

DRAFT
Conformity Analysis
for the
2011 Federal Transportation Improvement Program
and the
2011 Regional Transportation Plan

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Merced County Association of Governments

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EXECUTIVE SUMMARY

This report presents the Conformity Analysis for the 2011 Federal Transportation Improvement Program (FTIP) and the 2011 Regional Transportation Plan (RTP). The Merced County Association of Governments is the designated Metropolitan Planning Organization (MPO) in Merced County, California, and is responsible for regional transportation planning.

The Clean Air Act Section 176(c) (42 U.S.C. 7506(c)) and U.S. Environmental Protection Agency (EPA) transportation conformity regulations (40 CFR 93 Subpart A) require that each new RTP and TIP be demonstrated to conform to the State Implementation Plan (SIP) before the RTP and TIP are approved by the MPO or accepted by the U.S. Department of Transportation (DOT). This analysis demonstrates that the criteria specified in the transportation conformity regulations for a conformity determination are satisfied by the 2011 FTIP and 2011 RTP; a finding of conformity is therefore supported. The 2011 FTIP and 2011 RTP and corresponding Conformity Analysis were approved by the Merced County Association of Governments Policy Board on July 15, 2010. FHWA/FTA last issued a finding of conformity for the 2009 TIP and 2007 RTP, including amendments, on February 27, 2009.

The 2011 TIP and 2011 RTP have been financially constrained in accordance with the requirements of 40 CFR 93.108 and consistent with the U.S. DOT metropolitan planning regulations (23 CFR Part 450). A discussion of financial constraint and funding sources is included in the appropriate documents.

The applicable Federal criteria or requirements for conformity determinations, the conformity tests applied, the results of the conformity assessment, and an overview of the organization of this report are summarized below.

CONFORMITY REQUIREMENTS

The Federal transportation conformity regulations (40 Code of Federal Regulations Parts 51 and 93) specify criteria and procedures for conformity determinations for transportation plans, programs, and projects and their respective amendments. The Federal transportation conformity regulation was first promulgated in 1993 by the U.S. EPA, following the passage of amendments to the Federal Clean Air Act in 1990. The Federal transportation conformity regulation has been revised several times since its initial release to reflect both EPA rule changes and court opinions. The transportation conformity regulation is summarized in Chapter 1.

The conformity regulation applies nationwide to “all nonattainment and maintenance areas for transportation-related criteria pollutants for which the area is designated nonattainment or has a maintenance plan” (40 CFR 93.102). Currently, the San Joaquin Valley (or portions thereof) is designated as nonattainment with respect to Federal air quality standards for ozone, and particulate matter under 2.5 microns in diameter (PM_{2.5}); and has a maintenance plan for particulate matter under 10 microns in diameter (PM-10), as well as a maintenance plan for carbon monoxide (CO) for the urbanized/metropolitan areas of Kern, Fresno, Stanislaus and San Joaquin Counties. Therefore, transportation plans and programs for the nonattainment areas for the Merced County area must satisfy the requirements of the Federal transportation conformity regulation.

Under the transportation conformity regulation, the principal criteria for a determination of conformity for transportation plans and programs are:

- (1) the TIP and RTP must pass an emissions budget test using a budget that has been found to be adequate by EPA for transportation conformity purposes, or an interim emission test;
- (2) the latest planning assumptions and emission models specified for use in conformity determinations must be employed;
- (3) the TIP and RTP must provide for the timely implementation of transportation control measures (TCMs) specified in the applicable air quality implementation plans; and
- (4) interagency and public consultation.

On-going interagency consultation is conducted through the San Joaquin Valley Interagency Consultation Group to ensure Valley-wide coordination, communication and compliance with Federal and California Clean Air Act requirements. Each of the eight Valley MPOs and the San Joaquin Valley Unified Air Pollution Control District (Air District) are represented. The Federal Highway Administration (FHWA), Federal Transit Administration (FTA), the U.S. EPA, the California Air Resources Board (CARB) and Caltrans are also represented on the committee. The final determination of conformity for the TIP and RTP is the responsibility of FHWA, and FTA within the U.S. DOT.

FHWA has developed a Conformity Checklist (included in Appendix A) that contains the required items to complete a conformity determination. Appropriate references to these items are noted on the checklist.

CONFORMITY TESTS

The conformity tests specified in the Federal transportation conformity regulation are: (1) the emissions budget test, and (2) the interim emission test. For the emissions budget test, predicted emissions for the TIP/RTP must be less than or equal to the motor vehicle emissions budget specified in the approved air quality implementation plan or the emissions budget found to be adequate for transportation conformity purposes. If there is no approved air quality plan for a pollutant for which the region is in nonattainment or no emission budget has been found to be adequate for transportation conformity purposes, the interim emission test applies. Chapter 1 summarizes the applicable air quality implementation plans and conformity tests for carbon monoxide, ozone, PM-10, and PM2.5.

RESULTS OF THE CONFORMITY ANALYSIS

A regional emissions analysis was conducted for the years 2011, 2012, 2014, 2017, 2018 (via interpolation), 2020, 2023, 2025 and 2035 for each applicable pollutant. All analyses were conducted using the latest planning assumptions and emissions models. The major conclusions of the Merced County Association of Governments Conformity Analysis are:

- For ozone, the total regional on-road vehicle-related emissions (ROG and NOx) associated with implementation of the 2011 FTIP and the 2011 RTP for all years tested are projected to be less than the adequate emissions budgets specified in the *2007 Ozone Plan*. The conformity tests for ozone are therefore satisfied.
- For PM-10, the total regional vehicle-related emissions (PM-10 and NOx) associated with implementation of the 2011 FTIP and the 2011 RTP for all years tested are either (1) projected to be less than the approved emissions budgets, or (2) less than the emission budgets using the approved PM-10 and NOx trading mechanism for transportation conformity purposes from the *2007 PM-10 Maintenance Plan*. The conformity tests for PM-10 are therefore satisfied.

[NOTE: The following text contains two options per consultation with EPA; only one will be included in the final document prior to MPO Board adoption]

Option 1: Assumes Adequate PM2.5 Conformity Budgets:

- For PM2.5, the total regional on-road vehicle-related emissions associated with implementation of the 2011 FTIP and the 2011 RTP for the analysis years are projected to be less than the adequate emission budgets specified in the 2008 PM2.5 Plan. The conformity tests for PM2.5 for both the 1997 and 2006 standards are therefore satisfied.

Option 2: Assumes no EPA action on PM2.5 Conformity Budgets:

- For PM2.5, the total regional on-road vehicle-related emissions associated with implementation of the 2011 FTIP and the 2011 RTP for the analysis years are projected to be less than the 2002 and 2008 motor vehicle emissions. The conformity tests for PM2.5 for both the 1997 and 2006 standards are therefore satisfied.
- The 2011 FTIP and the 2011 RTP will not impede and will support timely implementation of the TCMs that have been adopted as part of applicable air quality implementation plans. The current status of TCM implementation is documented in Chapter 4 of this report.
- Since the local SJV procedures (e.g., Air District Rule 9120 Transportation Conformity) have not been approved by EPA, consultation has been conducted in accordance with Federal requirements.

REPORT ORGANIZATION

The report is organized into six chapters. Chapter 1 provides an overview of the applicable Federal and State conformity regulations and requirements, air quality implementation plans, and conformity test requirements. Chapter 2 contains a discussion of the latest planning assumptions and transportation modeling. Chapter 3 describes the air quality modeling used to estimate emission factors and mobile source emissions. Chapter 4 contains the documentation required under the Federal transportation conformity regulation for transportation control measures. Chapter 5 provides an overview of the interagency requirements and the general approach to compliance used by the San Joaquin Valley MPOs. The results of the conformity analysis for the TIP/RTP are provided in Chapter 6.

Appendix F includes public meeting documentation conducted on the 2011 FTIP and 2011 RTP and corresponding Conformity Analysis on May 20, 2010. Comments received on the conformity analysis and responses made as part of the public involvement process are included in Appendix G.

CHAPTER 1: FEDERAL AND STATE REGULATORY REQUIREMENTS

The criteria for determining conformity of transportation programs and plans under the Federal transportation conformity regulation (40 CFR Parts 51 and 93) and the applicable conformity tests for the San Joaquin Valley nonattainment areas are summarized in this section. The Conformity Analysis for the Draft 2011 Federal Transportation Improvement Program (TIP) and the Draft 2011 Regional Transportation Plan (RTP) was prepared based on these criteria and tests. Presented first is a review of the development of the applicable conformity regulation and guidance procedures, followed by summaries of conformity regulation requirements, air quality designation status, conformity test requirements, and analysis years for the Conformity Analysis.

Merced County Association of Governments is the designated Metropolitan Planning Organization (MPO) for Merced County in the San Joaquin Valley. As a result of this designation, Merced County Association of Governments prepares the TIP, RTP, and associated conformity analyses. The TIP serves as a detailed four year programming document for the preservation, expansion, and management of the transportation system. The 2011 RTP has a 2035 horizon that provides the long term direction for the continued implementation of the freeway/expressway plan, as well as improvements to arterial streets, transit, and travel demand management programs. The TIP and RTP include capacity enhancements to the freeway/expressway system commensurate with available funding.

A. FEDERAL AND STATE CONFORMITY REGULATIONS

CLEAN AIR ACT AMENDMENTS

Section 176(c) of the Clean Air Act (CAA, 1990) requires that Federal agencies and MPOs not approve any transportation plan, program, or project that does not conform to the approved State Implementation Plan (SIP). The 1990 amendments to the Clean Air Act expanded Section 176(c) to more explicitly define conformity to an implementation plan to mean:

“Conformity to the plan's purpose of eliminating or reducing the severity and number of violations of the national ambient air quality standards and achieving expeditious attainment of such standards; and that such activities will not (i) cause or contribute to any new violation of any standard in any area; (ii) increase the frequency or severity of any existing violation of any standard in any area; or (iii) delay timely attainment of any standard or any required interim emission reductions or other milestones in any area.”

Section 176(c) also provides conditions for the approval of transportation plans, programs, and projects, and requirements that the Environmental Protection Agency (EPA) promulgate conformity determination criteria and procedures no later than November 15, 1991.

FEDERAL RULE

The initial November 15, 1991 deadline for conformity criteria and procedures was partially completed through the issuance of supplemental interim conformity guidance issued on June 7, 1991 for carbon monoxide, ozone, and particulate matter ten microns or less in diameter (PM-10). EPA subsequently promulgated the Conformity Final Rule in the November 24, 1993 *Federal Register* (EPA, 1993). The 1993 Rule became effective on December 27, 1993. The Federal Transportation Conformity Final Rule has been amended several times from 1993 to 2002. These amendments have addressed a number of items related to conformity lapses, grace periods, and other related issues to streamline the conformity process.

On July 1, 2004 EPA published the final rule, Transportation Conformity Rule Amendments for the New 8-hour Ozone and PM_{2.5} National Ambient Air Quality Standards and Miscellaneous Revisions for Existing Areas; Transportation Conformity Rule Amendments – Response to Court Decision and Additional Rule Changes (EPA, 2004a).

EPA issued a final rule on May 6, 2005 to add the following particulate matter 2.5 microns or less in diameter (PM_{2.5}) precursors to the transportation conformity rule: nitrogen oxides (NO_x), volatile organic compounds (VOCs), sulfur oxides (SO_x), and ammonia (NH₃) (EPA, 2005). The rule specifies when each of these precursors must be considered in PM_{2.5} nonattainment areas, before and after PM_{2.5} SIPs are submitted.

In late March 2006, EPA and the Federal Highway Administration (FHWA) published “Transportation Conformity Guidance for Qualitative Hot-Spot Analyses in PM_{2.5} and PM₁₀ Nonattainment and Maintenance Areas”. This guidance affects Federal project-level approvals for “projects of air quality concern” in PM_{2.5} and PM₁₀ nonattainment areas on or after April 5, 2006.

EPA issued a final rule on January 24, 2008 regarding changes to make the rule consistent with the Clean Air Act as amended by the most recent transportation funding legislation, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU).

EPA published the Transportation Conformity Rule PM_{2.5} and PM₁₀ Amendments on March 24, 2010; the rule became effective on April 23, 2010 (EPA, 2010a). This PM amendments final rule amends the conformity regulation to address the 2006 PM_{2.5} national ambient air quality standard (NAAQS). The final PM amendments rule also addresses hot-spot analyses in PM_{2.5} and PM₁₀ and carbon monoxide nonattainment and maintenance areas.

MULTI-JURISDICTIONAL GUIDANCE

EPA issued “multi-jurisdictional” guidance on July 21, 2004 to clarify how nonattainment areas with multiple agencies should conduct conformity determinations based on the changes to the Conformity Rule (EPA, 2004b). This guidance applies to the San Joaquin Valley since there are multiple MPOs within a single nonattainment area. The main principle of the guidance is that one regional emissions analysis is required for the entire nonattainment area. However, separate modeling and conformity documents may be developed by each MPO.

Part 3 of the guidance applies to nonattainment areas that have adequate or approved conformity budgets addressing a particular air quality standard. This Part currently applies to the San Joaquin Valley for carbon monoxide, ozone and PM-10. The guidance allows MPOs to make independent conformity determinations for their plans and TIPs as long as all of the other subareas in the nonattainment area have conforming transportation plans and TIPs in place at the time of each MPO and the Department of Transportation (DOT) conformity determination.

With respect to PM_{2.5}, the Transportation Conformity Rule PM_{2.5} and PM₁₀ Amendments published on March 24, 2010 effectively incorporates the “multi-jurisdictional” guidance directly into the rule.

[NOTE: The following text contains two options per consultation with EPA; only one will be included in the final document prior to MPO Board adoption]

Option 1: Assumes Adequate PM_{2.5} Conformity Budgets. EPA is anticipated to publish a budget adequacy determination for the 2012 conformity budget contained in the 2008 PM_{2.5} Plan effective prior to July 2010 (scheduled MPO Board adoption of 2011 TIP/RTP/Conformity Analysis). Under this option, the Rule allows MPOs to make independent conformity determinations for their plans and TIPs as long as all of the other subareas in the nonattainment area have conforming transportation plans and TIPs in place at the time of each MPO and DOT conformity determination.

Option 2: Assumes no EPA action on PM_{2.5} conformity budgets. A State Implementation Plan has been developed to address the 1997 PM_{2.5} standards; however, EPA has not issued an adequacy determination on the conformity budgets nor approved the Plan. Under this option, the Rule allows the individual modeling and conformity results to be compiled into one regional emissions analysis for the entire nonattainment area that accompanies each plan/TIP conformity determination (see Appendix D). DOT will then issue its conformity determination on the TIPs/RTPs at the same time.

DISTRICT RULE

The San Joaquin Valley Unified Air Pollution Control District (Air District) adopted Rule 9120 Transportation Conformity on January 19, 1995 in response to requirements in Section 176(c)(4)(c) of the 1990 Clean Air Act Amendments. Rule 9120 contains the Transportation Conformity Rule promulgated November 24, 1993 verbatim. The Rule provides guidance for the development of consultation procedures and processes at the local level. As required by the Transportation Conformity Rule, Rule 9120 was submitted to EPA on January 24, 1995 as a revision to the State SIP. The rule becomes effective on the date EPA promulgates interim, partial, or final approval in the Federal Register.

To date, the Rule has not received approval by EPA. Section 51.390(b) of the Transportation Conformity Rule states: “Following EPA approval of the State conformity provisions (or a portion thereof) in a revision to the applicable implementation plan, conformity determinations would be governed by the approved (or approved portion of the) State criteria and procedures.” It should also be noted that EPA has changed 40 CFR 51.390 to streamline the requirements for State conformity SIPs. Since a transportation conformity SIP has not been approved for the SJV, the Federal transportation conformity rule still governs.

B. CONFORMITY REGULATION REQUIREMENTS

The Federal regulations identify general criteria and procedures that apply to all transportation conformity determinations, regardless of pollutant and implementation plan status. These include:

- 1) *Conformity Tests* — Sections 93.118 and 93.119 specify emissions tests (budget and interim emissions) that the TIP/RTP must satisfy in order for a determination of conformity to be found. The final transportation conformity regulation issued on July 1, 2004 requires a submitted SIP motor vehicle emissions budget to be found adequate or approved by EPA prior to use for making conformity determinations. The budget must be used on or after the effective date of EPA's adequacy finding or approval.

- 2) *Methods / Modeling:*

Latest Planning Assumptions — Section 93.110 specifies that conformity determinations must be based upon the most recent planning assumptions in force at the time the conformity analysis begins. This is defined as “the point at which the MPO begins to model the impact of the proposed transportation plan or TIP on travel and/or emissions. New data that becomes available after an analysis begins is required to be used in the conformity determination only if a significant delay in the analysis has occurred, as determined through interagency consultation” (EPA, 2010b). All analyses for the Conformity Analysis were conducted using the latest planning assumptions and emissions models in force at the time the conformity analysis started in February 2010 (see Chapter 2).

Latest Emissions Models — Section 93.111 requires that the latest emission estimation models specified for use in SIPs must be used for the conformity analysis. EMFAC2007 was used in the Conformity Analysis and is documented in Chapter 3.

- 3) *Timely Implementation of TCMs* — Section 93.113 provides a detailed description of the steps necessary to demonstrate that the new TIP/RTP are providing for the timely implementation of TCMs, as well as demonstrate that the plan and/or program is not interfering with this implementation. TCM documentation is included in Chapter 4 of the Conformity Analysis.
- 4) *Consultation* — Section 93.105 requires that the conformity determination be made in accordance with the consultation procedures outlined in the Federal regulations. These include:
 - MPOs are required to provide reasonable opportunity for consultation with State air agencies, local air quality and transportation agencies, the USDOT and EPA (Section 93.105(a)(1)).
 - MPOs are required to establish a proactive public involvement process, which provides opportunity for public review and comment prior to taking formal action on a conformity determination (Section 93.105(e)).

The TIP, RTP, and corresponding conformity determinations are prepared by each MPO. Copies of the Draft documents are provided to member agencies and others, including FHWA, Federal Transit Administration (FTA), EPA, Caltrans, CARB, and the Air District for review. Both the TIP and RTP are required to be publicly available and an opportunity for public review and comment is provided. The consultation process for the conformity analysis includes a 30-day comment period followed by a public meeting. However, the comment period for this conformity analysis was 45 days concurrent with the Draft 2011 TIP and RTP, and associated California Environmental Quality Act (CEQA) documents.

C. AIR QUALITY DESIGNATIONS APPLICABLE TO THE SAN JOAQUIN VALLEY

The conformity regulation (section 93.102) requires documentation of the applicable pollutants and precursors for which EPA has designated the area nonattainment or maintenance. In addition, the nonattainment or maintenance area and its boundaries should be described.

Merced County Association of Governments is located in the federally designated San Joaquin Valley Air Basin. The borders of the basin are defined by mountain and foothill ranges to the east and west. The northern border is consistent with the county line between San Joaquin and Sacramento Counties. The southern border is less defined, but is roughly bounded by the Tehachapi Mountains and, to some extent, the Sierra Nevada range. Conformity for the 2011 FTIP and RTP includes analysis of existing and future air quality impacts for each applicable pollutant.

The San Joaquin Valley is currently designated as nonattainment for the NAAQS for 8-hour ozone, and PM_{2.5}; and has a maintenance plan for PM₁₀, as well as a maintenance plan for carbon monoxide (CO) for the urbanized/metropolitan areas of Kern, Fresno, Stanislaus and San Joaquin Counties. State Implementation Plans have been prepared to address carbon monoxide, ozone, PM₁₀ and PM_{2.5}:

- The 2004 Revision to the California State Implementation Plan for Carbon Monoxide was approved by EPA on November 30, 2005 (effective January 30, 2006).
- EPA published a budget adequacy determination for the 2011, 2014, and 2017 conformity budgets contained in the 2007 Ozone Plan on January 22, 2009, effective February 6, 2009.
- The 2007 PM₁₀ Maintenance Plan, which included revisions to the attainment plan, was approved (with minor technical corrections to the conformity budgets) by EPA on November 12, 2008.

[NOTE: The following text contains two options per consultation with EPA; only one will be included in the final document prior to MPO Board adoption]

Option 1: Assumes Adequate PM_{2.5} Conformity Budgets

EPA is anticipated to publish a budget adequacy determination for the 2012 conformity budget contained in the 2008 PM_{2.5} Plan effective prior to July 2010 (scheduled MPO Board adoption of 2011 TIP/RTP/Conformity Analysis).

