directly emitted PM2.5 from on-road mobile sources may be found an insignificant contributor to the air quality problem and NAAQS.’

The conformity rule applies for particles with aerodynamic diameter less than or equal to a nominal 2.5 micrometers (PM2.5). NOx must also be addressed as a precursor unless there is a finding of insignificance.

Section 93.102(b)(2)(iv and v) of the conformity rule also identifies Volatile Organic Compounds (VOC), SOx, and/or ammonia as PM2.5 precursor pollutants that must also have a motor vehicle emissions budget if that precursor is deemed significant. In addition, Section 93.102(b)(3) identifies re-entrained road dust from paved and unpaved roads as PM2.5 emissions that must also have a motor vehicle emissions budget if deemed significant. While the applicability section of the rule does not address fugitive dust from road construction specifically, the rule does indicate that the interagency consultation process should be used during the development of PM2.5 SIPs to determine when construction emissions are a significant contributor.

### 6.5.2 Factors for Determining Significance

The conformity rule states that the following factors will be considered in making significance or insignificance findings for PM2.5 precursors: the contribution of on-road emissions of the precursor to the total 2012 baseline SIP inventory; the current state of air quality for the area; the results of speciation monitoring for the area; the likelihood that future motor vehicle control measures will be implemented for a given precursor; and projections of future on-road emissions of the precursor.

Significance findings for re-entrained road dust emissions will be based on a review of the following factors: the contribution of road dust to current and future PM2.5 nonattainment; an area’s current design value for the PM2.5 standard; whether control of



road dust appears necessary to reach attainment; and whether increases in re-entrained dust emissions may interfere with attainment. Such a review would include consideration of local air quality data, air quality modeling results, or emissions modeling results.

### 6.5.3 Assessment of Significance

This plan establishes motor vehicle emission budgets for primary emissions of PM<sub>2.5</sub> from vehicle exhaust, tire and brake wear, and the precursor NO<sub>x</sub>. Other precursors are not considered significant for the reasons discussed in the following sections.

**VOC:** On-road mobile emissions account for approximately 10 percent of the Valley's total VOC emissions in the budget years. Air quality modeling for this plan indicates that control of VOC is generally ineffective in the control of PM<sub>2.5</sub> and in some cases may actually result in increases in PM<sub>2.5</sub> levels. Therefore, on road VOC emissions are considered insignificant and this plan does not establish VOC motor vehicle emissions budgets for conformity purposes.

**SO<sub>x</sub>:** On road mobile exhaust estimates are less than 1 ton per day Valley-wide in the budget years which equates to less than 10 percent of the total SO<sub>x</sub> emissions inventory. SO<sub>x</sub> controls are focused on industrial sources, which contribute almost 80 percent of the total inventory. Therefore, on road SO<sub>x</sub> emissions are considered insignificant and this plan does not establish SO<sub>x</sub> motor vehicle emissions budgets for conformity purposes.

**Paved Road Dust:** Paved road dust PM<sub>2.5</sub> emissions account for approximately 10 percent of the Valley's total direct PM<sub>2.5</sub> emissions in the budget years. As noted in Chapter 3 and Appendix A, all geologic and construction source categories combined represent no more than 9 percent of the peak PM<sub>2.5</sub> concentrations measured in the Valley. While there are no additional fugitive dust controls included in the attainment demonstration for this plan, paved road dust is controlled via the PM<sub>10</sub> Plan and is evaluated as part of PM<sub>10</sub> conformity determinations. Therefore, paved road dust emissions are considered insignificant and this plan does not establish paved road dust motor vehicle emissions budgets for conformity purposes.

**Unpaved Road Dust:** Total unpaved road dust is less than 10 percent of the Valley's total direct PM<sub>2.5</sub> emissions inventory in the budget years. Local roads are one of seven subcategories of unpaved road dust, and therefore considered insignificant. While there are no additional fugitive dust controls included in the plan, unpaved road dust is controlled via the PM<sub>10</sub> Plan, (including the prohibition of any new local unpaved roads), and unpaved road dust is evaluated as part of PM<sub>10</sub> conformity determinations. Therefore unpaved road dust emissions are considered insignificant, and this plan does not establish unpaved road dust emission budgets for conformity purposes.

**Construction Dust:** Total construction and demolition dust is less than 5 percent of the Valley's total direct PM<sub>2.5</sub> emissions inventory in the budget years. Road construction is one of five subcategories of construction dust and is therefore considered insignificant.

