

MADERA COUNTY
AMENDMENT #3 TO THE 2009 INTERIM FEDERAL
TRANSPORTATION IMPROVEMENT
PROGRAM (FTIP)
AND
2007 REGIONAL TRANSPORTATION PLAN (RTP)

AIR QUALITY
CONFORMITY ANALYSIS

ADOPTED
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MADERA COUNTY TRANSPORTATION COMMISSION
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EXECUTIVE SUMMARY

This report presents the Conformity Analysis for Amendment #3 to the 2009 Interim Federal Transportation Improvement Program (2009 Interim FTIP) and the 2007 Regional Transportation Plan (2007 RTP). The Madera County Transportation Commission (MCTC) is the designated Metropolitan Planning Organization (MPO) in Madera 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 regional transportation plan (RTP) and transportation improvement program (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 Amendment #3 to the 2009 Interim FTIP and 2007 RTP; a finding of conformity is therefore supported. Amendment #3 to the 2009 Interim FTIP and 2007 RTP and Corresponding Conformity Analysis were approved by the MCTC Policy Board on January 21, 2009. FHWA/FTA last issued a finding of conformity for the 2007 TIP and 2007 RTP, including amendments, on June 29, 2007.

Amendment #3 to the 2009 Interim FTIP and 2007 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 Madera 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 Model Coordinating Committee to ensure Valley-wide coordination, communication and compliance with Federal and California Clean Air Act requirements. Each of the eight Valley Metropolitan Planning Organizations (MPOs) and the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) are represented. The Federal Highway Administration (FHWA), Federal Transit Administration (FTA), the U.S. EPA, the California Air Resources Board (ARB) and Caltrans are also represented on the committee. The final determination of conformity for the TIP and RTP is the responsibility of the Federal Highway Administration and the Federal Transit Administration 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 2010, 2011, 2014, 2017, 2020, 2023 and 2030 for each applicable pollutant. All analyses were conducted using the latest planning assumptions and emissions models. The major conclusions of the Madera County Transportation Commission Conformity Analysis are:

- For ozone, the total regional on-road vehicle-related emissions (ROG and NO_x) associated with implementation of the Amendment #3 to the 2009 Interim FTIP and the 2007 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 NO_x) associated with implementation of the Amendment #3 to the 2009 Interim FTIP and the 2007 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 NO_x trading mechanism for transportation conformity purposes from the *2007 PM-10 Maintenance Plan*. The conformity tests for PM-10 are therefore satisfied.
- For PM2.5, 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. 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 chooses 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 Amendment #3 to the 2009 Interim FTIP and the 2007 RTP therefore satisfies the conformity emissions tests for PM2.5.

- The Amendment #3 to the 2009 Interim FTIP and the 2007 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., SJVUAPCD 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 Metropolitan Planning Organizations. The results of the conformity analysis for the TIP/RTP are provided in Chapter 6.

Appendix F includes public meeting documentation conducted on Amendment #3 to the 2009 Interim FTIP and 2007 RTP and Corresponding Conformity Analysis on December 17, 2008. 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 Amendment #3 to the 2009 Interim Federal Transportation Improvement Program (2009 Interim TIP) and the 2007 Regional Transportation Plans (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.

Madera County Transportation Commission (MCTC) is the designated Metropolitan Planning Organization (MPO) for Madera County in the San Joaquin Valley. As a result of this designation, MCTC prepares the TIP, RTP, and associated conformity analyses. The TIP serves as a detailed FFY 2009/10-2012/13, four-year programming document for the preservation, expansion, and management of the transportation system. The 2007 RTP has a 2030 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.

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 (EPA/DOT, 1991a and 1991b) 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, 2004).

EPA issued a final rule on May 6, 2005 to add the following 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 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). Comments were due June 1, 2007 and the final rule has not been published as of November 2007. The “Transportation Conformity Rule Amendments to Implement Provisions Contained in SAFETEA-LU does not have any impact on the San Joaquin Valley process and/or methodology contained in this document since the changes were already in place under the Joint EPA-DOT Interim Guidance for Implementing SAFETEA-LU’s Conformity Provisions, published in February 2006.

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 2 of the guidance applies to nonattainment areas that do not have conformity budgets for an air quality standard that can be used for conformity. This Part currently applies to the San Joaquin Valley for PM_{2.5}. As a result, the individual modeling and conformity results are 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.