Option 2: Assumes no EPA action on PM_{2.5} conformity budgets

EPA also designated the San Joaquin Valley as nonattainment for the 1997 PM_{2.5} standards. A State Implementation Plan has been developed to address the 1997 PM_{2.5} standards; however, EPA has not issued an adequacy determination on the conformity budgets nor approved the Plan.

On November 13, 2009, EPA published Air Quality Designations for the 2006 24-hour PM_{2.5} standard, effective December 14, 2009. Nonattainment areas are required to meet the standard by 2014; transportation conformity applies by December 14, 2010. In the San Joaquin Valley, the 1997 standards (both 24-hour and annual) will continue to apply. It is important to note that the 2006 24-hour PM_{2.5} nonattainment area boundary for the San Joaquin Valley is exactly the same as the nonattainment area boundary for the 1997 annual standard.

D. CONFORMITY TEST REQUIREMENTS

The conformity (Section 93.109(c)–(k)) rule requires that either a table or text description be provided that details, for each pollutant and precursor, whether the interim emissions tests and/or the budget test apply for conformity. In addition, documentation regarding which emissions budgets have been found adequate by EPA, and which budgets are currently applicable for what analysis years is required.

Specific conformity test requirements established for the San Joaquin Valley nonattainment areas for carbon monoxide, ozone, and particulate matter are summarized below.

Section 93.124(d) of the 1997 Final Transportation Conformity regulation allows for conformity determinations for subregional emission budgets by MPOs if the applicable implementation plans (or implementation plan submission) explicitly indicates an intent to create such subregional budgets for the purpose of conformity. In addition, Section 93.124(e) of the 1997 rules states: “...if a nonattainment area includes more than one MPO, the implementation plan may establish motor vehicle emission budgets for each MPO, or else the MPOs must collectively make a conformity determination for the entire nonattainment area.” Each applicable implementation plan and estimate of baseline emissions in the San Joaquin Valley provides motor vehicle emission budgets by county, to facilitate county-level conformity findings.

CARBON MONOXIDE

The urbanized/metropolitan areas of Kern, Fresno, Stanislaus and San Joaquin Counties are classified maintenance for carbon monoxide. The motor vehicle emission budgets for carbon monoxide are specified in the *2004 Revision to the California State Implementation Plan for Carbon Monoxide* in tons per average winter day. EPA published a direct final rulemaking approving the plan on November 30, 2005, effective January 30, 2006.

For carbon monoxide, the Federal transportation conformity regulation requires that the TIP and RTP must pass an emissions budget test with a budget that has been approved by EPA for transportation conformity purposes. New conformity budgets have been approved for 2003, 2010 and 2018 for portions of the San Joaquin Valley as provided in the following table.

**Table 1-1:
On-Road Motor Vehicle CO Emissions Budgets**

County	2003 Emissions (winter tons/day)	2010 Emissions (winter tons/day)	2018 Emissions (winter tons/day)
Fresno	240	240	240
Kern	180	180	180
San Joaquin	170	170	170
Stanislaus	130	130	130

OZONE

Under the existing conformity regulation, regional emissions analyses for ozone areas must address nitrogen oxides (NOx) and volatile organic compounds (VOC) precursors. It is important to note that in California, reactive organic gases (ROG) are considered equivalent to and are used in place of volatile organic compounds (VOC). The motor vehicle emission budgets for ozone are specified in the 2007 Ozone Plan in tons per average summer day. EPA published the notice of adequacy determination for the 2011, 2014, and 2017 budgets in the Federal Register on January 22, 2009, effective February 6, 2009.

The SJV has been classified as a Serious nonattainment area for the 8-hour ozone standard. However, the 2007 Ozone Plan requests an Extreme nonattainment classification and attainment date of 2023, and includes the corresponding additional RFP years. The SIP has identified subarea budgets for each MPO in the nonattainment area. For this Conformity Analysis, the SJV will continue to conduct determinations for subarea emission budgets as established in the applicable implementation plan.

The adequate conformity budgets from Table 9.3 of the Plan are provided in the table below. These budgets will be used to compare to emissions resulting from the 2011 FTIP and RTP. CARB subsequently updated Madera County and San Joaquin County budgets; these updates are reflected in the table below.

**Table 1-2:
Adequate Budgets from the 2007 Ozone Plan
(summer tons/day)**

County	2011		2014		2017	
	ROG	NOx	ROG	NOx	ROG	NOx
Fresno	15.5	47.9	12.9	37.2	11.1	29.1
Kern (SJV)	15.7	79.4	13.5	64.1	11.6	49.5
Kings	3.4	15.9	2.8	12.3	2.3	9.4
Madera	3.7	12.2	3.1	9.7	2.6	7.7
Merced	6.2	28.8	5.1	22.3	4.2	17.1
San Joaquin	12.1	34.7	10.1	27.8	8.6	21.3
Stanislaus	9.0	22.3	7.5	17.2	6.5	13.4
Tulare	9.2	20.9	7.7	16.6	6.7	13.1

PM-10

The 2007 PM-10 Maintenance Plan was approved (with minor technical corrections to the conformity budgets) by EPA on November 12, 2008, which contains motor vehicle emission budgets for PM-10 and NOx, as well as a trading mechanism. Motor vehicle emission budgets are established based on average annual daily emissions. The motor vehicle emissions budget for PM-10 includes regional reentrained dust from travel on paved roads, vehicular exhaust, travel on unpaved roads, and road construction.

The conformity budgets from Tables 6 and 7 of the Plan are provided below (including the minor technical corrections) and will be used to compare emissions for each analysis year. CARB subsequently updated the 2005 attainment budgets; these updates are reflected in the table below.

Table 1-3:
On-Road Motor Vehicle PM-10 Emissions Budgets
 (tons per average annual day)

County	2005		2020	
	PM-10	NOx	PM-10	NOx
Fresno	13.5	59.2	16.1	23.2
Kern ^(a)	12.1	88.3	14.7	39.5
Kings	3.1	16.7	3.6	6.8
Madera	3.6	13.9	4.7	6.5
Merced	6.2	39.4	6.4	12.9
San Joaquin	9.1	42.6	10.6	17.0
Stanislaus	5.6	29.7	6.7	10.8
Tulare	7.3	25.1	9.4	10.9

^(a) Kern County subarea includes only the portion of Kern County within the San Joaquin Valley Air Basin

The PM-10 SIP allows trading from the motor vehicle emissions budget for the PM-10 precursor NOx to the motor vehicle emissions budget for primary PM-10 using a 1.5 to 1 ratio. The trading mechanism allows the agencies responsible for demonstrating transportation conformity in the San Joaquin Valley to supplement the 2005 budget for PM-10 with a portion of the 2005 budget for NOx, and use these adjusted motor vehicle emissions budgets for PM-10 and NOx to demonstrate transportation conformity with the PM-10 SIP for analysis years after 2005. As noted above, EPA approved the 2007 PM-10 Maintenance Plan (with minor technical corrections to the conformity budgets) on November 12, 2008, which includes continued approval of the trading mechanism.

The trading mechanism will be used only for conformity analyses for analysis years after 2005. To ensure that the trading mechanism does not impact the ability to meet the NOx budget, the NOx emission reductions available to supplement the PM-10 budget shall only be those remaining after the NOx budget has been met.

PM2.5

EPA and FHWA have indicated that areas violating both the annual and 24-hour standards for PM2.5 must address both standards in the conformity determination. The San Joaquin Valley currently violates both standards, and the conformity determination includes both analyses. Please note that this includes both the 1997 standards and the 2006 24-hour standard (see discussion under Air Quality Designations Applicable to the San Joaquin Valley above).

[NOTE: The following text contains two options per consultation with EPA; only one will be included in the final document prior to MPO Board adoption]

Option 1: Assumes Adequate Conformity Budgets

The 2008 PM2.5 Plan contains motor vehicle emission budgets for PM2.5 and NOx established based on average annual daily emissions. The motor vehicle emissions budget for PM2.5 includes directly emitted PM2.5 motor vehicle emissions from tailpipe, brake wear and tire wear. VOC, SOx, ammonia, and dust (from paved roads, unpaved roads, and road construction) were found to be insignificant and not included in the motor vehicle emission budgets for conformity purposes. The conformity budgets from Table 7-2 of the Plan are provided below and will be used to compare emissions resulting from the 2011 FTIP and RTP.

The Clean Air Act requires all states to attain the 1997 PM2.5 standards as expeditiously as practicable beginning in 2010, but by no later than April 5, 2015. States must identify their attainment dates based on the rate of reductions from their control strategies and the severity of the PM2.5 problem. Modeling must be used to verify that the control strategy is as expeditious as practicable. The 2008 PM2.5 Plan shows that the San Joaquin Valley PM2.5 nonattainment area can attain the annual PM2.5 NAAQS in 2014. The SIP has identified subarea budgets for each MPO in the nonattainment area. For this Conformity Analysis, the SJV will continue to conduct determinations for subarea emission budgets as established in the applicable implementation plan.

**Table 1-4:
On-Road Motor Vehicle PM2.5 Emissions Budgets**
(tons per average annual day)

County	2009		2012		2014	
	PM2.5	NOx	PM2.5	NOx	PM2.5	NOx
Fresno	2.2	56.5	1.9	44.2	1.1	26.0
Kern (SJV)	3.4	87.7	3.0	74.2	1.4	41.6
Kings	0.7	17.9	0.6	14.6	0.3	8.1
Madera	0.6	14.1	0.5	11.4	0.3	6.7
Merced	1.5	33.6	1.2	26.7	0.6	14.8
San Joaquin	1.6	39.1	1.4	32.8	0.9	20.3
Stanislaus	1.0	25.8	0.9	20.8	0.5	12.4
Tulare	0.9	23.3	0.8	19.5	0.5	12.2

As noted above, the Transportation Conformity Rule PM2.5 and PM10 Amendments published on March 24, 2010 (effective April 23, 2010) allows 2006 PM2.5 areas with adequate or approved 1997 PM2.5 budgets to determine conformity for both of the NAAQS at the same time, using the budget test.

Option 2: Assumes no EPA action on conformity budgets

1997 PM2.5 Standards: Before an adequate or approved SIP budget is available, conformity is generally demonstrated with interim emission tests. Conformity may be demonstrated if the emissions from the proposed transportation system are either less than or no greater than the 2002 motor vehicle emissions in a given area (see Section 93.119). The 2002 baseline year emissions level must be based on the latest planning assumptions available for the year 2002, the latest emissions model, and appropriate methods for estimating travel and speeds as required by the conformity regulation. PM2.5 nonattainment areas may also elect to use the “build-no-greater-than-no-build test”. Conformity is demonstrated if the emissions from the proposed transportation system (“build” scenario) are less than or equal to emissions from the existing transportation system (“no-build” scenario).

The rule allows PM2.5 nonattainment areas to choose between the two interim emissions test each time that they determine conformity before adequate or approved PM2.5 SIP budgets are established. However, the same test must be used for each analysis year in a given conformity determination. The San Joaquin Valley chooses to use the “no-greater-than-2002 emissions test”. The regional emissions analyses in PM2.5 nonattainment areas must consider directly emitted PM2.5 motor vehicle emissions from tailpipe, brake wear, and tire wear. In California, areas will use EMFAC2007.

Prior to adequate or approved PM2.5 SIP budgets, re-entrained road dust and construction-related fugitive dust from highway or transit projects will only be included in the regional emissions analyses if EPA or CARB has determined that it is a “significant contributor” to the PM2.5 regional air quality problem. Until a significance finding is made, PM2.5 areas can presume that re-entrained road dust is not a significant contributor and not include road dust in the PM2.5 transportation conformity analysis prior to the SIP. In addition, construction-related dust emissions are not to be included in any PM2.5 conformity analyses before adequate or approved PM2.5 SIP budgets are established. As a result, the SJV PM2.5 conformity analysis will not include re-entrained road dust or construction-related fugitive dust from transportation projects. It is important to note that the San Joaquin Valley 2008 PM2.5 Plan has been developed and submitted to EPA. This plan indicates that re-entrained road dust and construction-related dust emissions are not significant. However, EPA has not acted on the budgets at this time.

In addition, prior to the submission of a SIP, NO_x emissions must be considered, unless both CARB and EPA make a finding the NO_x is not a “significant contributor” to the PM2.5 air quality problem. Conversely, VOC, SO_x, and ammonia emissions do not have to be considered in conformity, unless either CARB or EPA makes a finding that onroad emissions of any of these precursors is a “significant contributor” to the area’s PM2.5 air quality issues. It is important to note that the San Joaquin Valley 2008 PM2.5 Plan has been developed and submitted to EPA. This plan indicates that VOC, SO_x, and ammonia emissions are not significant. However, EPA has not acted on the budgets at this time. As a result, the SJV PM2.5 conformity analysis will only address the precursor NO_x.

Table 1-4 summarizes PM2.5 and NO_x emission estimates for the 2002 base year by sub-area, as documented in the Final PM2.5 Conformity Analysis. These emission estimates were calculated by running EMFAC2007 for the 2002 base year using default vehicle population, VMT, and speed fraction data; the result is then rounded up to the next tenths place (consistent with CARB policy). The 24-hour estimate is multiplied by 365 to yield an annual estimate (rounded to the whole ton).

**Table 1-4:
On-Road Motor Vehicle PM2.5 Emissions Budgets**

County	2002 24-Hour (average annual tons per day)		2002 Annual (average annual tons per year)	
	PM2.5	NOx	PM2.5	NOx
Fresno	2.2	63.4	803	23141
Kern	3.7	94.1	1351	34347
Kings	0.8	18.5	292	6753
Madera	0.5	13.7	183	5001
Merced	1.5	37.1	548	13542
San Joaquin	1.5	43.4	548	15841
Stanislaus	1.0	30.2	365	11023
Tulare	0.8	26.4	292	9636

2006 PM2.5 Standard: The same general requirements summarized above still apply per the Transportation Conformity Rule PM2.5 and PM10 Amendments published on March 24, 2010 (effective April 23, 2010). However, the baseline year has been updated to 2008.

Table 1-5 summarizes PM2.5 and NOx emission estimates for the 2008 base year by sub-area, developed consistent with the 2002 baseline documented above. These emission estimates were calculated by running EMFAC2007 for the 2008 base year using default vehicle population, VMT, and speed fraction data; the result is then rounded up to the next tenths place (consistent with CARB policy).

**Table 1-5:
On-Road Motor Vehicle PM2.5 Emissions Budgets**

County	2008 24-Hour (average annual tons per day)	
	PM2.5	NOx
Fresno	2.3	63.4
Kern	3.6	98.9
Kings	0.8	19.9
Madera	0.7	15.8
Merced	1.6	38.7
San Joaquin	1.5	40.3
Stanislaus	1.0	28.4
Tulare	0.9	25.0

E. ANALYSIS YEARS

The conformity regulation (Section 93.118[b] and [d]) requires documentation of the years for which consistency with motor vehicle emission budgets must be shown. In addition, any interpolation performed to meet tests for years in which specific analysis is not required need to be documented.

For the selection of the horizon years, the conformity regulation requires: (1) that if the attainment year is in the time span of the transportation plan, it must be modeled; (2) the last year forecast in the transportation plan must be a horizon year; and (3) horizon years may not be more than ten years apart. In addition, the conformity regulation requires that conformity must be demonstrated for each year for which the applicable implementation plan specifically establishes motor vehicle emission budgets.

Section 93.118(b)(2) clarifies that when a maintenance plan has been submitted, conformity must be demonstrated for the last year of the maintenance plan and any other years for which the maintenance plan establishes budgets in the time frame of the transportation plan. Section 93.118(d)(2) indicates that a regional emissions analysis may be performed for any years, the attainment year, and the last year of the plan’s forecast. Other years may be determined by interpolating between the years for which the regional emissions analysis is performed.

[NOTE: The following text contains two options per consultation with EPA; only one will be included in the final document prior to MPO Board adoption]

Option 1: Assumes Adequate Conformity Budgets

**Table 1-5:
San Joaquin Valley Conformity Analysis Years**

Pollutant	Budget Years¹	Attainment/ Maintenance Year	Intermediate Years	RTP Horizon Year
CO	NA	2018	2017/2025	2035
Ozone	2011/2014/2017	2023 ²	2025	2035
PM-10	NA	2020	2025	2035
PM2.5	2012	2014	2017/2025	2035

Section 93.118(d)(2) indicates that the regional emissions analysis may be performed for any years in the time frame of the transportation plan provided they are not more than ten years apart and provided the analysis is performed for the attainment year (if it is in the time frame of the transportation plan) and the last year of the plan’s forecast period. Emissions in years for which consistency with motor vehicle emissions budgets must be demonstrated, as required in paragraph (b) of this section (i.e., each budget year), may be determined by interpolating between the years for which the regional emissions analysis is performed. For CO, the analysis year 2018 will be interpolated from 2017 and 2025.

¹ Budget years that are not in the time frame of the transportation plan are not included as analysis years (e.g., CO 2003 and 2010, Ozone 2008, PM-10 2005, PM2.5 2009), although they may be used to demonstrate conformity.

² The attainment year for Serious 8-hour Ozone areas is 2013; however, the 2007 Ozone Plan requests reclassification to Extreme which has an attainment year of 2023.

For PM2.5, the attainment year is 2014 for both the 1997 and 2006 Standards. On March 8, 2005, EPA issued Guidance for Determining the “Attainment Year” for Transportation Conformity in new 8-hour ozone and PM2.5 Nonattainment Areas (EPA, 2005b). Per CAA section 172(a)(2), all PM2.5 nonattainment areas will have an initial maximum statutory attainment date of April 5, 2010. However, the submitted 2008 PM2.5 Plan shows that the San Joaquin Valley PM2.5 nonattainment area can attain the annual PM2.5 NAAQS in 2014. In addition, the attainment year for the 2006 PM2.5 areas will be 2014. Since this is the same attainment year as the 1997 standards noted above, no changes to the conformity analysis years are required.

Option 2: Assumes no EPA action on conformity budgets

Nonattainment areas that do not have any adequate or approved budgets are not required to demonstrate conformity and perform a regional emissions analysis for their attainment year. For the SJV, this applies to PM2.5. It is important to note that the San Joaquin Valley 2008 PM2.5 Plan has been developed and submitted to EPA. However, EPA has not acted on the budgets at this time. Under Section 93.119(g)(1) of the conformity regulation, nonattainment areas using interim emission tests are required to perform a regional emissions analysis for the following years:

- A year no more than 5 years beyond the year in which the conformity determination is made (e.g., 2015);
- The last year of the transportation plan’s forecast period (e.g., 2035); and
- Any additional years within the time frame of the transportation plan so that analysis years are no more than 10 years apart (e.g., 2025).

It is important to note that there is no change to this requirement for the 2006 PM2.5 NAAQS; therefore, no changes to the conformity analysis years are required. A summary of the analysis years resulting from the above described rules and guidance for the Conformity Analysis is provided below.

**Table 1-5:
San Joaquin Valley Conformity Analysis Years**

Pollutant	Budget Years³	Attainment/ Maintenance Year	Intermediate Years	RTP Horizon Year
CO	NA	2018	2017/2025	2035
Ozone	2011/2014/2017	2023 ⁴	2025	2035
PM-10	NA	2020	2025	2035
PM2.5	NA	2014	2017/2025	2035

³ Budget years that are not in the time frame of the transportation plan are not included as analysis years (e.g., CO 2003 and 2010, Ozone 2008, PM-10 2005, PM2.5 2009), although they may be used to demonstrate conformity.

⁴ The attainment year for Serious 8-hour Ozone areas is 2013; however, the 2007 Ozone Plan requests reclassification to Extreme which has an attainment year of 2023.

Section 93.118 (d)(2) indicates that the regional emissions analysis may be performed for any years in the time frame of the transportation plan provided they are not more than ten years apart and provided the analysis is performed for the attainment year (if it is in the time frame of the transportation plan) and the last year of the plan's forecast period. Emissions in years for which consistency with motor vehicle emissions budgets must be demonstrated, as required in paragraph (b) of this section (i.e., each budget year), may be determined by interpolating between the years for which the regional emissions analysis is performed. For CO, the analysis year 2018 will be interpolated from 2017 and 2025.

CHAPTER 2: LATEST PLANNING ASSUMPTIONS AND TRANSPORTATION MODELING

A. LATEST PLANNING ASSUMPTIONS

The Clean Air Act states that “the determination of conformity shall be based on the most recent estimates of emissions, and such estimates shall be determined from the most recent population, employment, travel, and congestion estimates as determined by the MPO or other agency authorized to make such estimates.” On January 18, 2001, the USDOT issued guidance developed jointly with EPA to provide additional clarification concerning the use of latest planning assumptions in conformity determinations (USDOT, 2001).