While there are no additional fugitive dust controls included in the plan, road construction dust is controlled extensively via the PM10 Plan and is evaluated as part of PM10 conformity determinations. Therefore, construction dust emissions are considered insignificant, and this plan does not establish construction dust emission budgets for conformity purposes.

**Ammonia:** The contribution of ammonia from on-road motor vehicles is approximately 1 percent of the total valley-wide ammonia inventory and is therefore considered insignificant. This plan also establishes ammonia is not a limiting precursor in the formation of PM2.5. Therefore, ammonia on road emissions budgets are not established by this plan.

#### 6.5.4 Conformity Budgets

This plan includes reasonable further progress demonstrations for 2014 and 2017, and an attainment demonstration for 2020. Annual average daily emissions are used in the plan consistent with the way the standard is measured. Consequently, conformity budgets have been set with EMFAC 2014 for annual average daily emissions in the analysis years 2014, 2017, and 2020.

Section 93.124(e) of the federal conformity rule states that nonattainment areas with more than one MPO may establish motor vehicle emission budgets for each MPO in the non-attainment area. This plan establishes county-level emission budgets for each MPO in the Valley.

The transportation conformity budgets developed for this plan include more recent travel activity projections provided by the Valley MPOs. This travel activity is consistent with the 2015 Federal Transportation Improvement Plan (2015 FTIP) for each of the eight Valley MPOs. The emissions impact of this more recent activity data is reflected in the attainment demonstration.

The budgets have been constructed to be consistent with the on-road emissions inventory using the following method:

- 1) Sum the county-by-county emissions results to get a Valleywide total
- 2) Round the Valley-wide totals up to:
  - a. NO<sub>x</sub>- the nearest whole ton
  - b. PM<sub>2.5</sub> – the nearest tenth of a ton
- 3) Disaggregate the rounded values proportional to each county's emissions
- 4) Calculate the budget by rounding each county's values to the nearest tenth ton (for both NO<sub>x</sub> and PM<sub>2.5</sub>) using conventional rounding.

This plan establishes subarea county emission budgets for PM2.5 and NO<sub>x</sub> for the horizon years 2014, 2017, and 2020 and are summarized in Table 6-12. The attachment on the following page provides more detailed calculations.

**Table 6-13 San Joaquin Valley Transportation Conformity Budgets (tpd, annual average)**

| County      | 2014  |      | 2017  |      | 2020  |      |
|-------------|-------|------|-------|------|-------|------|
|             | PM2.5 | NOx  | PM2.5 | NOx  | PM2.5 | NOx  |
| Fresno      | 1.2   | 41.2 | 1.0   | 31.2 | 0.9   | 25.3 |
| Kern (SJV)  | 1.0   | 36.5 | 0.8   | 28.0 | 0.8   | 23.3 |
| Kings       | 0.2   | 7.6  | 0.2   | 5.7  | 0.1   | 4.8  |
| Madera      | 0.2   | 7.8  | 0.2   | 5.8  | 0.2   | 4.7  |
| Merced      | 0.4   | 13.9 | 0.3   | 10.7 | 0.3   | 8.9  |
| San Joaquin | 0.7   | 19.6 | 0.6   | 14.9 | 0.6   | 11.9 |
| Stanislaus  | 0.5   | 15.6 | 0.4   | 11.9 | 0.4   | 9.6  |
| Tulare      | 0.5   | 14.9 | 0.4   | 10.8 | 0.3   | 8.4  |

### 6.5.5 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 a emissions trading mechanism, which was approved by EPA effective January 9, 2012, to be used for analysis years after 2014. This SIP 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 (the modeling document that discusses this ratio will be included in the staff report taken to the ARB Governing Board for adoption and included in the full *2015 PM2.5 Plan* package that will be submitted to EPA).

The NOx emissions reductions available for trading are only those remaining after the NOx budget is met. For example, for a proposed plan that has a total of 7 tons of NOx, and a NOx budget of 10 tons, there are 3 tons of NOx available to meet the PM2.5 emissions budget. Each agency responsible for demonstrating transportation conformity shall clearly document the calculations used in the trading, along with any additional reductions of NOx or PM2.5 emissions in the conformity analysis.