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 DOT conformity determination.

DISTRICT RULE

The San Joaquin Valley Unified Air Pollution Control 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.

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, 2004a). 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 January 2007 (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 the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), EPA, Caltrans, CARB, and the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) 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.

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.

MCTC 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 Amendment #3 to the 2009 Interim FTIP and the 2007 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 National Ambient Air Quality Standards (NAAQS) for 8-hour 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 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, and PM-10:

- 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 is anticipated to publish a budget adequacy determination for the 2011, 2014, and 2017 conformity budgets contained in the 2007 Ozone Plan in January 2009.
- The 2007 PM-10 Maintenance Plan, which included revisions to the attainment plan, was approved by EPA on November 12, 2008.

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. It should be noted that EPA issued a final rule establishing revisions to the 24-hour and annual PM_{2.5} national ambient air quality standard on October 17, 2006. EPA subsequently issued a guidance memo addressing how transportation conformity will be implemented under the revised 24-hour PM_{2.5} standard. In summary, transportation conformity is unaffected because there has been no change to the nonattainment designations.

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 (CO). 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 is

anticipated to publish the notice of adequacy determination for the 2011, 2014, and 2017 budgets in the Federal Register in January 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 conformity budgets from Table 9.3 of the Plan are provided in the table below; it is anticipated that EPA will publish a budget adequacy determination for the 2011, 2014, and 2017 conformity budgets contained in the 2007 Ozone Plan in January 2009. These budgets have been used to compare to emissions resulting from Amendment #3 to the 2009 Interim FTIP and 2007 RTP. ARB subsequently updated Madera County and San Joaquin County budgets; these updates are reflected in the table below.

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

County	2008		2011		2014		2017		2020		2023	
	ROG	NOx	ROG	NOx	ROG	NOx	ROG	NOx	ROG	NOx	ROG	NOx
Fresno	18.6	58.5	15.5	47.9	12.9	37.2	11.1	29.1	8.0	16.9	7.8	15.7
Kern (SJV)	18.1	93.9	15.7	79.4	13.5	64.1	11.6	49.5	8.5	28.4	8.1	24.8
Kings	3.9	18.3	3.4	15.9	2.8	12.3	2.3	9.4	1.7	5.3	1.6	4.7
Madera	4.4	14.6	3.7	12.2	3.1	9.7	2.6	7.7	1.9	4.8	1.9	4.5
Merced	7.4	35.5	6.2	28.8	5.1	22.3	4.2	17.1	2.9	9.9	2.8	9.0
San Joaquin	13.9	40.0	12.1	34.7	10.1	27.8	8.6	21.3	6.3	12.7	6.3	11.9
Stanislaus	10.5	26.7	9.0	22.3	7.5	17.2	6.5	13.4	4.9	8.0	4.6	7.1
Tulare	10.5	23.4	9.2	20.9	7.7	16.6	6.7	13.1	5.2	8.4	4.8	7.4

PM-10

The 2007 PM-10 Maintenance Plan was approved 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 have been used to compare emissions for each analysis year. ARB 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

(1) 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 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. 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 ARB 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, NOx emissions must be considered, unless both ARB and EPA make a finding the NOx is not a “significant contributor” to the PM2.5 air quality problem. Conversely, VOC, SOx, and ammonia emissions do not have to be considered in conformity, unless either ARB 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, Sox, 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 NOx.

Table 1-4 summarizes PM2.5 and NOx 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 ARB 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

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.

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.

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., 2010);
- The last year of the transportation plan’s forecast period (e.g., 2030); 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., 2020).

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 Years ¹	Attainment/Maintenance Year	Intermediate Years	RTP Horizon Year
CO	2010	2018	2020	2030
Ozone	2011/2014/2017	2023 ²	2020	2030
PM-10	NA	2020	2010	2030
PM2.5	NA	2010	2020	2030

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 2010 and 2020.

¹ Budget years that are not in the time frame of the transportation plan are not included as analysis years (e.g., CO 2003, Ozone 2008, and PM-10 2005), 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.