According to the conformity regulation, the time the conformity analysis begins is “the point at which the MPO or other designated agency begins to model the impact of the proposed transportation plan or FTIP on travel and/or emissions.” The conformity analysis and initial modeling began in February 2010. On January 21, 2010, a summary of transportation model updates and latest planning assumptions was transmitted to the San Joaquin Valley Interagency Consultation Group (IAC) for review and comment or concurrence. Both EPA and FHWA subsequently indicated that there were no comments or concerns regarding the summary and provided concurrence.

Key elements of the latest planning assumption guidance include:

- Areas are strongly encouraged to review and strive towards regular five-year updates of planning assumptions, especially population, employment and vehicle registration assumptions.
- The latest planning assumptions must be derived from the population, employment, travel and congestion estimates that have been most recently developed by the MPO (or other agency authorized to make such estimates) and approved by the MPO.
- Conformity determinations that are based on information that is older than five years should include written justification for not using more recent information. For areas where updates are appropriate, the conformity determination should include an anticipated schedule for updating assumptions.
- The conformity determination must use the latest existing information regarding the effectiveness of the transportation control measures (TCMs) and other implementation plan measures that have already been implemented.

The Merced County Association of Governments uses the TP+/VIPER transportation model. The model was validated in 2003 for the 2000 base year. The latest planning assumptions used in the transportation model validation and Conformity Analysis is summarized in Table 2-1.

**Table 2-1
Summary of Latest Planning Assumptions for the MCAG Conformity Analysis**

Assumption	Year and Source of Data (MPO action)	Modeling	Next Scheduled Update
Population	Base Year: Census 2000 Projections: based on DOF 2004. Approved by by MCAG in March 2004 and updated in July 2010.	This data is disaggregated to the TAZ level for input into the TP+/VIPER for the base year validation.	Next update to land use forecasts is anticipated to be in 2012.
Employment	Base Year: EDD 2001. Projections: based on Caltrans 2003 Approved by by MCAG in March 2004 and updated in July 2010.	This data is disaggregated to the TAZ level for input into the TP+/VIPER for the base year validation.	Next update to employment forecast is anticipated to be in 2012.
Traffic Counts	The transportation model was validated to the base year using year 2000 traffic counts collected by Caltrans, local jurisdictions, and MCAG.	TP+/VIPER was validated using these traffic counts.	Traffic counts are updated every five to ten years, if funds are available.
Vehicle Miles of Travel	The transportation model was validated in 2003 to the 2000 base year.	TP+/VIPER is the transportation model used to estimate VMT in Merced County	VMT is an output of the transportation model; VMT is affected by the TIP/RTP project updates and is included in each new conformity analysis
Speeds	Posted speeds are used in the Merced County model. The model is validated using free flow speeds and common practice speed flow curves. Speed distributions were updated in EMFAC 2007, using methodology approved by ARB and with information from the transportation model.	TP+/VIPER EMFAC 2007	Posted speed limits will be updated in the next transportation model validation. A feedback loop may be considered if warranted in the future.
Vehicle Registrations	EMFAC 2007 is the most recent model for use in California conformity analyses. Vehicle registration data is included by ARB in the model and cannot be updated by the user.	EMFAC 2007	ARB has committed to update the fleet information in EMFAC on a 3-year cycle (see 1/31/06 letter to EPA and FHWA). The next update is scheduled to occur in 2010.
State Implementation Plan Measures	Latest implementation status of commitments in prior SIPs.	Emission reduction credits consistent with the SIPs are post-processed via spreadsheets as documented in Ch. 4.	Updated for every conformity analysis.

B. SOCIOECONOMIC DATA

POPULATION, EMPLOYMENT AND LAND USE

The conformity regulation requires documentation of base case and projected population, employment, and land use used in the transportation modeling. USDOT/EPA guidance indicates that if the data is more than five years old, written justification for the use of older data must be provided. In addition, documentation is required for how land use development scenarios are consistent with future transportation system alternatives, and the reasonable distribution of employment and residences for each alternative.

Supporting Documentation:

Population and Employment were forecasted in consultation with local planners using a “top-down” approach whereby a county-level forecast was based on the latest available state forecasts, then sub-allocated down to lower geographic boundaries and traffic analysis zones based on adopted local general plans. MCAG used the Department of Finance’s county-level projections, published in 2004, as the basis for the population forecast. The DOF projections were adjusted upward to include UC Merced-related growth, which was not assumed in their projections. The county-wide employment projections were based on the California Department of Transportation’s Economic Forecast published in 2003. The population and employment forecasts were updated in 2010 to reflect recent economic downturn and to extend the horizon year to 2035.

The latest forecast was adopted by the MCAG Governing Board in July 2010 and the next update is anticipated to be in 2012.

C. TRANSPORTATION MODELING

The San Joaquin Valley Metropolitan Planning Organizations (MPOs) utilize the TP+/Viper traffic modeling software. The Valley TPA regional traffic models consist of traditional four-step traffic forecasting models. They use land use, socioeconomic, and road network data to estimate facility-specific roadway traffic volumes. Each TPA model covers the appropriate county area, which is then divided into hundreds or thousands of individual traffic analysis zones (TAZs). In addition the model roadway networks include thousands of nodes and links. Link types include freeway, freeway ramp, other State route, expressway, arterial, collector, and local collector. Current and future-year road networks were developed considering local agency circulation elements of their general plans, traffic impact studies, capital improvement programs, and the State Transportation Improvement Program. The models use equilibrium, a capacity sensitive assignment methodology, and the data from the model for the emission estimates differentiates between peak and off-peak volumes and speeds. In addition, the model is reasonably sensitive to changes in time and other factors affecting travel choices. The results from model validation/calibration were analyzed for reasonableness and compared to historical trends.

Specific transportation modeling requirements in the conformity regulation are summarized below, followed by a description of how the Merced County Association of Governments transportation modeling methodology meets those requirements.

The transportation conformity rule (section 93.122(b)) requires the use of network-based transportation models for serious, severe and extreme ozone nonattainment areas if their metropolitan planning region contains an urbanized population of more than 200,000. Merced County does not contain an urbanized area of that size. However, MCAG has used a network-based model since 1991. The model software is TP+/Viper. It covers the County of Merced, has 526 Traffic Analysis Zones (TAZs), and does not include a mode-choice model, feedback component, or peak-hour component.

TRAFFIC COUNTS

The conformity regulation requires documentation that a network-based travel model is in use that is validated against observed counts for a base year no more than 10 years before the date of the conformity determination. Document that the model results have been analyzed for reasonableness and compared to historical trends and explain any significant differences between past trends and forecasts (for per capita vehicle-trips, VMT, trip lengths mode shares, time of day, etc.).

Supporting Documentation:

The transportation model was validated to the 2000 base year using 150 traffic counts from the year 2000, collected by Caltrans, local jurisdictions, and MCAG.

SPEEDS

The conformity regulation requires documentation of the use of capacity sensitive assignment methodology and emissions estimates based on a methodology that differentiates between peak and off-peak volumes and speeds, and bases speeds on final assigned volumes. In addition, documentation of the use of zone-to-zone travel impedances to distribute trips in reasonable agreement with the travel times estimated from final assigned traffic volumes. Where transit is a significant factor, document that zone-to-zone travel impedances used to distribute trips are used to model mode split. Finally, document that reasonable methods were used to estimate traffic speeds and delays in a manner sensitive to the estimated volume of travel on each roadway segment represented in the travel model.

Supporting Documentation:

Posted speeds are used in the Merced County model. The model is validated using free flow speeds and common practice speed flow curves.

Speed distributions were updated in EMFAC 2007, using methodology approved by ARB and with information from the transportation model.

TRANSIT

The conformity regulation requires documentation of any changes in transit operating policies and assumed ridership levels since the previous conformity determination. Document the use of the latest transit fares and road and bridge tolls.

Supporting Documentation:

Transit mode share is less than 1% of the total travel in Merced County. Given the relatively low population and rural character of the county, transit usage is not expected to rise above 2% even by 2030, the horizon year of the Regional Transportation Plan and this analysis. There is no transit component in

the MCAG travel demand model. Therefore, while there are air quality benefits from the transit service and they can be expected to increase, they are not quantified as part of this analysis.

VALIDATION/CALIBRATION

The conformity regulation requires documentation that the model results have been analyzed for reasonableness and compared to historical trends and explain any significant differences between past trends and forecasts (for per capita vehicle-trips, VMT, trip lengths mode shares, time of day, etc.). In addition, documentation of how travel models are reasonably sensitive to changes in time, cost, and other factors affecting travel choices is required. The use of HPMS, or a locally developed count-based program or procedures that have been chosen to reconcile and calibrate the network-based travel model estimates of VMT must be documented.

Supporting Documentation:

The model was validated by comparing its estimates of base year traffic conditions with base year traffic counts. The base year validations meet standard criteria for replicating total traffic volumes on various road types and for percent error on links. The base year validation also meets standard criteria for percent error relative to traffic counts on groups of roads (screenlines) throughout each county.

For Serious and above nonattainment areas, transportation conformity guidance, Section 93.122(b)(3) of the conformity rule states:

Highway Performance Monitoring System (HPMS) estimates of vehicle miles traveled (VMT) shall be considered the primary measure of VMT within the portion of the nonattainment or maintenance area and for the functional classes of roadways included in HPMS, for urban areas which are sampled on a separate urban area basis. For areas with network-based travel models, a factor (or factors) may be developed to reconcile and calibrate the network-based travel model estimates of VMT in the base year of its validation to the HPMS estimates for the same period. These factors may then be applied to model estimates of future VMT. In this factoring process, consideration will be given to differences between HPMS and network-based travel models, such as differences in the facility coverage of the HPMS and the modeling network description. Locally developed count-based programs and other departures from these procedures are permitted subject to the interagency consultation procedures.

FUTURE NETWORKS

The conformity regulation requires that a listing of regionally significant projects and federally-funded non-regionally significant projects assumed in the regional emissions analysis be provided in the conformity documentation. In addition, all projects that are exempt must also be documented.

§93.106(a)(2)ii and §93.122(a)(1) requires that regionally significant additions or modifications to the existing transportation network that are expected to be open to traffic in each analysis year be documented for both Federally funded and non-federally funded projects (see Appendix B).

§93.122(a)(1) requires that VMT for non-regionally significant Federal projects is accounted for in the regional emissions analysis. It is assumed that all SJV MPOs include these projects in the transportation network (see Appendix B).

§93.126, §93.127, §93.128 require that all projects in the TIP/RTP that are exempt from conformity requirements or exempt from the regional emissions analysis be documented. In addition, the reason for

the exemption (Table 2, Table 3, traffic signal synchronization) must also be documented (see Appendix B). It is important to note that the CTIPs exemption code is provided in response to FHWA direction.

Supporting Documentation:

The build highway networks include qualifying projects based on the Draft 2011 Federal Transportation Improvement Program (2011 FTIP) and the 2010 Regional Transportation Plan (2010 RTP). Not all of the street and freeway projects included in the FTIP/RTP qualify for inclusion in the highway network. Projects that call for study, design, right-of-way acquisition, or non-capacity improvements are not included in the networks. When these projects result in actual facility construction projects, the associated capacity changes are coded into the network as appropriate. Since the networks define capacity in terms of number of through traffic lanes, only construction projects that increase the lane-miles of through traffic are included.

Generally, Valley TPA highway networks include all roadways included in the county or cities classified system. These links typically include all freeways plus expressways, arterials, collectors and local collectors. Highway networks also include regionally significant planned local improvements from Transportation Impact Fee Programs and developer funded improvements required to mitigate the impact of a new development.

Small-scale local street improvements contained in the TIP/RTP are not coded on the highway network. Although not explicitly coded, traffic on collector and local streets is simulated in the models by use of abstract links called “centroid connectors”. These represent local streets and driveways which connect a neighborhood to a regionally-significant roadway. Model estimates of centroid connector travel are reconciled against HPMS estimates of collector and local street travel.

D. TRAFFIC ESTIMATES

A summary of the population, employment, and travel characteristics for the Merced County Association of Governments transportation modeling area for each scenario in the Conformity Analysis is presented in Table 2-2.

Table 2-2
Traffic Network Comparison for Horizon Years Evaluated in Conformity Analysis

Horizon Year	Total Population (thousands)	Employment (thousands)	Average Weekday VMT (millions)	Total Lane Miles
2011	267	89	8.54	n/a
2012	274	91	8.74	n/a
2014	288	96	9.24	n/a
2017	309	103	10.06	n/a
2020	331	110	10.75	2,726
2023	357	119	11.77	n/a
2025	374	125	12.48	2,744
2035	465	155	16.14	2,772

E. VEHICLE REGISTRATIONS

Merced County Association of Governments does not estimate vehicle registrations, age distributions or fleet mix. Rather, current forecasted estimates for these data are developed by CARB and included in the EMFAC2007 model found at http://www.arb.ca.gov/msei/onroad/latest_version.htm. EMFAC2007 is the most recent model for use in California conformity analyses. Vehicle registrations, age distribution and fleet mix are developed and included in the model by CARB and cannot be updated by the user.

F. STATE IMPLEMENTATION PLAN MEASURES

The air quality modeling procedures and associated spreadsheets contained in Chapter 3 Air Quality Modeling assume emission reductions consistent with the applicable air quality plans. The emission reductions assumed for these committed measures reflect the latest implementation status of these measures. Committed control measures in the applicable air quality plans that reduce mobile source emissions and are used in conformity, are summarized below.

OZONE

Committed control measures in the 2007 Ozone Plan that reduce mobile source emissions and are included in the conformity demonstration are shown in Table 2-3.

**Table 2-3
2007 Ozone Plan Measures Assumed in the Conformity Analysis**

Measure Description	Pollutants
District Existing Indirect Source Mitigation and School Bus Fleets rules	Summer NOx
ARB existing Reflash, Idling, and Moyer	Summer ROG Summer NOx
District Proposed Employee Trip Reduction	Summer ROG Summer NOx

NOTE: While the ARB Proposed passenger and truck measures included in the Draft State Strategy were included in the 2007 Ozone Plan and conformity budgets, they are not included in the conformity analysis. EPA has indicated that these measures cannot be included, since there is no written commitment to the specific control measures contained in the SIP.

PM-10

Committed control measures in the EPA approved 2007 PM-10 Maintenance Plan that reduce mobile source emissions and are included in conformity demonstration are shown in Table 2-4.

**Table 2-4
2007 PM-10 Maintenance Plan Measures Assumed in the Conformity Analysis**

Measure Description	Pollutants
ARB existing Reflash, Idling, and Moyer	PM-10 annual exhaust NOx annual exhaust
District Rule 8061	PM-10 paved road dust PM-10 unpaved road dust
District Rule 8021 Controls	PM-10 road construction dust

PM2.5

[NOTE: The following text contains two options per consultation with EPA; only one will be included in the final document prior to MPO Board adoption]

Option 1: Assumes Adequate PM2.5 Conformity Budgets

Option 1 assumes that EPA publishes a budget adequacy determination for the 2012 conformity budgets contained in the 2008 PM2.5 Plan effective prior to July 2010 (scheduled MPO Board adoption of 2011 TIP/RTP/Conformity Analysis). The 2008 PM2.5 Plan contains motor vehicle emission budgets for PM2.5 and NOx established based on average annual daily emissions.

Committed control measures in the 2008 PM2.5 Plan that reduce mobile source emissions and are included in the conformity demonstration are shown in Table 2-5.

**Table 2-5
2008 PM2.5 Plan Measures Assumed in the Conformity Analysis**

Measure Description	Pollutants
ARB Adopted State and Local Measures not included in EMFAC 2007	Annual PM2.5 Annual NOx

NOTE: While the ARB 2007 State Strategy included in the Draft State Strategy was included in the 2008 PM2.5 Plan and conformity budgets, it is not included in the conformity analysis. EPA has indicated that these measures cannot be included, since there is no written commitment to the specific control measures contained in the SIP.

Option 2: Assumes No EPA Action on PM2.5 Conformity Budgets

Option 2 assumes that EPA has not issued an adequacy determination on the conformity budgets nor approved the 2008 PM 2.5 Plan. Committed control measures in the EPA approved 2007 PM-10 Maintenance Plan that reduce mobile source emissions (exhaust only) are shown in the table above.

The PM-10 diesel exhaust emission reductions are reduced by the ARB size fraction for diesel vehicle exhaust to yield a PM2.5 diesel exhaust emission reduction. The ARB size fraction data can be accessed at <http://www.arb.ca.gov/ei/speciate/speciate.htm> The PMSIZE link (under speciation profiles) opens a spreadsheet that contains size fractions. Row 75 of the spreadsheet specifies that the diesel exhaust fraction of PM-10 that represents PM2.5 or smaller is 0.92. This fraction was used because the approved ARB control measure in the EPA approved 2007 PM-10 Maintenance Plan only affects diesel vehicle exhaust. This is documented in the spreadsheet EMFAC explanation tab. The PM2.5 fraction is calculated by multiplying the PM-10 diesel exhaust fraction by the ARB size fraction 0.92.

CHAPTER 3: AIR QUALITY MODELING

The model used to estimate vehicle exhaust emissions for carbon monoxide, ozone precursors, and particulate matter is EMFAC2007. CARB emission factors for PM-10 have been used to calculate reentrained paved and unpaved road dust, and fugitive dust associated with road construction. For the Conformity Analysis, model inputs not dependent on the TIP or RTP are consistent with the applicable SIP, which include:

- The 2004 Revision to the California State Implementation Plan for Carbon Monoxide was approved by EPA on November 30, 2005 (effective January 30, 2006).
- EPA published a budget adequacy determination for the 2011, 2014, and 2017 conformity budgets contained in the 2007 Ozone Plan on January 22, 2009, effective February 6, 2009.
- The 2007 PM-10 Maintenance Plan, which included revisions to the attainment plan, was approved (with minor technical corrections to the conformity budgets) by EPA on November 12, 2008.

[NOTE: The following text contains two options per consultation with EPA; only one will be included in the final document prior to MPO Board adoption]

Option 1: Assumes Adequate PM2.5 Conformity Budgets

EPA published a budget adequacy determination for the 2012 conformity budgets contained in the 2008 PM2.5 Plan effective prior to July 2010 (scheduled MPO Board adoption of 2011 TIP/RTP/Conformity Analysis).

Option 2: Assumes No EPA Action on PM2.5 Conformity Budgets

EPA also designated the San Joaquin Valley as nonattainment for the 1997 PM2.5 standards. A State Implementation Plan has been developed to address the 1997 PM2.5 standards; however, EPA has not issued an adequacy determination on the conformity budgets nor approved the Plan.

The conformity regulation requirements for the selection of the horizon years are summarized in Chapter 1; regional emissions have been estimated for the horizon years summarized in Table 1-5.

A. EMFAC2007

The EMFAC model (short for Emission FACtor) is a computer model that can estimate emission rates for motor vehicles for calendar years from 1970 to 2040 operating in California. Pollutant emissions for hydrocarbons, carbon monoxide, nitrogen oxides, particulate matter, lead, sulfur oxides, and carbon dioxide are output from the model. Emissions are calculated for passenger cars, eight different classes of trucks, motorcycles, urban and school buses and motor homes.

EMFAC is used to calculate current and future inventories of motor vehicle emissions at the state, county, air district, air basin, or county within air basin level. EMFAC contains default vehicle activity data that can be used to estimate a motor vehicle emission inventory in tons/day for a specific day, month, or season, and as a function of ambient temperature, relative humidity, vehicle population, mileage accrual, miles of travel and speeds.

Section 93.111 of the conformity regulation requires the use of the latest emission estimation model in the development of conformity determinations. EMFAC2007 is the latest update to the EMFAC model for use by California State and local governments to meet Clean Air Act (CAA, 1990) requirements. On January 18, 2008 EPA announced the availability of this latest version of the California EMFAC model for use in SIP development in California.

Since the transportation conformity regulation (40 CFR 93.110) requires areas to use the latest information for estimating vehicle activity, EPA approved the CARB methodology for updating the default vehicle activity data in EMFAC2002 in April 2003. CARB's methodology, "Recommended Methods for Use of EMFAC2002 to Develop Motor Vehicle Emission Budgets and Assess Conformity," explains how vehicle activity data should be updated. This methodology has not been updated for EMFAC2007, but remains applicable. The methodology explains how each parameter associated with vehicle activity was originally developed in EMFAC, how each parameter is related, and how each can be updated when new data becomes available. These relationships are important when adjusting vehicle trips or VMT (vehicle miles traveled). For example, VMT in EMFAC2007 is directly related to vehicle population and mileage accrual rate. Similarly, start and evaporative vehicle emissions are also related to vehicle population levels. If new VMT data is available, CARB suggests modifying the input vehicle population levels, instead of directly inputting new VMT data, so that start and evaporative emissions are revised appropriately. Updated vehicle activity data can also be input to EMFAC using the WIS interface.