San Joaquin Valley Annual PM2.5 Motor Vehicle Emissions Budgets

2015 FSTIP MPO activity data  
(tons per annual average day)

2014 Motor Vehicle Emissions Budgets

| 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 V1.0.2   | 1.23        | 40.93        | 1.04        | 36.25        | 0.20        | 7.53        | 0.23        | 7.73        | 0.38        | 13.86        | 0.70        | 19.49        | 0.49        | 15.47        | 0.48        | 14.81        |                              |               |
| <b>Total</b>                | <b>1.23</b> | <b>40.93</b> | <b>1.04</b> | <b>36.25</b> | <b>0.20</b> | <b>7.53</b> | <b>0.23</b> | <b>7.73</b> | <b>0.38</b> | <b>13.86</b> | <b>0.70</b> | <b>19.49</b> | <b>0.49</b> | <b>15.47</b> | <b>0.48</b> | <b>14.81</b> | <b>4.75</b>                  | <b>156.07</b> |
| <b>Air Basin Total</b>      |             |              |             |              |             |             |             |             |             |              |             |              |             |              |             |              | <b>4.8</b>                   | <b>157</b>    |
| Disaggregated County Totals | 1.244       | 41.172       | 1.047       | 36.464       | 0.203       | 7.579       | 0.233       | 7.780       | 0.382       | 13.942       | 0.711       | 19.606       | 0.496       | 15.559       | 0.485       | 14.897       |                              |               |
| <b>Budget</b>               | <b>1.2</b>  | <b>41.2</b>  | <b>1.0</b>  | <b>36.5</b>  | <b>0.2</b>  | <b>7.6</b>  | <b>0.2</b>  | <b>7.8</b>  | <b>0.4</b>  | <b>13.9</b>  | <b>0.7</b>  | <b>19.6</b>  | <b>0.5</b>  | <b>15.6</b>  | <b>0.5</b>  | <b>14.9</b>  | <b>4.8</b>                   | <b>157.0</b>  |

2017 Motor Vehicle Emissions Budgets

| 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 V1.0.2   | 0.94        | 31.14        | 0.80        | 27.97        | 0.15        | 5.72        | 0.18        | 5.79        | 0.29        | 10.68        | 0.60        | 14.88        | 0.39        | 11.88        | 0.37        | 10.79        |                              |               |
| <b>Total</b>                | <b>0.94</b> | <b>31.14</b> | <b>0.80</b> | <b>27.97</b> | <b>0.15</b> | <b>5.72</b> | <b>0.18</b> | <b>5.79</b> | <b>0.29</b> | <b>10.68</b> | <b>0.60</b> | <b>14.88</b> | <b>0.39</b> | <b>11.88</b> | <b>0.37</b> | <b>10.79</b> | <b>3.71</b>                  | <b>118.84</b> |
| <b>Air Basin Total</b>      |             |              |             |              |             |             |             |             |             |              |             |              |             |              |             |              | <b>3.8</b>                   | <b>119</b>    |
| Disaggregated County Totals | 0.961       | 31.186       | 0.814       | 28.002       | 0.151       | 5.723       | 0.185       | 5.795       | 0.292       | 10.695       | 0.618       | 14.895       | 0.403       | 11.899       | 0.376       | 10.805       |                              |               |
| <b>Budget</b>               | <b>1.0</b>  | <b>31.2</b>  | <b>0.8</b>  | <b>28.0</b>  | <b>0.2</b>  | <b>5.7</b>  | <b>0.2</b>  | <b>5.8</b>  | <b>0.3</b>  | <b>10.7</b>  | <b>0.6</b>  | <b>14.9</b>  | <b>0.4</b>  | <b>11.9</b>  | <b>0.4</b>  | <b>10.8</b>  | <b>3.8</b>                   | <b>119.0</b>  |