A transportation data template has been prepared to summarize the transportation model output for use in EMFAC 2007. The template includes allocating VMT by speed bin by modeling period, as well as creating a 24-hour VMT percentage by speed bin array for input into EMFAC 2007.

EMFAC was used to estimate exhaust emissions for CO, ozone, PM-10, and PM2.5 conformity demonstrations consistent with the applicable air quality plan. These estimates are further reduced by SIP measures as documented in Chapter 2.

B. ADDITIONAL PM-10 ESTIMATES

PM-10 emissions for reentrained dust from travel on paved and unpaved roads will be calculated separately from roadway construction emissions. It is important to note that with the final approval of the 2007 PM-10 Maintenance Plan, EPA approved a methodology to calculate PM-10 emissions from paved and unpaved roads in future San Joaquin Valley conformity determinations. The Conformity Analysis uses these methodologies and estimates construction-related PM-10 emissions consistent with the 2007 PM-10 Maintenance Plan. The National Ambient Air Quality Standards for PM-10 consists of a 24-hour standard, which is represented by the motor vehicle emissions budgets established in the 2007 PM-10 Maintenance Plan. It is important to note that EPA revoked the annual PM-10 Standard on October 17, 2006. The PM-10 emissions calculated for the conformity analysis represent emissions on an annual average day and are used to satisfy the budget test.

CALCULATION OF REENTRAINED DUST FROM PAVED ROAD TRAVEL

The core methodology for estimating paved road dust emissions is based on the algorithm published in the 5th Edition of AP-42 (U.S. EPA) (<http://www.epa.gov/ttn/chief/ap42/ch13/>). CARB default assumptions for roadway silt loading by roadway class, rainfall correction factor average vehicle weight remain unchanged. Emissions are estimated for five roadway classes including freeways, arterials, collectors, local roads, and rural roads. Countywide VMT information is used for each road class to prepare the emission estimates.

CALCULATION OF REENTRAINED DUST FROM UNPAVED ROAD TRAVEL

The base methodology for estimating unpaved road dust emissions is based on a CARB methodology in which the miles of unpaved road are multiplied by the assumed VMT and an emission factor. In the 2007 PM-10 Maintenance Plan, it is assumed that all non-agricultural unpaved roads within the San Joaquin Valley receive 10 vehicle passes per day. An emission factor of 2.0 lbs PM-10/VMT is used for the unpaved road dust emission estimates. Emissions are estimated for city/county maintained roads.

CALCULATION OF PM-10 FROM ROADWAY CONSTRUCTION

Section 93.122(e) of the Transportation Conformity regulation requires that PM-10 from construction-related fugitive dust be included in the regional PM-10 emissions analysis, if it is identified as a contributor to the nonattainment problem in the PM-10 implementation plan. The emission estimates are based on a CARB methodology in which the miles of new road built are converted to acres disturbed, which is then multiplied by a generic project duration (i.e., 18 months) and an emission rate. Emission factors are unchanged from the previous estimates at 0.11 tons PM-10/acre-month of activity. The emission factor includes the effects of typical control measures, such as watering, which is assumed to reduce emissions by about 50%. Updated activity data (i.e., new lane miles of roadway built) is estimated based on the highway and transit construction projects in the TIP/RTP.

PM-10 TRADING MECHANISM

The PM-10 SIP allows trading from the motor vehicle emissions budget for the PM-10 precursor NO_x to the motor vehicle emissions budget for primary PM-10 using a 1.5 to 1 ratio. The trading mechanism will be used only for conformity analyses for analysis years after 2005.

C. PM_{2.5} APPROACH

1997 Standard - EPA and FHWA have indicated that areas violating both the annual and 24-hour standards for PM_{2.5} must address both standards in the conformity determination. The San Joaquin Valley currently violates both standards, and the conformity determination includes both analyses.

EPA issued guidance for creating annual on-road mobile source emission inventories for PM_{2.5} in August 2005 (EPA, 2005b). The guidance indicates that all areas currently designated nonattainment for PM_{2.5} are violating the annual standard for the pollutant. Therefore, in order to be consistent with the standard, PM_{2.5} nonattainment areas must develop annual emission inventories for the purpose of developing SIP budgets and demonstrating transportation conformity.

2006 Standard – EPA published 2006 24-hour PM_{2.5} standard Nonattainment area designations on November 13, 2009 with an effective date of December 14, 2009. Conformity to the 2006 24-hour PM_{2.5} standard will apply December 14, 2010. The 1997 standards will continue to apply as they were not revoked. It is important to note that the 2006 24-hour PM_{2.5} nonattainment area boundary for the San Joaquin Valley is exactly the same as the nonattainment area boundary for the 1997 annual standard.

The following PM_{2.5} approach addresses both the 1997 standards and the 2006 24-hour standard

EMFAC2007 includes data for temperature, relative humidity, and characteristics for gasoline fuel sold that vary by geographic area, calendar year, and month and season. The annual average represents an average of all the monthly inventories. As a result, EMFAC will be run to estimate direct PM_{2.5} and NO_x from motor vehicles for an annual average day that will provide the information for both the annual and 24-hour PM_{2.5} standards.

EPA guidance indicates that State and local agencies need to consider whether VMT varies during the year enough to affect PM_{2.5} annual emission estimates. The availability of seasonal or monthly VMT data and the corresponding variability of that data need to be evaluated.

PM_{2.5} areas that are currently using network based travel models must continue to use them when calculating annual emission inventories. The guidance indicates that the interagency consultation process should be used to determine the appropriate approach to produce accurate annual inventories for a given nonattainment area. Whichever approach is chosen, that approach should be used consistently throughout the analysis for a given pollutant or precursor. The interagency consultation process should also be used to determine whether significant seasonal variations in the output of network based travel models are expected and whether these variations would have a significant impact on PM_{2.5} emission estimates.

The SJV MPOs all use network based travel models. However, the models only estimate average weekday VMT. The SJV MPOs do not have the data or ability to estimate seasonal variation at this time. Data collection and analysis for some studies are in the preliminary phases and cannot be relied upon for other analyses. Some statewide data for the seasonal variation of VMT on freeways does exist. However, traffic patterns on freeways do not necessarily represent the typical traffic pattern for local streets and arterials.

In many cases, traffic counts are sponsored by the MPOs and conducted by local jurisdictions. While some local jurisdictions may collect weekend or seasonal data, typical urban traffic counts occur on weekdays (Tuesday through Thursday). Data collection must be more consistent in order to begin estimation of daily or seasonal variation.

The SJV MPOs believe that the average annual day calculated from the current traffic models and EMFAC2007 represent the most accurate data available. The MPOs will continue to discuss and research options that look at how VMT varies by month and season according to the local traffic models.

It is important to note that the guidance indicates that EPA expects the most thorough analysis for developing annual inventories will occur during the development of the SIP, taking into account the needs and capabilities of air quality modeling tools and the limitations of available data. Prior to the development of the SIP, State and local air quality and transportation agencies may decide to use simplified methods for regional conformity analyses.

It is important to note that the San Joaquin Valley 2008 PM_{2.5} Plan has been developed and submitted to EPA. The annual inventory methodology contained in the plan and used to establish emissions budgets is consistent with the methodology used herein. The regional emissions analyses in PM_{2.5} nonattainment areas must consider directly emitted PM_{2.5} motor vehicle emissions from tailpipe, brake wear, and tire wear. In California, areas will use EMFAC2007. As indicated under the Conformity Test Requirements, re-entrained road dust and construction-related fugitive dust from highway or transit projects is not included at this time. In addition, NO_x emissions are included; however, VOC, SO_x, and ammonia emissions are not.

[NOTE: The following text contains two options per consultation with EPA; only one will be included in the final document prior to MPO Board adoption]

Option 1: Assumes Adequate Conformity Budgets

1997 Standard – The 2008 PM_{2.5} Plan contains motor vehicle emission budgets for PM_{2.5} and NO_x established based on average annual daily emissions. The motor vehicle emissions budget for PM_{2.5} includes directly emitted PM_{2.5} motor vehicle emissions from tailpipe, brake wear and tire wear. VOC,

SO_x, ammonia, and dust (from paved roads, unpaved roads, and road construction) were found to be insignificant and not included in the motor vehicle emission budgets for conformity purposes.

2006 Standard – In accordance with Transportation Conformity Rule PM_{2.5} and PM₁₀ Amendments published on March 24, 2010 (effective April 23, 2010) for 2006 PM_{2.5} NAAQS Nonattainment areas, if a 2006 PM_{2.5} area has adequate or approved SIP budgets that address the 1997 standards, it must use the budget test to determine conformity for both of the NAAQS at the same time.

Option 2: Assumes no EPA action on conformity budgets

The selected interim emissions tests should be used consistently when completing a conformity test. That is the regional conformity analysis for the baseline year test should be based on the same approach that was used to develop the baseline inventory for conformity purposes.

1997 Standard – Conformity may be demonstrated if the emissions from the proposed transportation system are either less than or no greater than the 2002 motor vehicle emissions in a given area (see Section 93.119). The regional emissions analyses in PM_{2.5} nonattainment areas must consider directly emitted PM_{2.5} motor vehicle emissions from tailpipe, brake wear, and tire wear.

It is important to note that the San Joaquin Valley 2008 PM_{2.5} Plan has been developed and submitted to EPA. This plan indicates that re-entrained road dust and construction-related dust emissions are not significant. As a result, the SJV PM_{2.5} conformity analysis will not include re-entrained road dust or construction-related fugitive dust from transportation projects. In addition, this plan indicates that VOC, SO_x, and ammonia emissions are not significant. As a result, the SJV PM_{2.5} conformity analysis will only address the precursor NO_x.

2006 Standard – EPA published the Transportation Conformity Rule PM_{2.5} and PM₁₀ Amendments on March 24, 2010 (effective April 23, 2010). This PM amendments final rule amends the conformity regulation to address the 2006 PM_{2.5} national ambient air quality standard (NAAQS). If a 2006 PM_{2.5} area does not have adequate or approved budgets for the 1997 standards, it must use one of the interim tests. The same general procedures summarized above still apply. However, the new baseline year is 2008.

D. SUMMARY OF PROCEDURES FOR REGIONAL EMISSIONS ESTIMATES

Step-by-step air quality modeling procedures, including instructions, references and controls, for the Conformity Analysis were provided for Interagency Consultation and reviewed at an Interagency Consultation Workshop; no comments were received and concurrence was received from EPA, CARB, and the Air District. In addition, documentation of the conformity analysis is provided in Appendix C, including:

- 2011 adjust_vmt Spreadsheet
- 2011 Conformity EMFAC Spreadsheet
- 2011 Conformity Paved Road Spreadsheet
- 2011 Conformity Unpaved Road Dust Spreadsheet
- 2011 Conformity Construction Spreadsheet
- 2011 Conformity Trading Spreadsheet
- 2011 Conformity Totals Spreadsheet

CHAPTER 4: TRANSPORTATION CONTROL MEASURES

This chapter provides an update of the current status of transportation control measures identified in applicable implementation plans. Requirements of the Transportation Conformity regulation relating to transportation control measures (TCMs) are presented first, followed by a review of the applicable air quality implementation plans and TCM findings for the TIP/RTP.

A. TRANSPORTATION CONFORMITY REGULATION REQUIREMENTS FOR TCMs

The Transportation Conformity regulation requires that the TIP/RTP “must provide for the timely implementation of TCMs in the applicable implementation plan.” The Federal definition for the term “transportation control measure” is provided in 40 CFR 93.101:

“any measure that is specifically identified and committed to in the applicable implementation plan that is either one of the types listed in Section 108 of the CAA [Clean Air Act], or any other measure for the purpose of reducing emissions or concentrations of air pollutants from transportation sources by reducing vehicle use or changing traffic flow or congestion conditions. Notwithstanding the first sentence of this definition, vehicle technology based, fuel-based, and maintenance-based measures which control the emissions from vehicles under fixed traffic conditions are not TCMs for the purposes of this subpart.”

In the Transportation Conformity regulation, the definition provided for the term “applicable implementation plan” is:

“Applicable implementation plan is defined in section 302(q) of the CAA and means the portion (or portions) of the implementation plan, or most recent revision thereof, which has been approved under section 110, or promulgated under section 110(c), or promulgated or approved pursuant to regulations promulgated under section 301(d) and which implements the relevant requirements of the CAA.”

Section 108(f)(1) of the Clean Air Act as amended in 1990 lists the following transportation control measures and technology-based measures:

- (i) programs for improved public transit;
- (ii) restriction of certain roads or lanes to, or construction of such roads or lanes for use by, passenger buses or high occupancy vehicles;
- (iii) employer-based transportation management plans, including incentives;
- (iv) trip-reduction ordinances;
- (v) traffic flow improvement programs that achieve emission reductions;
- (vi) fringe and transportation corridor parking facilities serving multiple occupancy vehicle programs or transit service;
- (vii) programs to limit or restrict vehicle use in downtown areas or other areas of emission concentration particularly during periods of peak use;
- (viii) programs for the provision of all forms of high-occupancy, shared-ride services;

- (ix) programs to limit portions of road surfaces or certain sections of the metropolitan area to the use of non-motorized vehicles or pedestrian use, both as to time and place;
- (x) programs for secure bicycle storage facilities and other facilities, including bicycle lanes, for the convenience and protection of bicyclists, in both public and private areas;
- (xi) programs to control extended idling of vehicles;
- (xii) programs to reduce motor vehicle emissions, consistent with title II, which are caused by extreme cold start conditions;
- (xiii) employer-sponsored programs to permit flexible work schedules;
- (xiv) programs and ordinances to facilitate non-automobile travel, provision and utilization of mass transit, and to generally reduce the need for single occupant vehicle travel, as part of transportation planning and development efforts of a locality, including programs and ordinances applicable to new shopping centers, special events, and other centers of vehicle activity;
- (xv) programs for new construction and major reconstructions of paths, tracks or areas solely for the use by pedestrian or other non-motorized means of transportation when economically feasible and in the public interest. For purposes of this clause, the Administrator shall also consult with the Secretary of the Interior; and
- (xvi) program to encourage the voluntary removal from use and the marketplace of pre-1980 model year light duty vehicles and pre-1980 model light duty trucks.

TCM REQUIREMENTS FOR A TRANSPORTATION PLAN

The EPA regulations in 40 CFR 93.113(b) indicate that transportation control measure requirements for transportation plans are satisfied if two criteria are met:

“(1) The transportation plan, in describing the envisioned future transportation system, provides for the timely completion or implementation of all TCMs in the applicable implementation plan which are eligible for funding under Title 23 U.S.C. or the Federal Transit Laws, consistent with schedules included in the applicable implementation plan.

(2) Nothing in the transportation plan interferes with the implementation of any TCM in the applicable implementation plan.”

TCM REQUIREMENTS FOR A TRANSPORTATION IMPROVEMENT PROGRAM

Similarly, in 40 CFR Section 93.113(c), EPA specifies three TCM criteria applicable to a transportation improvement program:

“(1) An examination of the specific steps and funding source(s) needed to fully implement each TCM indicates that TCMs which are eligible for funding under title 23 U.S.C. or the Federal Transit Laws are on or ahead of the schedule established in the applicable implementation plan, or, if such TCMs are behind the schedule established in the applicable implementation plan, the MPO and DOT have determined that past obstacles to implementation of the TCMs have been identified and have been or are being overcome, and that all State and local agencies with influence over approvals or funding for TCMs are giving maximum priority to approval or funding of TCMs over other projects within their control, including projects in locations outside the nonattainment or maintenance area;

(2) If TCMs in the applicable implementation plan have previously been programmed for Federal funding but the funds have not been obligated and the TCMs are behind the schedule in the implementation plan, then the TIP cannot be found to conform:

- if the funds intended for those TCMs are reallocated to projects in the TIP other than TCMs, or
- if there are no other TCMs in the TIP, if the funds are reallocated to projects in the TIP other than projects which are eligible for Federal funding intended for air quality improvement projects, e.g., the Congestion Mitigation and Air Quality Improvement Program;

(3) Nothing in the TIP may interfere with the implementation of any TCM in the applicable implementation plan.”

B. APPLICABLE AIR QUALITY IMPLEMENTATION PLANS

Only transportation control measures from applicable implementation plans for the San Joaquin Valley region are required to be updated for this analysis. For the Conformity Analysis, the applicable implementation plans, according to the definition provided at the start of this chapter, are summarized below.

APPLICABLE IMPLEMENTATION PLAN FOR OZONE

The only applicable ozone plan is the *1994 Ozone Attainment Demonstration Plan* and the *Revised 1996 Rate of Progress Plan*.

The transportation control measures contained in the *1994 Ozone Attainment Demonstration* are not clearly delineated. Both transportation control measures and mobile source measures are discussed under the heading of transportation control measures. The Attainment Demonstration specifically includes Rule 9001 – Commute Based Trip Reduction; however, this rule was never approved by EPA as part of the SIP. In addition, the Revised 1996 Rate of Progress Plan specifically identifies TCMs committed for implementation from 1990 through 1996. The commitments are listed within the following TCM categories:

- TCM1 – Traffic Flow Improvements
- TCM2 – Public Transit
- TCM3 – Rideshare Programs (Rule 9001)
- TCM4 – Bicycle Programs
- TCM5 – Alternative Fuels Program

Most of the TCMs in the plans were implemented in the short term, and have been fully implemented. As a result, any resulting creditable emission reduction benefits have been incorporated into the traffic forecasts for the region. However, the TIP/RTP provides continued funding for transportation projects that support TCM programs (e.g., traffic flow improvements, public transit, rideshare programs, and bicycle programs). In addition, voluntary implementation of Rule 9001 (Employee Commute Options) is ongoing even though the Rule was not approved by EPA and cannot be implemented as a mandatory program under SB437.

APPLICABLE IMPLEMENTATION PLAN FOR PM-10

The 2007 PM-10 Maintenance Plan was approved by EPA on November 12, 2008. No new local agency control measures were included in the Plan.

The Amended 2003 PM-10 Plan was approved by EPA on April 28, 2004 (effective June 25, 2004). A local government control measure assessment was completed for this plan. The analysis focused on transportation-related fugitive dust emissions, which are not TCMs by definition. The local government commitments are included in the *Regional Transportation Planning Agency Commitments for Implementation Document, April 2003*.

However, the *Amended 2002 and 2005 Ozone Rate of Progress Plan* contains commitments that reduce ozone related emissions; these measures are documented in the *Regional Transportation Planning Agency Commitments for Implementation Document, April 2002*. These commitments are included by reference in the Amended 2003 PM-10 Plan to provide emission reductions for precursor gases and help to address the secondary particulate problem. Since these commitments are included in the Plan by reference, the commitments were approved by EPA as TCMs. Accordingly, they will be tracked for timely implementation through 2010.

C. IDENTIFICATION OF 2002 RACM THAT REQUIRE TIMELY IMPLEMENTATION DOCUMENTATION

As part of the 2004 Conformity Determination, FHWA requested that each SIP (Reasonably Available Control Measure - RACM) commitment containing Federal transportation funding and a transportation project and schedule be addressed more specifically. FHWA verbally requested documentation that the funds were obligated and the project was implemented as committed to in the SIP.

The RTPA Commitment Documents, Volumes One and Two, dated April 2002 (Ozone RACM) were reviewed, using a "Summary of Commitments" table. Commitments that contain specific Federal funding/transportation projects/schedules were identified for further documentation. In some cases, local jurisdictions used the same Federal funding/transportation projects/schedules for various measures; these were identified as combined with ("comb w/") reference as appropriate. A not applicable ("NA") was noted where federally-funded project is vehicle technology based, fuel based, and maintenance based measures (e.g., LEV program, retrofit programs, clean fuels - CNG buses, etc.).

In addition, the RTPA Commitment Document, Volume Three, dated April 2003 (PM-10 BACM) was reviewed, using the Summary of Commitments table. Commitments that contain specific Congestion Mitigation and Air Quality (CMAQ) funding for the purchase and/or operation of street sweeping equipment have been identified. Only one commitment (Fresno - City of Reedley) was identified.

The Project TID Table was developed to provide implementation documentation necessary for the measures identified. Detailed information is summarized in the first five columns, including the commitment number, agency, description, funding and schedule (if applicable).

For each project listed, the TIP in which the project was programmed, as well as the project ID and description have been provided. In addition, the current implementation status of the project has been included (e.g., complete, under construction, etc). MPO staff determined this information in consultation with the appropriate local jurisdiction. Any projects not implemented according to schedule or project changes are explained in the project status column. These explanations are consistent with the guidance and regulations provided in the Transportation Conformity regulation.

Supplemental documentation was provided to FHWA in August and September 2004 in response to requests for information on timely implementation of TCMs in the San Joaquin Valley. The supplemental documentation included the approach, summary of interagency consultation correspondence, and three tables completed by each of the eight MPOs. The Supplemental Documentation was subsequently approved by FHWA as part of the 2004 Conformity Determination.

The Project TID table that was prepared at the request of FHWA for the 2004 Conformity Analysis has been updated in each subsequent conformity analysis (e.g., 8-hour, PM_{2.5}, 2007 and 2009 TIP). This documentation has been updated as part of this Conformity Analysis. A summary of this information is provided in Appendix E.

In March 2005, the SJV MPOs began interagency consultation with FHWA and EPA to address outstanding RACM/TCM issues. In general, criteria were developed to identify commitments that require timely implementation documentation. The criteria were applied to the 2002 RACM Commitments approved by reference as part of the Amended 2003 PM-10 Plan. In April 2006, EPA transmitted final tables that identified the approved RACM commitments that require timely implementation documentation for the Conformity Analysis. Subsequently, an approach to provide timely implementation documentation was developed in consultation with FHWA.

A new 2002 RACM TID Table was prepared in 2006 to address the more general RACM commitments that require additional timely implementation documentation per EPA. A brief summary of the commitment, including finite end dates if applicable, is included for each measure. The MPOs provided a status update regarding implementation in consultation with their member jurisdictions. If a specific project has been implemented, it is included in the Project TID Table under "Additional Projects Identified". This documentation was included in the Conformity Analysis for the 2007 TIP and 2004 RTP (as amended) that was approved by FHWA in October 2006. The 2002 RACM TID Table has been updated part of this Conformity Analysis. A summary of this information is provided in Appendix E.

D. TCM FINDINGS FOR THE TIP AND REGIONAL TRANSPORTATION PLAN

Based on a review of the transportation control measures contained in the applicable air quality plans, as documented in the two tables contained in Appendix E, the required TCM conformity findings are made below:

The TIP/RTP provide for the timely completion or implementation of the TCMs in the applicable air quality plans. In addition, nothing in the TIP or RTP interferes with the implementation of any TCM in the applicable implementation plan, and priority is given to TCMs.

E. RTP CONTROL MEASURE ANALYSIS IN SUPPORT OF 2003 PM-10 PLAN

In May 2003, the San Joaquin Valley MPO Executive Directors committed to conduct feasibility analyses as part of each new RTP in support of the 2003 PM-10 Plan. This commitment was retained in the 2007 PM-10 Maintenance Plan. In accordance with this commitment, Merced County Association of Governments undertook a process to identify and evaluate potential control measures that could be included in the 2011 RTP. The analysis of additional measures included verification of the feasibility of the measures in the PM-10 Plan BACM analysis, as well as an analysis of new PM-10 commitments from other PM-10 nonattainment areas.

A summary of the process to identify potential long-range control measures analysis and results to be evaluated as part of the RTP development was transmitted to the Interagency Consultation (IAC) partners for review. FHWA and EPA concurred with the summary of the long-range control measure approach in September 2009.

The Local Government Control Measures considered in the PM-10 Plan BACM analysis that were considered for inclusion in the 2011 RTP included:

- Paving or Stabilizing Unpaved Roads and Alleys
- Curbing, Paving, or Stabilizing Shoulders on Paved Roads
- Frequent Routine Sweeping or Cleaning of Paved Roads (i.e., funding allocation for the purchase of PM-10 efficient street sweepers for member jurisdictions).

It is important to note that the first three measures considered in the PM-10 Plan BACM analysis (i.e., access points, street cleaning requirements, and erosion clean up) are not applicable for inclusion in the RTP.

With the adoption of each new RTP, the MPOs will consider the feasibility of these measures, as well as identify any other new PM-10 measures that would be relevant to the San Joaquin Valley. Merced County Association of Governments also considered PM-10 commitments from other PM-10 nonattainment areas that had been developed since the previous RTP was approved. Federal websites were reviewed for any PM-10 plans that have been adopted since 2007. New PM-10 plans were developed for Imperial County and Owens Valley (California), Maricopa County and Miami (Arizona), and the Municipality of Guaynabo (Puerto Rico).

Only the Maricopa County PM-10 plan contained any new measures for possible inclusion in the 2011 RTP. In December 2007, the Maricopa Association of Governments (MAG) developed the “Five Percent Plan for PM-10 for the Maricopa County Nonattainment Area,” which contained commitments to reduce PM-10 emissions. The MAG PM-10 Plan contains one new commitment applicable to the San Joaquin Valley, which indicates that the Arizona Department of Transportation (ADOT) would commit to repaving or overlaying paved roads with rubberized asphalt that reduces PM-10 emissions by reducing vehicle tire wear. Overlaying freeways with rubberized asphalt is part of ADOT’s “Quiet Pavement” program to mitigate highway noise. Rubberized asphalt also affects PM-10 emissions, as PM-10 emissions rates from tire wear on rubberized asphalt are 30 to 50 percent lower than on Portland Cement Concrete. Therefore, the ADOT program continues with multiple purposes, which are to reduce PM-10 emissions and to mitigate noise. Therefore, as part of the 2011 RTP, Merced County Association of Governments will also consider a commitment to “Repave or overlay paved roads with rubberized asphalt”.

Based on consultation with CARB and the Air District, Merced County Association of Governments considered priority funding allocations in the 2011 RTPs for PM-10 and NO_x emission reduction projects in the post-attainment year timeframe that go beyond the emission reduction commitments made for the attainment year 2010 for the following four measures:

- (1) Paving or Stabilizing Unpaved Roads and Alleys
- (2) Curbing, Paving, or Stabilizing Shoulders on Paved Roads
- (3) Frequent Routine Sweeping or Cleaning of Paved Roads (i.e., funding allocation for the purchase of PM-10 efficient street sweepers for member jurisdictions); and
- (4) Repave or Overlay Paved Roads with Rubberized Asphalt

MCAG and its member jurisdictions consider both short- and long-term PM-10 emission reductions to be a priority. Every two to four years, MCAG conducts a Congestion Mitigation and Air Quality (CMAQ) "Call for Projects" that may include PM-10 projects. These additional projects may be included in the FTIP once that process is concluded. Reliable long-term funding estimates for the PM-10 portion of the "Call for Projects" process are not available and therefore, not included in the RTP. Currently, Caltrans incorporates rubberized asphalt as general policy to meet recycled content requirements on high volume state highway facilities. In 2003, Caltrans established a goal of using at least 15 percent rubberized asphalt concrete compared to all flexible pavement by weight; Caltrans has exceeded this goal each year. In 2005, AB 338 was passed and requires Caltrans to gradually phase in the use of crumb rubber, which is used to make rubberized-asphalt concrete, on state highway construction and repair projects, to the extent feasible. MCAG will continue to work with member jurisdictions and evaluate the ability to proceed with PM-10 projects as part of the FTIP and RTP.

CHAPTER 5: INTERAGENCY CONSULTATION

The requirements for consultation procedures are listed in the Transportation Conformity Regulations under section 93.105. Consultation is necessary to ensure communication and coordination among air and transportation agencies at the local, State and Federal levels on issues that would affect the conformity analysis such as the underlying assumptions and methodologies used to prepare the analysis. Section 93.105 of the conformity regulation notes that there is a requirement to develop a conformity SIP that includes procedures for interagency consultation, resolution of conflicts, and public consultation as described in paragraphs (a) through (e). Section 93.105(a)(2) states that prior to EPA approval of the conformity SIP, “MPOs and State departments of transportation must provide reasonable opportunity for consultation with State air agencies, local air quality and transportation agencies, DOT and EPA, including consultation on the issues described in paragraph (c)(1) of this section, before making conformity determinations.” The Air District adopted Rule 9120 Transportation Conformity on January 19, 1995 in response to requirements in Section 176(c)(4)(c) of the Clean Air Act as amended in 1990. Since EPA has not approved Rule 9120 (the conformity SIP), the conformity regulation requires compliance with 40 CFR 93.105 (a)(2) and (e) and 23 CFR 450.

Section 93.112 of the conformity regulation requires documentation of the interagency and public consultation requirements according to Section 93.105. A summary of the interagency consultation and public consultation conducted to comply with these requirements is provided below. Appendix F includes the public meeting process documentation. The responses to comments received as part of the public comment process are included in Appendix G.

A. INTERAGENCY CONSULTATION

Consultation is generally conducted through the San Joaquin Valley Interagency Consultation Group (combination of previous Model Coordinating Committee and Programming Coordinating Group). The San Joaquin Valley Interagency Consultation (IAC) Group has been established by the Valley Transportation Planning Agency's Director's Association to provide a coordinated approach to valley transportation planning and programming (Transportation Improvement Program, Regional Transportation Plan, and Amendments), transportation conformity, climate change, and air quality (State Implementation Plan and Rules). The purpose of the group is to ensure Valley wide coordination, communication and compliance with Federal and California Transportation Planning and Clean Air Act requirements. Each of the eight Valley MPOs and the Air District are represented. In addition, the Federal Highway Administration, Federal Transit Administration, the Environmental Protection Agency, the California Air Resources Board and Caltrans (Headquarters, District 6, and District 10) are all represented. The IAC Group meets approximately quarterly.

The interagency consultation process for the 2011 TIP, RTP, CEQA document, and corresponding Conformity Analysis began on the May 28, 2009 IAC conference call with a discussion of the timeline and approach. CEQA status reports were discussed, as well as the requirements and outline of approach to address AB 32 and SB 375. In September 2009, it was reported that the Director recommended approach to address AB 32 / SB 375 was distributed for IAC and then presented to Policy Council in June; no questions or comments were received). In December 2009, it was reported that the PM Control Measure task and CMAQ tasks were completed. The former involved, identifying potential long-term PM-10 Control Measures that must be evaluated as part of the RTP. A summary was provided for IAC prior to application by the MPOs; no substantive comments were received. The latter involved a review of the CMAQ policy and cost-effectiveness threshold. No updates to the policy were recommended and

the existing threshold was maintained. A summary was provided for IAC prior to application by the MPOs; concurrence was received from the Air District, EPA, and FHWA.

In March 2010, it was reported that the Draft Transportation Model Summary & Latest Planning Assumptions were transmitted for IAC and concurrence was received from FHWA & EPA. In addition, the Draft Conformity Analysis Years were transmitted for IAC and concurrence was received from FHWA & EPA. The Draft Conformity Procedures were also transmitted for IAC and concurrence from EPA, CARB & Air District was received.

It is important to note that in consultation with EPA, the Draft documents provided for interagency consultation and public review contain 2 options for PM2.5 requirements. “Option 1: Assumes Adequate PM2.5 Conformity Budgets” and “Option 2: Assumes no EPA action on PM2.5 conformity budgets”. Only one will be included in the final document prior to MPO Board adoption.

The SJV MPOs committed to a more coordinated approach and improved documentation valley-wide for the development of the 2011 TIP/RTP in response to meetings with Caltrans and FHWA. Conducting workshops to review the status of document development, including best practices and discussion of issues that need to be addressed was part of that commitment. The first workshop was conducted in August 2009. Topics generally included: schedule, CEQA document development, RTP Performance Evaluation, RTP Revenue & Cost Analysis, and Congestion Management Process (CMP) Updates. A second workshop was conducted in February 2010. At this workshop, roundtable discussions were conducted with Caltrans and FHWA to review the individual MPO Draft TIP and RTP project lists. Transportation conformity was reviewed, including latest planning assumptions, procedures, and analysis years. Individual MPO public outreach efforts were also discussed.

The Draft 2011 TIP, RTP, CEQA document, and corresponding Conformity Analysis were released on April 30, 2010 for a 45-day public comment period, followed by Board adoption in July 2010. Federal approval of the 2011 TIP and Conformity Analysis is anticipated by December 14, 2010.

Interagency consultation also includes the local transportation providers in the MPO region (e.g., cities, transit districts). The cities, county and transit district include representative on the Technical Planning Committee (TPC). The RTP and FTIP are developed in concert with the TPC which then makes advisory recommendations to the Technical Review Board (TRB) consisting of the city managers and the county administrative officer. Finally, action is taken by the MCAG Governing Board, which consists of elected representatives from the county and each of the six cities.

B. PUBLIC CONSULTATION

In general, agencies making conformity determinations shall establish a proactive public involvement process that provides opportunity for public review and comment on a conformity determination for TIPs/RTPs. In addition, all public comments must be addressed in writing.

All MPOs in the San Joaquin Valley have standard public involvement procedures. In general, the TIP/RTP and corresponding conformity analysis are the subject of a public notice and 30 day review period prior to adoption. However, the comment period for this conformity analysis was 45 days concurrent with the public review of the Draft 2011 TIP and RTP, and associated CEQA documents. A public meeting is also conducted prior to adoption and all public comments are responded to in writing. The Appendices contain corresponding documentation supporting the public involvement procedures.

CHAPTER 6: TIP AND RTP CONFORMITY

The principal requirements of the transportation conformity regulation for TIP/RTP assessments are: (1) the TIP and RTP must pass an emissions budget test with a budget that has been found to be adequate by EPA for transportation conformity purposes, or an interim emission test; (2) the latest planning assumptions and emission models must be employed; (3) the TIP and RTP must provide for the timely implementation of transportation control measures (TCMs) specified in the applicable air quality implementation plans; and (4) consultation. The final determination of conformity for the TIP/RTP is the responsibility of the Federal Highway Administration and the Federal Transit Administration.

The previous chapters and the appendices present the documentation for all of the requirements listed above for conformity determinations except for the conformity test results. Prior chapters have also addressed the updated documentation required under the transportation conformity regulation for the latest planning assumptions and the implementation of transportation control measures specified in the applicable air quality implementation plans.

This chapter presents the results of the conformity tests, satisfying the remaining requirement of the transportation conformity regulation. Separate tests were conducted for 8-hour ozone (ROG and NO_x), PM-10 and PM2.5. The applicable conformity tests were reviewed in Chapter 1. For each test, the required emissions estimates were developed using the transportation and emission modeling approaches required under the transportation conformity regulation and summarized in Chapters 2 and 3. The results are summarized below, followed by a more detailed discussion of the findings for each pollutant. Table 6-1 presents results for ozone (ROG/NO_x), PM-10 (PM-10/NO_x), and PM2.5 (PM2.5/NO_x) respectively, in tons per day for each of the horizon years tested.

For ozone, the applicable conformity test is the emissions budget test, using the 2007 Ozone Plan budgets established for ROG and NO_x for an average summer (ozone) season day. EPA published a budget adequacy determination for the 2011, 2014, and 2017 conformity budgets in the Federal Register on January 22, 2009, effective February 6, 2009. The modeling results for all analysis years indicate that the on-road vehicle ROG and NO_x emissions predicted for each of the “Build” scenarios are less than the emissions budgets. The TIP/RTP therefore satisfy the conformity emissions test for volatile organic compounds and nitrogen oxides.

For PM-10, the applicable conformity test is the emissions budget test, using the 2007 PM-10 Maintenance Plan budgets for PM-10 and NO_x. This Plan was approved (with minor technical corrections to the conformity budgets) by EPA on November 12, 2008. The modeling results for all analysis years indicate that the PM-10 emissions predicted for the “Build” scenarios are less than the emissions budget for 2020. The TIP/RTP therefore satisfy the conformity emissions tests for PM-10.

[NOTE: The following text contains two options per consultation with EPA; only one will be included in the final document prior to MPO Board adoption]

Option 1: Assumes Adequate PM2.5 Conformity Budgets

1997 Standards: For PM2.5, the applicable conformity test is the emission budget test, using budgets established in the 2008 PM2.5 Plan. EPA is anticipated to publish a budget adequacy determination for the 2012 conformity budget contained in the 2008 PM2.5 Plan effective prior to July 2010 (scheduled MPO Board adoption of 2011 TIP/RTP/Conformity Analysis). The modeling results for all analysis years

indicate that the on-road vehicle PM_{2.5} and NO_x emissions predicted for the “Build” scenarios are less than the emissions budget. The TIP/RTP therefore satisfy the conformity emissions test for PM_{2.5} and nitrogen oxides.

2006 Standard: In accordance with Transportation Conformity Rule PM_{2.5} and PM₁₀ Amendments published on March 24, 2010 (effective April 23, 2010) for 2006 PM_{2.5} NAAQS Nonattainment areas, if a 2006 PM_{2.5} area has adequate or approved SIP budgets that address the 1997 standards, it must use the budget test. For PM_{2.5}, the applicable conformity test is the emission budget test, using budgets established in the 2008 PM_{2.5} Plan. EPA is anticipated to publish a budget adequacy determination for the 2012 conformity budget contained in the 2008 PM_{2.5} Plan effective prior to July 2010 (scheduled MPO Board adoption of 2011 TIP/RTP/Conformity Analysis). The modeling results for all analysis years indicate that the on-road vehicle PM_{2.5} and NO_x emissions predicted for the “Build” scenarios are less than the emissions budget. The TIP/RTP therefore satisfy the conformity emissions test for PM_{2.5} and nitrogen oxides.

Option 2: Assumes no EPA action on PM_{2.5} conformity budgets

1997 Standards: For PM_{2.5}, areas violating both the annual and 24-hour standards for PM_{2.5} must address both standards in the conformity determination. The San Joaquin Valley currently violates both standards, and the conformity determination includes both analyses. Before an adequate or approved SIP budget is available, conformity is generally demonstrated with interim emission tests. Conformity may be demonstrated if the emissions from the proposed transportation system are either less than or no greater than the 2002 motor vehicle emissions in a given area (see Section 93.119). The San Joaquin Valley chose to use the “no-greater-than-2002 emissions test”. The modeling results for all analysis years indicated that the “Build” scenarios are less than the 2002 Base Year emissions estimates for both the 24-hour and annual standards. The TIP/RTP therefore satisfy the conformity emissions tests for PM_{2.5}.

2006 Standard: In accordance with the Transportation Conformity Rule referenced above, if a 2006 PM_{2.5} area does not have adequate or approved budgets for the 1997 standards, it must use one of the interim tests. Conformity may be demonstrated if the emissions from the proposed transportation system are either less than or no greater than the 2008 motor vehicle emissions in a given area (see final rule: Transportation Conformity Rule PM_{2.5} and PM₁₀ Amendments, published March 24, 2010, effective April 23, 2010). The San Joaquin Valley chose to use the “no-greater-than-2008 emissions test”. The modeling results for all analysis years indicated that the “Build” scenarios are less than the 2008 Base Year emissions estimates for both the 24-hour and annual standards. The TIP/RTP therefore satisfy the conformity emissions tests for PM_{2.5}.

As all requirements of the Transportation Conformity regulation have been satisfied, a finding of conformity for the Draft 2011 Federal Transportation Improvement Program and the 2011 Regional Transportation Plan is supported.