2020 Motor Vehicle Emissions Budgets

| 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 V1.0.2   | 0.84        | 25.26        | 0.73        | 23.26        | 0.14        | 4.82        | 0.17        | 4.65        | 0.26        | 8.85        | 0.58        | 11.89        | 0.36        | 9.57        | 0.33        | 8.41        |                              |              |
| <b>Total</b>                | <b>0.84</b> | <b>25.26</b> | <b>0.73</b> | <b>23.26</b> | <b>0.14</b> | <b>4.82</b> | <b>0.17</b> | <b>4.65</b> | <b>0.26</b> | <b>8.85</b> | <b>0.58</b> | <b>11.89</b> | <b>0.36</b> | <b>9.57</b> | <b>0.33</b> | <b>8.41</b> | <b>3.42</b>                  | <b>96.72</b> |
| <b>Air Basin Total</b>      |             |              |             |              |             |             |             |             |             |             |             |              |             |             |             |             | <b>3.5</b>                   | <b>97</b>    |
| Disaggregated County Totals | 0.860       | 25.297       | 0.752       | 23.292       | 0.142       | 4.831       | 0.173       | 4.652       | 0.269       | 8.866       | 0.593       | 11.909       | 0.370       | 9.580       | 0.341       | 8.419       |                              |              |
| <b>Budget</b>               | <b>0.9</b>  | <b>25.3</b>  | <b>0.8</b>  | <b>23.3</b>  | <b>0.1</b>  | <b>4.8</b>  | <b>0.2</b>  | <b>4.7</b>  | <b>0.3</b>  | <b>8.9</b>  | <b>0.6</b>  | <b>11.9</b>  | <b>0.4</b>  | <b>9.6</b>  | <b>0.3</b>  | <b>8.4</b>  | <b>3.5</b>                   | <b>96.8</b>  |

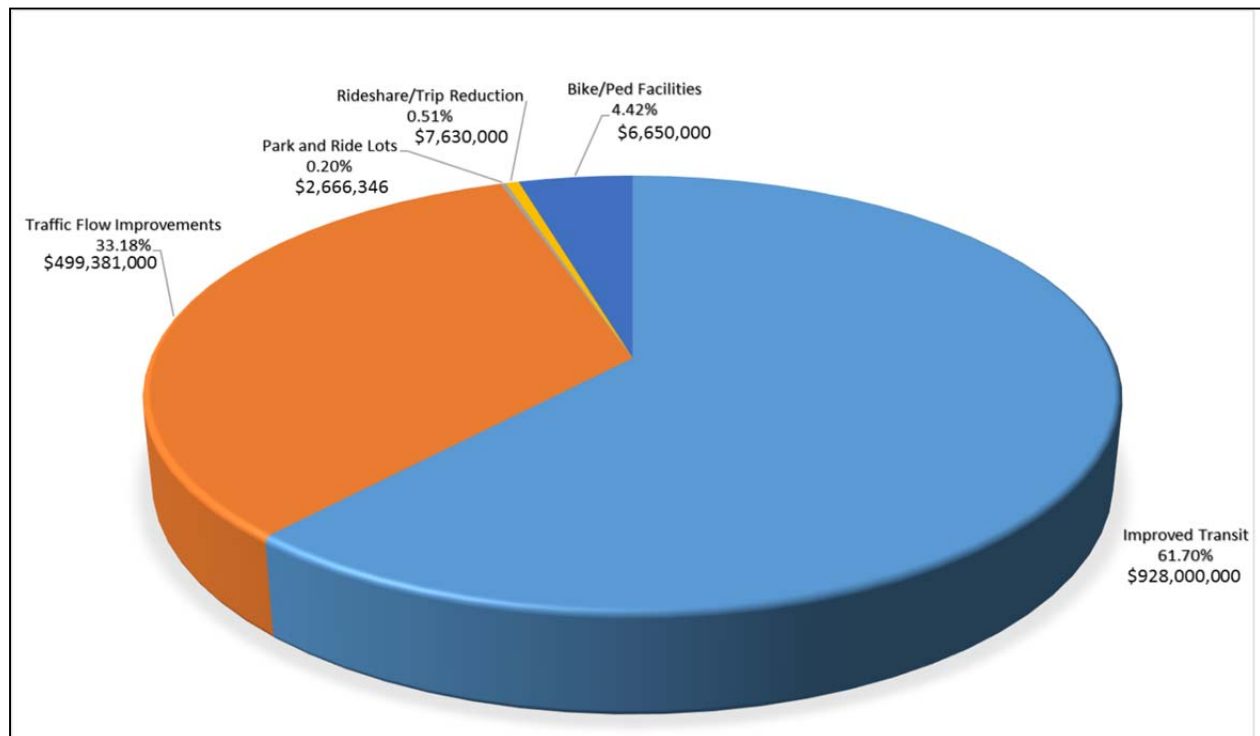
\* Established by conventional rounding.

### 6.5.6 Local Transportation Control Measures

Transportation Control Measures (TCMs) in CAA §108(f) are currently being implemented by the Valley MPOs as part of the adopted Congestion Mitigation and Air Quality (CMAQ) cost effectiveness policy and in the development of each Regional Transportation Plan (RTP). In addition, new transportation legislation (MAP-21) includes enhanced emphasis on funding PM2.5 projects.

Valley MPOs continue to implement the adopted San Joaquin Valley CMAQ Policy, which was included in the District's *2007 Ozone Plan* and *2008 PM2.5 Plan*. The CMAQ policy includes a standardized process for distributing 20 percent of the CMAQ funds to projects that meet a minimum cost effectiveness beginning in fiscal year 2011. This policy focuses on achieving the most cost effective emissions reductions, while maintaining flexibility to meet local needs. The policy feasibility and minimum cost effectiveness standard was revisited in 2013 as part of the 2013 Federal Transportation Improvement Program (FTIP) development; the minimum cost effectiveness standard was also revisited in 2015 as part of the 2015 FTIP development.

Figure 6-2 provides an illustration of funding allocated valley-wide in the 2015 FTIPs for a sample of TCM categories: improved transit; high occupancy vehicle lanes; traffic flow improvements; park and ride lots; ridesharing/trip reduction programs; bicycle/pedestrian facilities. These tables demonstrate the eight SJV MPOs' commitment to the implementation of TCMs throughout the Valley. As the Valley MPOs implement TCMs through the current policies, all reasonable transportation control measures are being implemented.

**Figure 6-2 Illustration of Valley MPO Funding for Sample TCM Categories**

Each Valley MPO is required to update its RTP every four years. The RTP is a long-term regional transportation plan that provides a vision for transportation investments throughout the Valley. The 2014 RTPs integrate land use and transportation planning to achieve, where feasible, regional greenhouse gas (GHG) targets set by ARB pursuant to Senate Bill 375 (SB-375).

To further illustrate the eight SJV MPOs commitment to the implementation of TCMs throughout the Valley, the RTPs contains a host of improvements to every component of the regional multimodal transportation system including:

- Active transportation (non-motorized transportation, such as biking and walking)
- Transportation demand management (TDM)
- Transportation system management (TSM)
- Transit
- Passenger rail
- Goods movement
- Aviation and airport ground access
- Highways
- Arterials
- Operations and maintenance

Included within these transportation system improvements are TCM projects that reduce vehicle use or change traffic flow or congestion conditions. TCMs include the following categories of transportation improvement projects and programs:

- Improved Transit
- High Occupancy Vehicle Lanes
- Traffic Flow Improvements
- Park and Ride Lots
- Ridesharing/Trip Reduction Programs
- Bicycle/Pedestrian Facilities

### 6.5.7 SB-375

The Sustainable Communities and Climate Protection Act of 2008 (Sustainable Communities, SB-375) enhances California's strategy to reduce GHG emissions through the coordination of transportation and land-use to reduce vehicle miles traveled per person through the development of a Sustainable Community Strategy. SB-375 identifies specific reduction goals for each of California's MPOs in 2020 and 2035 which the Sustainable Community Strategy must meet, if feasible. For the Valley, the SB-375 target reductions are a 5% per capita GHG emissions reductions from 2005 by 2020 and a 10% per capita GHG emissions reductions from 2005 by 2035. The strategies contained in the RTP/SCS produce benefits for the region far beyond simply reducing GHG emissions. The SCS integrates the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. As a result, Sustainable Community Strategy development is anticipated to complement the reduction strategies outlined in the *2015 PM2.5 Plan*.

## 6.6 FULFILLMENT OF SERIOUS AREA PERMITTING REQUIREMENTS

Pursuant to Subpart 4 §189(b)(3) the District must provide a revision to the nonattainment new source review (NSR) program to lower the applicable "major stationary source" thresholds from 100 tons per year (tpy) to 70 tpy. In EPA's proposed approval of the District adopted *2012 PM2.5 Plan* and reclassification of the Valley to Serious Nonattainment for the 2006 PM2.5 NAAQS, EPA proposes to require that NSR amendments to lower the PM2.5 major source threshold from 100 to 70 tpy shall be submitted within twelve months of EPA's final action on the reclassification.

The District's New and Modified Stationary Source Review Rule (Rule 2201) identifies the major source emission thresholds for each pollutant. Currently, through Rule 2201, the District already identifies the major source emission threshold for volatile organic materials (VOCs) and NOx major sources at 10 tpy and PM10 and SOx at 70 tpy. The major source emissions threshold for PM2.5 is currently set at 100 tpy. Consistent with CAA requirements, the District will amend Rule 2201 to lower the major source emission limit threshold from 100 to 70 tpy within twelve months of EPA's final action to reclassify the Valley as a Serious nonattainment area.

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