**Table 6-1:
Conformity Results Summary**

Pollutant	Scenario	Emissions Total		DID YOU PASS?	
		ROG (tons/day)	NOx (tons/day)	ROG	NOx
Ozone	2011 Budget	6.2	28.8		
	2011	5.8	26.7	YES	YES
	2014 Budget	5.1	22.3		
	2014	4.7	20.5	YES	YES
	2017 Budget	4.2	17.1		
	2017	3.9	15.8	YES	YES
	2023	3.1	10.7	YES	YES
	2025	2.9	10.1	YES	YES
	2035	2.9	10.3	YES	YES
PM-10	2020 Budget	6.4	12.9		
	2020	6.3	12.7	YES	YES
	Adjusted 2020 Budget	6.8	12.3		
	2025	6.8	10.2	YES	YES
	Adjusted 2020 Budget	8.1	10.4		
	2035	8.1	10.4	YES	YES

Option 1: Assumes Adequate Conformity Budgets						
1997 PM2.5 24-Hour & Annual Standards and 2006 24- Hour Standard		PM2.5 (tons/day)	NOx (tons/day)		PM2.5	NOx
	2012 Budget	1.2	26.7			
	2012	1.1	24.7		YES	YES
	2014	1.0	20.6		YES	YES
	2017	0.8	15.7		YES	YES
	2025	0.7	9.8		YES	YES
	2035	0.8	10.0		YES	YES
Option 2: Assumes no EPA action on conformity budgets						
1997 PM2.5 24-Hour Standards		PM2.5 (tons/day)	NOx (tons/day)		PM2.5	NOx
	2002 Base Year	1.5	37.1			
	2014	1.0	21.2		YES	YES
	2017	0.8	16.3		YES	YES
	2025	0.7	10.2		YES	YES
	2035	0.8	10.4		YES	YES
1997 PM2.5 Annual Standard		PM2.5 (tons/year)	NOx (tons/year)		PM2.5	NOx
	2002 Base Year	548	13542			
	2014	365	7738		YES	YES
	2017	292	5950		YES	YES
	2025	256	3723		YES	YES
	2035	292	3796		YES	YES
2006 PM2.5 24-Hour Standards		PM2.5 (tons/day)	NOx (tons/day)		PM2.5	NOx
	2008 Base Year	1.6	38.7			
	2014	1.0	21.2		YES	YES
	2017	0.8	16.3		YES	YES
	2025	0.7	10.2		YES	YES
	2035	0.8	10.4		YES	YES

REFERENCES

- CAA. 1990. *Clean Air Act*, as amended November 15, 1990. (42 U. S. C. Section 7401et seq.) November 15, 1990.
- EPA. 1993. 40 CFR Parts 51 and 93. *Criteria and Procedures for Determining Conformity to State or Federal Implementation Plans of Transportation Plans, Programs and Projects Funded or Approved Under Title 23 U.S.C. or the Federal Transit Act*. U.S. Environmental Protection Agency. Federal Register, November 24, 1993, Vol. 58, No. 225, p. 62188.
- EPA. 2004a. 40 CFR Part 93. *Transportation Conformity Rule Amendments for the New 8-hour Ozone and PM_{2.5} National Ambient Air Quality Standards and Miscellaneous Revisions for Existing Areas; Transportation Conformity Rule Amendments – Response to Court Decision and Additional Rule Changes*. U.S. Environmental Protection Agency. Federal Register, July 1, 2004, Vol. 69, No. 126, p. 40004.
- EPA. 2004b. *Companion Guidance for the July 1, 2004, Final Transportation Conformity Rule: Conformity Implementation in Multi-jurisdictional Nonattainment and Maintenance Areas for Existing and New Air Quality Standards*. U.S. Environmental Protection Agency. July 21, 2004.
- EPA. 2005a. *Transportation Conformity Rule Amendments for the New PM_{2.5} National Ambient Air Quality Standards: PM_{2.5} Precursors; Final Rule*. U.S. Environmental Protection Agency. Federal Register, May 6, 2005, Vol. 70, No. 87, p. 24280.
- EPA. 2005b. *Guidance for Creating Annual On-Road Mobile Source Emission Inventories for PM_{2.5} Nonattainment Areas for Use in SIPs and Conformity*. U.S. Environmental Protection Agency. EPA420-B-05-008. August 2005
- EPA, 2008. 40 CFR Parts 51 and 93. *Transportation Conformity Rule Amendments To Implement Provisions Contained in the 2005 Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU); Final Rule*. Federal Register, January 24, 2008, Vol. 73, No. 16, p. 4420.
- EPA, 2010a. 40 CFR Part 93..*Transportation Conformity Rule PM_{2.5} and PM₁₀ Amendments; Final Rule*. Federal Register, March 24, 2010, Vol. 75, No. 56, p. 14260.
- EPA, 2010b. *Transportation Conformity Regulations EPA-420-B-10-006*. March.
- USDOT. 2001. *Use of Latest Planning Assumptions in Conformity Determinations*. Memorandum from U.S. Department of Transportation. January 18, 2001.
- USDOT. 2001. Federal Highway Administration. Planning Assistance and Standards. 23 CFR 450. October 16.

APPENDIX A
CONFORMITY CHECKLIST

CONFORMITY ANALYSIS DOCUMENTATION

FHWA Checklist for MPO TIPs/RTPs

checklist version: June 27, 2005

40 CFR	Criteria	Page	Comments
§93.102	Document the applicable pollutants and precursors for which EPA designates the area as nonattainment or maintenance. Describe the nonattainment or maintenance area and its boundaries.	Ch. 1 p.9	
§93.104 (b, c)	Document the date that the MPO officially adopted, accepted or approved the TIP/RTP and made a conformity determination. Include a copy of the MPO resolution. Include the date of the last prior conformity finding.	E.S. p.1	
§93.104 (e)	If the conformity determination is being made to meet the timelines included in this section, document when the new motor vehicle emissions budget was approved or found adequate.	N/A	
§93.106 (a)(2)ii	Describe the regionally significant additions or modifications to the existing transportation network that are expected to be open to traffic in each analysis year. Document that the design concept and scope of projects allows adequate model representation to determine intersections with regionally significant facilities, route options, travel times, transit ridership and land use.	Ch. 2 p.23, App. B	
§93.108	Document that the TIP/RTP is financially constrained (23 CFR 450).	E.S. p.1	
§93.109 (a, b)	Document that the TIP/RTP complies with any applicable conformity requirements of air quality implementation plans (SIPs) and court orders.	Ch. 1, 2, 3, 4, 5, 6	
§93.109 (c-k)	Provide either a table or text description that details, for each pollutant and precursor, whether the interim emissions tests and/or the budget test apply for conformity. Indicate which emissions budgets have been found adequate by EPA, and which budgets are currently applicable for what analysis years.	Ch. 1 p.16	
§93.110 (a, b)	Document the use of latest planning assumptions (source and year) at the "time the conformity analysis begins," including current and future population, employment, travel and congestion. Document the use of the most recent available vehicle registration data. Document the date upon which the conformity analysis was begun.	Ch. 2 p. 19-	
USDOT/EP A guidance	Document the use of planning assumptions less than five years old. If unable, include written justification for the use of older data. (1/18/02)	Ch. 2 p.19-	
§93.110 (c,d,e,f)	Document any changes in transit operating policies and assumed ridership levels since the previous conformity determination. Document the use of the latest transit fares and road and bridge tolls. Document the use of the latest information on the effectiveness of TCMs and other SIP measures that have been implemented. Document the key	Ch. 2 p.22	

40 CFR	Criteria	Page	Comments
	assumptions and show that they were agreed to through Interagency and public consultation.		
§93.111	Document the use of the latest emissions model approved by EPA.	Ch. 3 p.27	
§93.112	Document fulfillment of the interagency and public consultation requirements outlined in a specific implementation plan according to §51.390 or, if a SIP revision has not been completed, according to §93.105 and 23 CFR 450. Include documentation of consultation on conformity tests and methodologies as well as responses to written comments.	Ch. 5 p.39	
§93.113	Document timely implementation of all TCMs in approved SIPs. Document that implementation is consistent with schedules in the applicable SIP and document whether anything interferes with timely implementation. Document any delayed TCMs in the applicable SIP and describe the measures being taken to overcome obstacles to implementation.	Ch. 4 p.32, App. E	
§93.114	Document that the conformity analyses performed for the TIP is consistent with the analysis performed for the Plan, in accordance with 23 CFR 450.324(f)(2).	Analysis addresses both documents	
§93.118 (a, c, e) ⁱ	For areas with SIP budgets: Document that emissions from the transportation network for each applicable pollutant and precursor, including projects in any associated donut area that are in the Statewide TIP and regionally significant non-Federal projects, are consistent with any adequate or approved motor vehicle emissions budget for all pollutants and precursors in applicable SIPs.	Ch. 6 p.41	
§93.118 (b)	Document for which years consistency with motor vehicle emissions budgets must be shown.	Ch. 1 p.8	
§93.118 (d)	Document the use of the appropriate analysis years in the regional emissions analysis for areas with SIP budgets, and the analysis results for these years. Document any interpolation performed to meet tests for years in which specific analysis is not required.	Ch. 6 p.41-	
§93.119 ¹	For areas without applicable SIP budgets: Document that emissions from the transportation network for each applicable pollutant and precursor, including projects in any associated donut area that are in the Statewide TIP and regionally significant non-Federal projects, are consistent with the requirements of the “Action/Baseline”, “Action/1990” and/or “Action/2002” interim emissions tests as applicable.	Ch. 6 p.41-	
§93.119 (g)	Document the use of the appropriate analysis years in the regional emissions analysis for areas without applicable SIP budgets.	Ch. 1 p.8-	
§93.119 (h,i)	Document how the baseline and action scenarios are defined for each analysis year.	Ch. 3 p.27	
§93.122 (a)(1)	Document that all regionally significant federal and non-Federal projects in the nonattainment/maintenance area are explicitly modeled in the regional emissions analysis. For each project, identify by which analysis it will be open to traffic. Document that VMT for non-regionally significant Federal projects is accounted for in the regional emissions analysis	Ch. 2, App B	

40 CFR	Criteria	Page	Comments
§93.122 (a)(2, 3)	Document that only emission reduction credits from TCMs on schedule have been included, or that partial credit has been taken for partially implemented TCMs. Document that the regional emissions analysis only includes emissions credit for projects, programs, or activities that require regulatory action if: the regulatory action has been adopted; the project, program, activity or a written commitment is included in the SIP; EPA has approved an opt-in to the program, EPA has promulgated the program, or the Clean Air Act requires the program (indicate applicable date). Discuss the implementation status of these programs and the associated emissions credit for each analysis year.	Ch. 2 p.19-	
§93.122 (a)(4,5,6)	For nonregulatory measures that are not included in the STIP, include written commitments from appropriate agencies. Document that assumptions for measures outside the transportation system (e.g. fuels measures) are the same for baseline and action scenarios. Document that factors such as ambient temperature are consistent with those used in the SIP unless modified through interagency consultation.	N/A	
§93.122 (b)(1)(i) ⁱⁱ	Document that a network-based travel model is in use that is validated against observed counts for a base year no more than 10 years before the date of the conformity determination. Document that the model results have been analyzed for reasonableness and compared to historical trends and explain any significant differences between past trends and forecasts (for per capita vehicle-trips, VMT, trip lengths mode shares, time of day, etc.).	Ch. 2 p.21-	
§93.122 (b)(1)(ii) ²	Document the land use, population, employment, and other network-based travel model assumptions.	Ch. 2 p.21	
§93.122 (b)(1)(iii) ²	Document how land use development scenarios are consistent with future transportation system alternatives, and the reasonable distribution of employment and residences for each alternative.	Ch. 2 p.21-	
§93.122 (b)(1)(iv) ²	Document use of capacity sensitive assignment methodology and emissions estimates based on a methodology that differentiates between peak and off-peak volumes and speeds, and bases speeds on final assigned volumes.	Ch. 2 p.21-	
§93.122 (b)(1)(v) ²	Document the use of zone-to-zone travel impedances to distribute trips in reasonable agreement with the travel times estimated from final assigned traffic volumes. Where transit is a significant factor, document that zone-to-zone travel impedances used to distribute trips are used to model mode split.	Ch. 2 p.21-	
§93.122 (b)(1)(vi) ²	Document how travel models are reasonably sensitive to changes in time, cost, and other factors affecting travel choices.	Ch. 2 p.21-	
§93.122 (b)(2) ²	Document that reasonable methods were used to estimate traffic speeds and delays in a manner sensitive to the estimated volume of travel on each roadway segment represented in the travel model.	Ch. 2 p.21-	
§93.122 (b)(3) ²	Document the use of HPMS, or a locally developed count-based program or procedures that have been chosen through the consultation process, to reconcile and calibrate the network-based travel model estimates of VMT.	Ch. 2 p.21-	

40 CFR	Criteria	Page	Comments
§93.122 (d)	In areas not subject to §93.122(b), document the continued use of modeling techniques or the use of appropriate alternative techniques to estimate vehicle miles traveled	Ch. 2 p.21-	
§93.122 (e, f)	Document, in areas where a SIP identifies construction-related PM10 or PM2.5 as significant pollutants, the inclusion of PM10 and/or PM2.5 construction emissions in the conformity analysis.	Ch. 3 p.29-	
§93.122 (g)	If appropriate, document that the conformity determination relies on a previous regional emissions analysis and is consistent with that analysis.	N/A	
§93.126, §93.127, §93.128	Document all projects in the TIP/RTP that are exempt from conformity requirements or exempt from the regional emissions analysis. Indicate the reason for the exemption (Table 2, Table 3, traffic signal synchronization) and that the interagency consultation process found these projects to have no potentially adverse emissions impacts.	Ch. 2, App B	

ⁱ Note that some areas are required to complete both interim emissions tests.

ⁱⁱ 40 CFR 93.122(b) refers only to serious, severe and extreme ozone areas and serious CO areas above 200,000 population

Disclaimers

This checklist is intended solely as an informational guideline to be used in reviewing Transportation Plans and Transportation Improvement Programs for adequacy of their conformity documentation. It is in no way intended to replace or supersede the Transportation Conformity regulations of 40 CFR Parts 51 and 93, the Statewide and Metropolitan Planning Regulations of 23 CFR Part 450 or any other EPA, FHWA or FTA guidance pertaining to transportation conformity or statewide and metropolitan planning. This checklist is not intended for use in documenting transportation conformity for individual transportation projects in nonattainment or maintenance areas. 40 CFR Parts 51 and 93 contain additional criteria for project-level conformity determinations. **Document #46711**

APPENDIX B

TRANSPORTATION PROJECT LISTING

1. Federally Funded Non-Regionally Significant Projects: NONE
2. Regionally Significant Projects: see next page
3. Exempt Projects: see following pages

Jurisdiction / Agency	TIP/RTP Project ID	CTIPs Project ID (if available)	Description	Estimated Cost	Exemption Code (per CTIPs)
Los Banos	n/a	205-0000-0098	Los Banos Class I Bike Trail - Continuation of Rail-to-Trail path from Place Road extending east of Ward Road	\$195,000	3.02
Los Banos	n/a	205-0000-0025	Los Banos signal (Hwy 165 & B St) Installation of traffic control signal lights to include permanent metal fixture poles, control cabined, traffic control loops, and construction of right hand turn lane	\$275,000	5.01
Los Banos	n/a	205-0000-0011	Los Banos Bike Lanes - Installation (paint striping) of 130,000 feet of Class II Bike lanes along both sides of various streets in Los Banos.	\$188,000	3.02
Los Banos	n/a	205-0000-0096	Los Banos Bike/Ped Bridge - Purchase and installation of pedestrian/bicycle bridge on Monte Vista Drive near Los Banos High School	\$225,000	3.02
Merced County	n/a	205-0000-0139	Hilmar Bike/Ped Bridge	\$223,000	3.02
MCAG	n/a	205-0000-0042	TDM/Alternative Modes Program - Promotion, Outreach and Program Development fo Commute Alternatives	\$255,000	3.01
Los Banos	n/a	205-0000-0031	City of Los Banos - Westside Transit Transportation Center	\$927,000	2.11
Transit JPA	n/a	205-0000-0107	Merced County Transit - Purchase Paratransit buses	\$7,199,000	2.10
Transit JPA	n/a	205-0000-0130	Merced County Transit - Purchase CNG Buses (35 passenger)	\$10,957,000	2.10
Transit JPA	n/a	205-0000-0113	Merced County Transit - UC Merced Demonstration transit shuttle	\$849,000	2.01
Transit JPA	n/a	205-0000-0114	Merced County Transit - Fixed Route Tracking System	\$113,000	2.05
Transit JPA	n/a	205-0000-0115	Merced County Transit - Electronic Farebox Phase 2	\$310,000	2.05
Transit JPA	n/a	205-0000-0116	Merced County Transit - Route 5X and Route 15 (Urban) Demonstration	\$322,000	2.01
Transit JPA	n/a	205-0000-0117	Merced County Transit - Route 7X and Route 9X (Rural) Demonstration	\$226,000	2.01
Transit JPA	n/a	205-0000-0034	Merced County Transit - Purchase Bus Shelters	\$556,000	2.07
Transit JPA	n/a	205-0000-0118	Merced County Transit - Design and Construct a CNG Fueling facility at Merced County Transit site	\$1,542,000	2.11
Transit JPA	n/a	205-0000-0022	Merced County Transit - Operations and Maintenance	\$71,385,000	2.01
Transit JPA	n/a	205-0000-0123	Merced County Transit - Transit Marketing Plan	\$190,000	4.01
Transit JPA	n/a	205-0000-0124	Merced County Transit - Bus parking lot expansion - 880 Thornton Road, Merced	\$125,000	2.11
Transit JPA	n/a	205-0000-0125	Merced County Transit - Transit Modular office space fot transit scheduling and storage	\$90,000	2.11
YARTS	n/a	205-0000-0130	YARTS Public Outreach and Marketing	\$425,000	3.01
YARTS	n/a	205-0000-0129	YARTS - Construct two park and ride lots to allow visitors to park and use the YARTS service to access the nation park, mitigating congestion	\$583,000	2.11
YARTS	n/a	205-0000-0110	YARTS - FTA-5309(c) Allocation for capital cost of constructing service	\$870,000	2.10
YARTS	n/a	205-0000-0136	YARTS - FTA-5320 Paul S. Sarbanes Program grant for lease of vehicles (formerly known as the ATPPL program)	\$538,000	2.10
Various	n/a	205-0000-0120	Mariposa, CA - Yosemite National Park - Capital purchase of CNG/Hydrogen transit buses and facilities	\$2,365,000	2.10
Caltrans	n/a	205-0000-0035	SHOPP Emergency Repair Program	\$350,000	4.13
Caltrans	n/a	205-0000-0126	SHOPP Bridge Preservation Prog. Lump Sum	\$125,569,000	1.19
Caltrans	n/a	205-0000-0127	SHOPP Roadway Preservation Lump Sum	\$69,332,000	1.10
Caltrans	n/a	205-0000-0128	SHOPP Mobility Program Lump Sum	\$12,192,000	1.03
Caltrans	n/a	305-0000-0000	SHOPP Collision Reduction Program Lump Sum	\$22,531,000	1.06
Caltrans	n/a	205-0000-0023	SHOPP Minor Program Lump Sum	\$9,710,000	1.03
Caltrans	n/a	205-0000-0038	Local Hazard Safety Improvement Program (HSIP)	\$230,000	1.06
Caltrans	n/a	105-0000-0080	Mission Ave. Interchange landscaping	\$4,942,000	4.09
Caltrans	n/a	105-0000-0079	Livingston Stage II Freeway landscaping	\$1,147,000	4.09
Caltrans	n/a	105-0000-0077	Delhi Corridor Tree Planting	\$1,613,000	4.09
Caltrans	n/a	105-0000-0103	Atwater Overhead to Arena Way Landscaping	\$1,160,000	4.09

Caltrans	n/a	105-0000-0017	Planning, Programming, & Monitoring	\$3,016,000	4.01
Caltrans	n/a	205-0000-0135	Federal Safe Routes to Schools (SRTS) Program Lump Sum	\$1,579,000	1.06
Merced	n/a	205-0000-0138	G Street Railroad Undercrossing - HRSCA program	\$19,850,000	1.01
MCAG	n/a	205-0000-0039	RSTP Apportionment - Exchange 100% for state dollars	\$23,530,000	1.10
MCAG	n/a	205-0000-0111	PSR (Project Study Report -PE only) Highway 99 I/C between SR 165 & Bradbury Road	\$1,337,000	4.01
Merced County	n/a	205-0000-0109	Merced County - Atwater Federal Penitentiary Access Road- Rehab/Reconst Franklin Road from Santa Fe to Bellevue & Fox Road from Bellevue to Ladino; Close Fox Road at Santa Fe	\$917,000	1.10

APPENDIX C
CONFORMITY ANALYSIS DOCUMENTATION

Merced CAG 2011 Conformity

Variable	Source	Analysis Year							
		2011	2012	2014	2017	2020	2023	2025	2035
EDP	EMFAC 2007	179,984	184,100	192,618	206,144	220,626	240,471	254,685	339,945
EVMT	EMFAC 2007	9,129,685	9,375,460	9,941,659	10,788,661	11,582,005	12,708,265	13,468,723	17,999,086
MVMT	TPA Model	8,540,819	8,746,130	9,244,382	10,064,946	10,754,185	11,777,748	12,485,951	16,145,119
N	Calculated	168,375	171,742	179,108	192,316	204,857	222,863	236,101	304,930

<= Enter Modeled Daily VMT Here
 <= Read New Vehicle Population Her

N = New Population
EDP = EMFAC Default Population
MVMT = Modeled VMT
EVMT = EMFAC Default VMT

EMFAC Emissions (tons/day)

MERCED

Pollutant	Source	Description	2011	2014	2017	2023	2025	2035
Ozone	EMFAC 2007 (Summer Run)	ROG Total Exhaust (All Vehicles Total)	5.80	4.72	3.94	3.10	2.99	2.96
	District Existing Local Reductions	Indirect Source Migration and School Bus Fleet rules	0.00	0.00	0.00	0.00	0.00	0.00
	ARB Existing Local Reductions	Refleash, Idling, and Moyer	0.01	0.01	0.00	0.00	0.00	0.00
	District New/Proposed Local Reductions	Employee Trip Reduction	0.04	0.05	0.05	0.05	0.05	0.05
	ARB New/Proposed State Reductions	Passenger and Truck Measures included in the Draft State Strategy	0.00	0.00	0.00	0.00	0.00	0.00
		Conformity Total	5.75	4.66	3.89	3.05	2.94	2.91
Ozone	EMFAC 2007 (Summer Run)	NOx Total Exhaust (All Vehicles Total)	29.37	22.89	17.96	12.78	12.18	12.35
	District Existing Local Reductions	Indirect Source Migration and School Bus Fleet rules	0.12	0.07	0.11	0.10	0.10	0.10
	ARB Existing Local Reductions	Refleash, Idling, and Moyer	2.53	2.27	2.05	1.96	1.96	1.96
	District New/Proposed Local Reductions	Employee Trip Reduction	0.02	0.02	0.02	0.02	0.02	0.02
	ARB New/Proposed State Reductions	Passenger and Truck Measures included in the Draft State Strategy	0.00	0.00	0.00	0.00	0.00	0.00
		Conformity Total	26.70	20.53	15.76	10.77	10.10	10.27

PM-10	EMFAC 2007 (Annual Run)	PM-10 Total (All Vehicles Total) * includes tire & brake wear	2020	2025	2035
	ARB	Existing Refleash, Idling, and Moyer (HDI, PFR, Moyer, AB1483, Refleash)	0.88	0.97	1.15
		Conformity Total	0.97	0.96	1.14
PM-10	EMFAC 2007 (Annual Run)	NOx Total Exhaust (All Vehicles Total)	14.59	12.16	12.31
	ARB	Existing Refleash, Idling, and Moyer (HDI, PFR, Moyer, AB1483, Refleash)	1.92	1.92	1.92
		Conformity Total	12.67	10.24	10.39

Option 1: Assumes Adequate Conformity Budgets

PM2.5	EMFAC 2007 (Annual Run)	PM2.5 Total Exhaust (All Vehicles Total) * includes tire & brake wear	2012	2014	2017	2025	2035
	ARB	Adopted State and Local Measures not included in EMFAC 2007 2007 State Strategy	1.10	0.97	0.82	0.68	0.79
		Conformity Total	1.10	1.00	0.80	0.70	0.80
PM2.5	EMFAC 2007 (Annual Run)	NOx Total Exhaust (All Vehicles Total)	27.20	22.94	17.99	12.16	12.31
	ARB	Adopted State and Local Measure not included in EMFAC 2007	2.52	2.32	2.32	2.32	2.32
		Conformity Total	24.70	20.60	15.70	9.80	10.00
Option 2: Assumes no EPA action on conformity budgets							
PM2.5	EMFAC 2007 (Annual Run)	PM2.5 Total Exhaust (All Vehicles Total) * includes tire & brake wear	2014	2017	2025	2035	
	ARB	Existing Refleash, Idling, and Moyer (HDI, PFR, Moyer, AB1483, Refleash)	0.97	0.82	0.68	0.79	
		Conformity Total	1.00	0.80	0.70	0.80	
PM2.5	EMFAC 2007 (Annual Run)	NOx Total Exhaust (All Vehicles Total)	22.94	17.99	12.16	12.31	
	ARB	Existing Refleash, Idling, and Moyer (HDI, PFR, Moyer, AB1483, Refleash)	1.74	1.74	1.92	1.92	
		Conformity Total	21.20	16.30	10.20	10.40	

Paved Road Dust Emissions (tons/day)

MERCED 2020

	VMIT Daily	VMIT (million/year)	Base Emissions (PM10 tpy)	Rain Adj. Emissions (PM10 tpy)	Rain Adj. Emissions (PM10 tons/day)	District Rule 806/ISR Control Rates	Control-Adjusted Emissions
Enter Freeway VMT ==>	3,363,813	1,228	352,249	339,878	0.331	0.075	0.861
Enter Arterial VMT ==>	4,935,970	1,802	743,644	717,528	1.966	0.282	1.411
Enter Collector VMT ==>	2,109,271	770	317,779	306,619	0.840	0.407	0.498
Urban	111,822	41	70,995	68,501	0.188	0.324	0.127
Rural	233,309	85	421,655	406,847	1.115	0.090	1.014
Enter Total of Urban and Rural Local VMT Here =>	345,131						
Totals	10,754,185	3,925	1,906,321	1,839,373	5,039		3.912

MERCED 2025

	VMIT Daily	VMIT (million/year)	Base Emissions (PM10 tpy)	Rain Adj. Emissions (PM10 tpy)	Rain Adj. Emissions (PM10 tons/day)	District Rule 806/ISR Control Rates	Control-Adjusted Emissions
Enter Freeway VMT ==>	3,777,962	1,379	385,617	381,724	1.046	0.075	0.967
Enter Arterial VMT ==>	5,861,192	2,139	863,036	852,025	2.334	0.282	1.676
Enter Collector VMT ==>	2,472,218	902	372,460	359,379	0.985	0.407	0.584
Urban	121,363	44	77,052	74,346	0.204	0.324	0.138
Rural	253,215	92	457,631	441,560	1.210	0.090	1.101
Enter Total of Urban and Rural Local VMT Here =>	374,579						
Totals	12,485,951	4,557	2,185,797	2,109,034	5,776		4.466

MERCED 2035

	VMIT Daily	VMIT (million/year)	Base Emissions (PM10 tpy)	Rain Adj. Emissions (PM10 tpy)	Rain Adj. Emissions (PM10 tons/day)	District Rule 806/ISR Control Rates	Control-Adjusted Emissions
Enter Freeway VMT ==>	4,664,865	1,703	488,491	471,336	1.291	0.075	1.194
Enter Arterial VMT ==>	7,783,021	2,841	1,172,575	1,131,386	3.100	0.282	2,226
Enter Collector VMT ==>	3,255,170	1,188	490,418	473,195	1.298	0.407	0,769
Urban	143,228	52	90,934	87,740	0.240	0.324	0,162
Rural	298,635	109	540,079	521,112	1.428	0.090	1,289
Enter Total of Urban and Rural Local VMT Here =>	442,063						
Totals	16,145,119	5,893	2,782,497	2,684,779	7,356		5.651

DO NOT CHANGE ANY ITEMS BELOW THIS LINE

MERCED
 HPMS Local Urban/Rural Percent
 From 1998 Assembly of Statistical Reports - Caltrans

32.4% Urban
67.6% Rural
100.0% Total

Road Type	Base EF (lb PM10) / VMT
Freeway	0.000573793
Arterial	0.000825524
Collector	0.000825524
Local	0.003478628
Rural	0.009902924

MERCED

	January	February	March	April	May	June	July	August	September	October	November	December	Total/Average
Rain Days	10.3	6.0	7.5	4.3	2.0	0.8	0	0	1.0	2.5	6.0	8.8	51.0
Total Days	31	28	31	30	31	30	31	31	30	31	30	31	365
Rain Reduction Factor	0.32	0.93	0.94	0.96	0.98	0.99	1.00	1.00	0.99	0.98	0.95	0.93	0.96

Unpaved Road Dust Emissions (tons/day)

MERCED 2020

City/County	Miles	Vehicle Passes per Day	VMT (1000/year)	Base Emissions (PM10 tpy)	Rain Adj. Emissions (PM10 tpy)	Rain Adj. Emissions (PM10 tons/day)	District Rule 806/ISR Control Rates	Control-Adjusted Emissions
	222.0	10	810.3	810.300	696.472	1.908	0.333	1.273

MERCED 2025

City/County	Miles	Vehicle Passes per Day	VMT (1000/year)	Base Emissions (PM10 tpy)	Rain Adj. Emissions (PM10 tpy)	Rain Adj. Emissions (PM10 tons/day)	District Rule 806/ISR Control Rates	Control-Adjusted Emissions
	222.0	10	810.3	810.300	696.472	1.908	0.333	1.273

MERCED 2035

City/County	Miles	Vehicle Passes per Day	VMT (1000/year)	Base Emissions (PM10 tpy)	Rain Adj. Emissions (PM10 tpy)	Rain Adj. Emissions (PM10 tons/day)	District Rule 806/ISR Control Rates	Control-Adjusted Emissions
	222.0	10	810.3	810.300	696.472	1.908	0.333	1.273

DO NOT CHANGE ANY ITEMS BELOW THIS LINE

MERCED

January	February	March	April	May	June	July	August	September	October	November	December	Total/Average
10.3	8.0	7.5	4.3	2.0	0.8	0	0	1.0	2.5	6.0	8.8	51.0
31	28	31	30	31	30	31	31	30	31	30	31	365
0.67	0.71	0.76	0.86	0.94	0.86	1.00	1.00	0.97	0.92	0.80	0.72	0.86

Rain Days
 Total Days
 Rain Reduction Factor

Road Construction Dust

MERCED

Description	2020		2025		2035	
	Year	Lane Miles	Year	Lane Miles	Year	Lane Miles
	Baseline	2005	2550	2020	2726	2025
Horizon	2020	2,726	2025	2,744	2035	2,772
Difference	15	176	5	18	10	28
Lane Miles per Year		12		4		3
Acres Disturbed		46		14		11
Acre-Months		819		251		195
Emissions (tons/year)		90.112		27.648		21.504
Annual Average Day Emissions (tons)		0.247		0.076		0.059
District Rule 8021 Control Rates		0.290		0.290		0.290
Total Emissions (tons per day)		0.175		0.054		0.042

PM10 Emission Trading Worksheet

MERCED CONFORMITY ESTIMATES (tons/day)

	2020		2025		2035	
	PM10	NOx	PM10	NOx	PM10	NOx
Total On-Road Exhaust	0.970	12.670	0.960	10.240	1.140	10.390
Paved Road Dust	3.912		4.466		5.651	
Unpaved Road Dust	1.273		1.273		1.273	
Road Construction Dust	0.175		0.054		0.042	
Total	6.330	12.670	6.753	10.240	8.106	10.390

Difference (2020 Budget - 2020)

	PM10	NOx
2020 Budgets	6.4	12.9
2020	6.3	12.7
Difference	0.1	0.2
* 1.5 (Adjustment to NOx Budget)	-0.2	

NOTE: IF PM10 DIFFERENCE IS NEGATIVE, IMPLEMENT TRADING BELOW; IF NOT, INSERT RESULTS DIRECTLY INTO TOTALS SHEET

Difference (2020 Budget - 2025)

	PM10	NOx
2020 Budgets	6.4	12.9
2025	6.8	10.2
Difference	-0.4	2.7
* 1.5 (Adjustment to NOx Budget)	0.6	

NOTE: IF PM10 DIFFERENCE IS NEGATIVE, IMPLEMENT TRADING BELOW; IF NOT, INSERT RESULTS DIRECTLY INTO TOTALS SHEET

Difference (2020 Budget - 2035)

	PM10	NOx
2020 Budgets	6.4	12.9
2035	8.1	10.4
Difference	-1.7	2.5
* 1.5 (Adjustment to NOx Budget)	2.6	

NOTE: IF PM10 DIFFERENCE IS NEGATIVE, IMPLEMENT TRADING BELOW; IF NOT, INSERT RESULTS DIRECTLY INTO TOTALS SHEET

1:1.5 PM10 to NOx Trading

	PM10	NOx
2020 Budget	6.4	12.9

Adjusted 2020 Budget	6.3	13.1
2020 Conformity Total	6.3	12.7
Difference	0.0	0.4

NOTE: TRADING NOT NECESSARY

NOTE: FINAL DIFFERENCE MUST BE POSITIVE

Adjusted 2020 Budget	6.8	12.3
2025 Conformity Total	6.8	10.2
Difference	0.0	2.1

NOTE: FINAL DIFFERENCE MUST BE POSITIVE

Adjusted 2020 Budget	8.1	10.4
2035 Conformity Total	8.1	10.4
Difference	0.0	0.0

NOTE: FINAL DIFFERENCE MUST BE POSITIVE

2011 Conformity Results Summary -- MERCED

Pollutant	Scenario	Emissions Total		DID YOU PASS?	
		ROG (tons/day)	NOx (tons/day)	ROG	NOx
Ozone	2011 Budget	6.2	28.8		
	2011	5.8	26.7	YES	YES
	2014 Budget	5.1	22.3		
	2014	4.7	20.5	YES	YES
	2017 Budget	4.2	17.1		
	2017	3.9	15.8	YES	YES
	2023	3.1	10.7	YES	YES
	2025	2.9	10.1	YES	YES
	2035	2.9	10.3	YES	YES
	PM-10	2020 Budget	6.4	12.9	
2020		6.3	12.7	YES	YES
Adjusted 2020 Budget		6.8	12.3		
2025		6.8	10.2	YES	YES
Adjusted 2020 Budget		8.1	10.4		
2035		8.1	10.4	YES	YES

Option 1: Assumes Adequate Conformity Budgets

1997 PM2.5 24 Hour & Annual Standards and 2006 24-Hour Standard		PM2.5 (tons/day)	NOx (tons/day)		PM2.5	NOx
	2012 Budget	1.2	26.7			
	2012	1.1	24.7		YES	YES
	2014	1.0	20.6		YES	YES
	2017	0.8	15.7		YES	YES
	2025	0.7	9.8		YES	YES
2035	0.8	10.0		YES	YES	

Option 2: Assumes no EPA action on conformity budgets

1997 PM2.5 24 Hour Standards		PM2.5 (tons/day)	NOx (tons/day)		PM2.5	NOx
	2002 Base Year	1.5	37.1			
	2014	1.0	21.2		YES	YES
	2017	0.8	16.3		YES	YES
	2025	0.7	10.2		YES	YES
	2035	0.8	10.4		YES	YES

1997 PM2.5 Annual Standard		PM2.5 (tons/year)	NOx (tons/year)		PM2.5	NOx
	2002 Base Year	548	13542			
	2014	365	7738		YES	YES
	2017	292	5950		YES	YES
	2025	256	3723		YES	YES
	2035	292	3796		YES	YES

2006 PM2.5 24 Hour Standards		PM2.5 (tons/day)	NOx (tons/day)		PM2.5	NOx
	2008 Base Year	1.6	38.7			
	2014	1.0	21.2		YES	YES
	2017	0.8	16.3		YES	YES
	2025	0.7	10.2		YES	YES
	2035	0.8	10.4		YES	YES

APPENDIX D

**PM2.5 CONFORMITY RESULTS SUMMARY FOR EACH MPO
IN THE SAN JOAQUIN VALLEY NONATTAINMENT AREA**

2011 PM2.5 Conformity Results Summary – Fresno

Option 1: Assumes Adequate Conformity Budgets

1997 PM2.5 24-Hour & Annual Standards and 2006 24-Hour Standard		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
	2012 Budget	1.9	44.2		
	2012	1.8	43.8	YES	YES
	2014	1.6	36.9	YES	YES
	2017	1.4	28.6	YES	YES
	2025	1.2	17.6	YES	YES
	2035	1.3	15.0	YES	YES

Option 2: Assumes no EPA action on conformity budgets

1997 PM2.5 24-Hour Standards		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
	2002 Base Year	2.2	63.4		
	2014	1.6	37.8	YES	YES
	2017	1.4	29.6	YES	YES
	2025	1.2	18.2	YES	YES
	2035	1.3	15.6	YES	YES

1997 PM2.5 Annual Standard		PM2.5 (tons/year)	NOx (tons/year)	PM2.5	NOx
	2002 Base Year	803	23141		
	2014	584	13797	YES	YES
	2017	511	10804	YES	YES
	2025	438	6643	YES	YES
	2035	475	5694	YES	YES

2006 PM2.5 24-Hour Standards		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
	2008 Base Year	2.3	63.4		
	2014	1.6	37.8	YES	YES
	2017	1.4	29.6	YES	YES
	2025	1.2	18.2	YES	YES
	2035	1.3	15.6	YES	YES

2011 PM2.5 Conformity Results Summary – Kern

Option 1: Assumes Adequate Conformity Budgets

1997 PM2.5 24-Hour & Annual Standards and 2006 24-Hour Standard		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
	2012 Budget	3.0	74.2		
	2012	2.7	67.7	YES	YES
	2014	2.4	57.3	YES	YES
	2017	1.9	43.3	YES	YES
	2025	1.4	24.1	YES	YES
	2035	1.4	21.8	YES	YES

Option 2: Assumes no EPA action on conformity budgets

1997 PM2.5 24-Hour Standards		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
	2002 Base Year	3.7	94.1		
	2014	2.4	59.6	YES	YES
	2017	2.0	45.6	YES	YES
	2025	1.4	25.6	YES	YES
	2035	1.4	23.3	YES	YES

1997 PM2.5 Annual Standard		PM2.5 (tons/year)	NOx (tons/year)	PM2.5	NOx
	2002 Base Year	1351	34347		
	2014	876	21754	YES	YES
	2017	730	16644	YES	YES
	2025	511	9344	YES	YES
	2035	511	8505	YES	YES

2006 PM2.5 24-Hour Standards		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
	2008 Base Year	3.6	98.9		
	2014	2.4	59.6	YES	YES
	2017	2.0	45.6	YES	YES
	2025	1.4	25.6	YES	YES
	2035	1.4	23.3	YES	YES

2011 PM2.5 Conformity Results Summary – Kings

Option 1: Assumes Adequate Conformity Budgets

1997 PM2.5 24-Hour & Annual Standards and 2006 24-Hour Standard		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
		2012 Budget	0.6	14.6	
	2012	0.5	13.7	YES	YES
	2014	0.5	11.4	YES	YES
	2017	0.4	8.5	YES	YES
	2025	0.3	4.9	YES	YES
	2035	0.3	4.4	YES	YES

Option 2: Assumes no EPA action on conformity budgets

1997 PM2.5 24-Hour Standards		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
		2002 Base Year	0.8	18.5	
	2014	0.5	11.8	YES	YES
	2017	0.4	8.9	YES	YES
	2025	0.3	5.2	YES	YES
	2035	0.3	4.6	YES	YES

1997 PM2.5 Annual Standard		PM2.5 (tons/year)	NOx (tons/year)	PM2.5	NOx
		2002 Base Year	292.0	6753.0	
	2014	182.5	4307.0	YES	YES
	2017	146.0	3248.5	YES	YES
	2025	109.5	1898.0	YES	YES
	2035	109.5	1679.0	YES	YES

2006 PM2.5 24-Hour Standards		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
		2008 Base Year	0.8	19.9	
	2014	0.5	11.8	YES	YES
	2017	0.4	8.9	YES	YES
	2025	0.3	5.2	YES	YES
	2035	0.3	4.6	YES	YES

2011 PM2.5 Conformity Results Summary – Madera

Option 1: Assumes Adequate Conformity Budgets

1997 PM2.5 24-Hour & Annual Standards and 2006 24-Hour Standard		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
	2012 Budget	0.5	11.4		
	2012	0.5	11.4	YES	YES
	2014	0.5	9.7	YES	YES
	2017	0.4	7.3	YES	YES
	2025	0.4	5.5	YES	YES
	2035	0.4	4.6	YES	YES

Option 2: Assumes no EPA action on conformity budgets

1997 PM2.5 24-Hour Standards		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
	2002 Base Year	0.5	13.7		
	2014	0.5	10.1	YES	YES
	2017	0.4	7.6	YES	YES
	2025	0.4	5.7	YES	YES
	2035	0.4	4.8	YES	YES

1997 PM2.5 Annual Standard		PM2.5 (tons/year)	NOx (tons/year)	PM2.5	NOx
	2002 Base Year	183	5001		
	2014	183	3687	YES	YES
	2017	146	2774	YES	YES
	2025	146	2081	YES	YES
	2035	146	1752	YES	YES

2006 PM2.5 24-Hour Standards		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
	2008 Base Year	0.7	15.8		
	2014	0.5	10.1	YES	YES
	2017	0.4	7.6	YES	YES
	2025	0.4	5.7	YES	YES
	2035	0.4	4.8	YES	YES

2011 PM2.5 Conformity Results Summary – Merced

Option 1: Assumes Adequate Conformity Budgets

1997 PM2.5 24-Hour & Annual Standards and 2006 24-Hour Standard		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
	2012 Budget	1.2	26.7		
	2012	1.1	24.7	YES	YES
	2014	1.0	20.6	YES	YES
	2017	0.8	15.7	YES	YES
	2025	0.7	9.8	YES	YES
2035	0.8	10.0	YES	YES	

Option 2: Assumes no EPA action on conformity budgets

1997 PM2.5 24-Hour Standards		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
	2002 Base Year	1.5	37.1		
	2014	1.0	21.2	YES	YES
	2017	0.8	16.3	YES	YES
	2025	0.7	10.2	YES	YES
	2035	0.8	10.4	YES	YES

1997 PM2.5 Annual Standard		PM2.5 (tons/year)	NOx (tons/year)	PM2.5	NOx
	2002 Base Year	548	13542		
	2014	365	7738	YES	YES
	2017	292	5950	YES	YES
	2025	256	3723	YES	YES
	2035	292	3796	YES	YES

2006 PM2.5 24-Hour Standards		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
	2008 Base Year	1.6	38.7		
	2014	1.0	21.2	YES	YES
	2017	0.8	16.3	YES	YES
	2025	0.7	10.2	YES	YES
	2035	0.8	10.4	YES	YES

2011 PM2.5 Conformity Results Summary – San Joaquin

Option 1: Assumes Adequate Conformity Budgets

1997 PM2.5 24-Hour & Annual Standards and 2006 24-Hour Standard		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
	2012 Budget	1.4	32.8		
	2012	1.1	26.2	YES	YES
	2014	1.0	22.5	YES	YES
	2017	0.9	17.3	YES	YES
	2025	0.8	9.7	YES	YES
2035	0.8	7.8	YES	YES	

Option 2: Assumes no EPA action on conformity budgets

1997 PM2.5 24-Hour Standards		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
	2002 Base Year	1.5	43.4		
	2014	1.0	23.3	YES	YES
	2017	0.9	18.1	YES	YES
	2025	0.8	10.3	YES	YES
	2035	0.8	8.4	YES	YES

1997 PM2.5 Annual Standard		PM2.5 (tons/year)	NOx (tons/year)	PM2.5	NOx
	2002 Base Year	548	15841		
	2014	365	8505	YES	YES
	2017	329	6607	YES	YES
	2025	292	3760	YES	YES
	2035	292	3066	YES	YES

2006 PM2.5 24-Hour Standards		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
	2008 Base Year	1.5	40.3		
	2014	1.0	23.3	YES	YES
	2017	0.9	18.1	YES	YES
	2025	0.8	10.3	YES	YES
	2035	0.8	8.4	YES	YES

2011 PM2.5 Conformity Results Summary – Stanislaus

Option 1: Assumes Adequate Conformity Budgets

1997 PM2.5 24-Hour & Annual Standards and 2006 24-Hour Standard		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
	2012 Budget	0.9	20.8		
	2012	0.8	20.0	YES	YES
	2014	0.7	16.8	YES	YES
	2017	0.6	13.1	YES	YES
	2025	0.6	7.6	YES	YES
2035	0.6	6.2	YES	YES	

Option 2: Assumes no EPA action on conformity budgets

1997 PM2.5 24-Hour Standards		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
	2002 Base Year	1.0	30.2		
	2014	0.7	17.1	YES	YES
	2017	0.6	13.5	YES	YES
	2025	0.6	7.8	YES	YES
	2035	0.6	6.4	YES	YES

1997 PM2.5 Annual Standard		PM2.5 (tons/year)	NOx (tons/year)	PM2.5	NOx
	2002 Base Year	365	11023		
	2014	256	6242	YES	YES
	2017	219	4928	YES	YES
	2025	219	2847	YES	YES
	2035	219	2336	YES	YES

2006 PM2.5 24-Hour Standards		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
	2008 Base Year	1.0	28.4		
	2014	0.7	17.1	YES	YES
	2017	0.6	13.5	YES	YES
	2025	0.6	7.8	YES	YES
	2035	0.6	6.4	YES	YES

2011 PM2.5 Conformity Results Summary – Tulare

Option 1: Assumes Adequate Conformity Budgets

1997 PM2.5 24-Hour & Annual Standards and 2006 24-Hour Standard		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
	2012 Budget	0.8	19.5		
	2012	0.6	16.4	YES	YES
	2014	0.6	13.6	YES	YES
	2017	0.5	10.9	YES	YES
	2025	0.5	6.9	YES	YES
2035	0.6	6.2	YES	YES	

Option 2: Assumes no EPA action on conformity budgets

1997 PM2.5 24-Hour Standards		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
	2002 Base Year	0.8	26.4		
	2014	0.6	14.1	YES	YES
	2017	0.5	11.4	YES	YES
	2025	0.5	7.2	YES	YES
	2035	0.6	6.5	YES	YES

1997 PM2.5 Annual Standard		PM2.5 (tons/year)	NOx (tons/year)	PM2.5	NOx
	2002 Base Year	292	9636		
	2014	219	5147	YES	YES
	2017	183	4161	YES	YES
	2025	183	2628	YES	YES
	2035	219	2373	YES	YES

2006 PM2.5 24-Hour Standards		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
	2008 Base Year	0.9	25.0		
	2014	0.6	14.1	YES	YES
	2017	0.5	11.4	YES	YES
	2025	0.5	7.2	YES	YES
	2035	0.6	6.5	YES	YES

APPENDIX E

**TIMELY IMPLEMENTATION DOCUMENTATION FOR
TRANSPORTATION CONTROL MEASURES**

Merced County Association of Governments (MCAG)									
Timely Implementation Documentation									
<u>RACM Commitment</u>	<u>Agency</u>	<u>Commitment Description</u>	<u>Commitment Schedule</u>	<u>Commitment Funding</u>	<u>TIP</u>	<u>TIP Project ID</u>	<u>Project Description</u>	<u>Implementation Status</u>	<u>2011 Conformity Update</u>
								(as of Oct. 2008)	(as of March 2010)
ME 3.1	MCAG	TDM / Commute Alternative	FY 2002 - 2003	\$79,950 CMAQ	2002 FTIP	20500000042	Transportation Demand Management	Completed	Completed
ME 1.5	Transit	Expansion & enhancement of "The Bus"	FY 2006 - 2007	CMAQ					
					2002 FTIP	20500000094	Transit - New Westside routes	Completed	Completed
					2002 FTIP July 04 amendment	20500000022	Operations and Maintenance - The Bus	Ongoing / On schedule	Ongoing / On schedule
					2002 FTIP July 2004 amendment	20500000034	Purchase 10 bus shelters annually	Ongoing / On schedule	Ongoing / On schedule
					2002 FTIP July 2004 amendment	20500000099	Increase frequency to 30-minutes on Merced City Routes 4 and 12	Completed	Completed
					2002 FTIP July 04 amendment	20500000015	Atwater Bus Pullout	Completed	Completed
					2002 FTIP July 2004 amendment	20500000102	Route Match Tracking System with Automated Vehicle Locator capability	Completed	Completed
					2002 FTIP July 2004 amendment	20500000103	Electronic Validating Farebox	Completed	Completed
					2002 FTIP July 2004 amendment	20500000104	Transit Fare Subsidy Program	2005, 2006, 2007 (Aug., Sept., & Oct.) Spare the Air programs completed.	Completed (3-year program)
ADDITIONAL PROJECTS IDENTIFIED									
ME5.7	Merced	One-Way Streets		SHOPP	n/a	n/a	13th and 14th Streets between R St. and V St.	Completed	Completed
ME3.9	Transit	Employer-based transit		Local	n/a	n/a	Outreach program focusing on large employment or retail centers	Employer-based transit Program implemented in 05-06, 06-07, 07-08, 08-09 FYs	Continues into FY 09-10

RACM Commitment	Agency	Measure Title	Measure Description (not verbatim)	Implementation Status	2011 Conformity Update
				(as of Oct. 2008)	(as of March 2010)
TCM3	MCOAG	Rideshare Programs	Implement Rideshare Program through FY 2006-2007	Service provided via www.mercedrides.com. Work Program Element "TDM/Alternative Modes" (1550)	Service provided via www.mercedrides.com. Work Program Element "TDM/Alternative Modes" (1550)
ME5.3	Atwater	Reduce Traffic Congestion at Major Intersections	Improve intersections projected to experience congestion.	Intersections are evaluated using standard warrants. No improvement needs identified in 06-07/07-08.	Intersections are evaluated using standard warrants. No improvement needs identified in 08-09.
TCM1	Atwater	Traffic Flow Improvements	Evaluate traffic conditions and implement projects to provide free flowing traffic	Traffic conditions are determined by staff using traffic counts, traffic flow, and accident history. No need for traffic flow improvements identified in 06-07/07-08.	Traffic conditions are determined by staff using traffic counts, traffic flow, and accident history. No need for traffic flow improvements identified in 08-09.
ME5.3	Dos Palos	Reduce Traffic Congestion at Major Intersections	Improve intersections projected to experience congestion.	Intersections are evaluated using standard warrants. No improvement needs identified in 06-07/07-08.	Intersections are evaluated using standard warrants. No improvement needs identified in 08-09.
TCM1	Dos Palos	Traffic Flow Improvements	Evaluate traffic conditions and implement projects to provide free flowing traffic	Traffic conditions are determined by staff using traffic counts, traffic flow, and accident history. No need for traffic flow improvements identified in 06-07/07-08.	Traffic conditions are determined by staff using traffic counts, traffic flow, and accident history. No need for traffic flow improvements identified in 08-09.
ME5.3	Gustine	Reduce Traffic Congestion at Major Intersections	Improve intersections projected to experience congestion.	Intersections are evaluated using standard warrants. No improvement needs identified in 06-07/07-08.	Intersections are evaluated using standard warrants. No improvement needs identified in 08-09.
TCM1	Gustine	Traffic Flow Improvements	Evaluate traffic conditions and implement projects to provide free flowing traffic	Traffic conditions are determined by staff using traffic counts, traffic flow, and accident history. No need for traffic flow improvements identified in 06-07/07-08.	Traffic conditions are determined by staff using traffic counts, traffic flow, and accident history. No need for traffic flow improvements identified in 08-09.
ME5.3	Livingston	Reduce Traffic Congestion at Major Intersections	Improve intersections projected to experience congestion.	Intersections are evaluated using standard warrants. No improvement needs identified in 06-07/07-08.	Intersections are evaluated using standard warrants. No improvement needs identified in 08-09.
TCM1	Livingston	Traffic Flow Improvements	Evaluate traffic conditions and implement projects to provide free flowing traffic	Traffic conditions are determined by staff using traffic counts, traffic flow, and accident history. No need for traffic flow improvements identified in 06-07/07-08.	Traffic conditions are determined by staff using traffic counts, traffic flow, and accident history. No need for traffic flow improvements identified in 08-09.
ME5.3	Los Banos	Reduce Traffic Congestion at Major Intersections	Improve intersections projected to experience congestion.	Intersections are evaluated using standard warrants. No improvement needs identified in 06-07/07-08.	Intersections are evaluated using standard warrants. No improvement needs identified in 08-09.
TCM1	Los Banos	Traffic Flow Improvements	Evaluate traffic conditions and implement projects to provide free flowing traffic	Traffic conditions are determined by staff using traffic counts, traffic flow, and accident history. No need for traffic flow improvements identified in 06-07/07-08.	Traffic conditions are determined by staff using traffic counts, traffic flow, and accident history. No need for traffic flow improvements identified in 08-09.
ME5.3	Merced	Reduce Traffic Congestion at Major Intersections	Improve intersections projected to experience congestion.	Intersections are evaluated using standard warrants. No improvement needs identified in 06-07/07-08.	Intersections are evaluated using standard warrants. No improvement needs identified in 08-09.
ME5.7	Merced	One-Way Streets	Redesignate portions of some streets as one-way to improve traffic flow as appropriate	Project implemented (see Project TID Table). No additional need for one-way streets identified at this time.	Project implemented (see Project TID Table). No additional need for one-way streets identified at this time.
TCM1	Merced	Traffic Flow Improvements	Evaluate traffic conditions and implement projects to provide free flowing traffic	Traffic conditions are determined by staff using traffic counts, traffic flow, and accident history. No need for traffic flow improvements identified in 06-07/07-08.	Traffic conditions are determined by staff using traffic counts, traffic flow, and accident history. No need for traffic flow improvements identified in 08-09.
ME5.3	County of Merced	Reduce Traffic Congestion at Major Intersections	Improve intersections projected to experience congestion.	Intersections are evaluated using standard warrants. No improvement needs identified in 06-07/07-08.	Intersections are evaluated using standard warrants. No improvement needs identified in 08-09.
TCM1	County of Merced	Traffic Flow Improvements	Evaluate traffic conditions and implement projects to provide free flowing traffic	Traffic conditions are determined by staff using traffic counts, traffic flow, and accident history. No need for traffic flow improvements identified in 06-07/07-08.	Traffic conditions are determined by staff using traffic counts, traffic flow, and accident history. No need for traffic flow improvements identified in 08-09.
ME3.9	Transit JPA	Encourage merchants and employers to subsidize the cost of transit for employees	Outreach program focusing on large employment or retail centers	Project implemented (see Project TID Table)	Project implemented (see Project TID Table)
ME5.9	Transit JPA	Bus Pullouts in Curbs for Passenger Loading	Bus stop pullouts are planned and installed as traffic congestion points are identified through FY 2006-2007	Potential congestion points are determined by transit service staff and traffic counts. No need for pullouts has been identified in 06-07/07-08.	Commitment Complete.

APPENDIX F
PUBLIC MEETING PROCESS DOCUMENTATION

**NOTICE OF PUBLIC HEARING ON THE
DRAFT 2011 FEDERAL TRANSPORTATION IMPROVEMENT PROGRAM,
THE DRAFT 2011 REGIONAL TRANSPORTATION PLAN,
THE DRAFT ENVIRONMENTAL IMPACT REPORT AND
CORRESPONDING DRAFT CONFORMITY ANALYSIS**

NOTICE IS HEREBY GIVEN that the Merced County Association of Governments (MCAG) will hold a public hearing on May 20, 2010 at 3:00 p.m. at the City of Los Banos Council Chambers, 520 J Street, Los Banos, CA, regarding the Draft 2011 Federal Transportation Improvement Program (2011 FTIP), the Draft 2011 Regional Transportation Plan (2011 RTP), the Draft Supplemental Environmental Impact Report (EIR) and corresponding Draft Air Quality Conformity Analysis for the 2011 FTIP and 2011 RTP. The purpose of this combined public hearing is to receive public comments on these documents.

- The 2011 FTIP is a near-term listing of capital improvement and operational expenditures utilizing federal and state monies for transportation projects in Merced County during the next four years.
- The 2011 RTP is a long-term strategy to meet Merced County transportation needs out to the year 2035.
- The Program EIR provides an analysis of potential environmental impacts related to the implementation of the RTP as required by the California Environmental Quality Act.
- The Conformity Analysis contains the documentation to support a finding that the 2011 FTIP and 2011 RTP meet the air quality conformity requirements for ozone and particulate matter.

Individuals with disabilities may call MCAG (with 3-working-day advance notice) to request auxiliary aids necessary to participate in the public hearing. Translation services are available (with 3-working-day advance notice) to participants speaking any language with available professional translation services.

A concurrent 45-day public review and comment period will commence on April 30, 2010 and conclude on June 14, 2010. The draft documents are available for review at the MCAG office, located at 369 West 18th St., Merced, CA and on the MCAG website at "<http://www.mcagov.org>".

Public comments are welcomed at the hearing, or may be submitted in writing by 5 p.m. on June 14, 2010 to Matt Fell at the address below.

After considering the comments, the documents will be considered for adoption, by resolution, by the Merced County Association of Governments at a regularly scheduled meeting to be held on July 15, 2010. The documents will then be submitted to state and federal agencies for approval.

Contact Person: Matt Fell, Senior Planner
 369 W. 18th St.
 209-723-3153
 matt.fell@mcagov.org

BEFORE THE
MERCED COUNTY ASSOCIATION OF GOVERNMENTS
RESOLUTION NO. _____

In the Matter of:)
)
2011 RTP, 2011 FTIP)
CORRESPONDING AIR QUALITY)
CONFORMITY ANALYSIS)

RESOLUTION ADOPTING THE
MERCED COUNTY ASSOCIATION OF
GOVERNMENTS 2011 RTP, 2011 FTIP AND
CORRESPONDING CONFORMITY ANALYSIS

WHEREAS, the Merced County Association of Governments (MCAG) is a Regional Transportation Planning Agency and a Metropolitan Planning Organization, pursuant to State and Federal designation; and

WHEREAS, federal planning regulations require Metropolitan Planning Organizations to prepare and adopt a long range Regional Transportation Plan (RTP) for their region; and

WHEREAS, federal planning regulations require that Metropolitan Planning Organizations prepare and adopt a Federal Transportation Improvement Program (FTIP) for their region; and

WHEREAS, Section 65080 of the California Government Code requires each regional transportation planning agency to prepare a regional transportation plan and update it for submission to the governing Policy Board for adoption; and

WHEREAS, a 2011 Regional Transportation Plan has been prepared in full compliance with federal guidance; and

WHEREAS, a 2011 Regional Transportation Plan has been prepared in accordance with state guidelines adopted by the California Transportation Commission; and

WHEREAS, federal planning regulations require that Metropolitan Planning Organizations prepare and adopt a short range Federal Transportation Improvement Program (FTIP) for their region; and

WHEREAS, the 2011 Federal Transportation Improvement Program (2011 FTIP) has been prepared to comply with Federal and State requirements for local projects and through a cooperative process between the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), the State Department of Transportation (Caltrans), principal elected officials of general purpose local governments and their staffs, and public owner operators of mass transportation services acting through the MCAG forum and general public involvement; and

WHEREAS, the 2011 FTIP program listing is consistent with: 1) the 2011 Regional Transportation Plan; 2) the 2010 State Transportation Improvement Program; and 3) the Corresponding Conformity Analysis; and

WHEREAS, the 2011 FTIP contains the MPO's certification of the transportation planning process assuring that all federal requirements have been fulfilled; and

WHEREAS, the 2001 FTIP meets all applicable transportation planning requirements per 23 CFR Part 450.

WHEREAS, projects submitted in the 2011 FTIP must be financially constrained and the financial plan affirms that funding is available; and

WHEREAS, the 2011 RTP and 2011 FTIP includes a new Conformity Analysis; and

WHEREAS, the MPO must demonstrate conformity per 40 CFR Part 93 for the RTP and FTIP; and

WHEREAS, the 2011 RTP and 2011 FTIP do not interfere with the timely implementation of the Transportation Control Measures; and

WHEREAS, the 2011 RTP and 2011 FTIP conforms to the applicable SIPs; and

****Option 1: delete following 2 WHEREAS's**

****Option 2: retain following 2 WHEREAS's**

WHEREAS, in accordance with EPA Companion Guidance for the Conformity Rule for multi-jurisdictional areas, MCAG has developed their portion of the PM2.5 regional emissions analysis separately and provided the entire PM2.5 nonattainment area conformity demonstration; and

WHEREAS, the PM2.5 nonattainment area conformity demonstration is contingent upon adoption by all MPOs in the PM2.5 nonattainment area; and

WHEREAS, the documents have been widely circulated and reviewed by MCAG advisory committees representing the technical and management staffs of the member agencies; representatives of other governmental agencies, including State and Federal; representatives of special interest groups; representatives of the private business sector; and residents of Merced County consistent with public participation process adopted by MCAG; and

****Option 1: delete second clause from following WHEREAS's**

****Option 2: retain following WHEREAS's as is**

WHEREAS, a public hearing was conducted on May 20, 2010 to hear and consider comments on the 2011 RTP, 2011 FTIP, and Corresponding Conformity Analysis; and the remainder of the MPOs in the PM2.5 nonattainment area have conducted public hearings as well; and

NOW, THEREFORE, BE IT RESOLVED, that Merced County Association of Governments adopts the 2011 RTP, 2011 FTIP, and Corresponding Conformity Analysis.

BE IT FURTHER RESOLVED, that the Merced County Association of Governments finds that the 2011 RTP and 2011 FTIP are in conformity with the requirements of the Federal Clean Air Act Amendments and applicable State Implementation Plans for air quality.

THE FOREGOING RESOLUTION was passed and adopted by Merced County Association of Governments this 15th day of July 2010.

AYES:

NOES:

ABSTAIN:

ABSENT:

ATTEST:

Signed: _____
Chairman

I hereby certify that the foregoing is a true copy of a resolution of the Merced County Association of Governments duly adopted at a regular meeting thereof held on the 15th day of July 2010.

Signed: _____
Executive Director

APPENDIX G
RESPONSE TO PUBLIC COMMENTS

NOTE: This appendix will be finalized after the close of public comment period scheduled for June 14, 2010.