CHAPTER 2 LATEST PLANNING ASSUMPTIONS AND TRANSPORTATION MODELING

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 TIP on travel and/or emissions.” The conformity analysis and initial modeling began in January 2007. A summary of transportation model updates and latest planning assumptions was transmitted to the Model Coordinating Committee (MCC) for interagency consultation. The summary was discussed on the October 11, 2007 MCC conference call. Both EPA and FHWA subsequently indicated that there were no comments or concerns regarding the summary.

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 Madera County Transportation Commission uses the TP+/Cube Base 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 Madera County Transportation
Commission Conformity Analysis**

Assumption	Year and Source of Data (MPO action)	Modeling	Next Scheduled Update
Population	Base Year: 2000 Census Data Projections: Department of Finance (DOF) County Population Projections from 2001 were used for the 2003 model validation.	This data is disaggregated to the TAZ level for input into the TP+/CUBE for the base year validation.	2010 Census Update
Employment	Base Year: Employment Development Department (EDD) published in 2001 was used for the 2000 base year validation. Projections: EDD data is projected to future years based on historical trends.	This data is disaggregated to the TAZ level for input into the TP+/CUBE for the base year validation.	It is anticipated that new EDD data will be included in the next transportation model update.
Traffic Counts	Traffic counts for the year 2000 were collected by MCTC and published by MCTC in the Madera County Traffic Monitoring Program 2001 Annual Report.	TP+/CUBE was validated using these traffic counts.	New traffic counts will be included in the next transportation model update.
Vehicle Miles of Travel	The 2003 model validation was included in the 2004 RTP, which was approved by the MCTC Policy Board on July 21, 2004.	TP+/CUBE is the transportation model used to estimate VMT in Madera 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	In general, Madera County does not have measureable congestion; therefore, posted speed limits are used in the transportation model validation. The model is validated using free flow speeds and common practice speed flow curves. Speed distributions were updated in EMFAC2007, using methodology approved by ARB and with information from the transportation model.	EMFAC2007	Posted speed limits will be updated in the next transportation model validation. No congestions is currently projected; a feedback loop may be considered if warranted in the future.
Vehicle Registrations	EMFAC2007 is the most recent model for use in California	EMFAC2007	ARB has committed to update the fleet

*2007 RTP and Amendment #3 to the 2009 Interim FTIP Air Quality Conformity Finding
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	conformity analyses. Vehicle registration data is included by ARB in the model and cannot be updated by the user.		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.

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 was forecasted in consultation with local agency planning departments using a zero-sum approach based on the latest available state forecasts for Madera County. Then sub-allocated to regional areas boundaries and traffic analysis zones based upon the adopted local general plans. MCTC used Department of Finance (DOF) latest county-level projections, published in 2001, as the basis for the population forecast. The population and housing data for the base year 2000 was calibrated to 2000 Census Data in 2003. The countywide employment projections were based upon Employment Development Department (EDD) labor statistics published in 2001.

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 MCTC transportation modeling methodology meets those requirements.

Madera County does not contain an urbanized area with population greater than 200,000, however a travel demand model has been used by MCTC since 1994 to forecast travel patterns. The model is run on the TP+/Cube Base software platform and covers the entire county, includes

300 traffic analysis zones, and does not include a mode-choice element, feedback loop, 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 MCTC traffic model currently uses a base year of 2000 and was validated to 120 screenline and cordon counts taken in 2000. The model is operated under the TP+/Cube Base software platform and produces daily forecasts only (no peak period modeling is performed). At the completion of the validation process, all facility types were within acceptable parameters to traffic counts, with total model VMT within 1% of the target VMT.

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:

Speeds are based on posted speed limits and the data is regularly updated in consultation with local jurisdictions. The MCTC travel forecasting model does not include a feedback loop that uses congested travel times as additional input to the trip distribution step. MCTC will consider including a feedback loop in the next scheduled update of the model in 2010.

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:

The Madera County Traffic model does not include a mode choice component.

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 models were 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 regulation 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.

MCTC's network-based travel model was validated in 2003 using HPMS estimates in the model calibration process.

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 Amendment #3 to the 2009 Interim Federal Transportation Improvement Program (2009 Interim FTIP) and the 2007 Regional Transportation Plan (2007 RTP). Not all of the street and freeway projects included in the TIP/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 that 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.

TRAFFIC ESTIMATES

A summary of the population, employment, and travel characteristics for the Madera County Transportation Commission 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
2010	175	49	5.4	2,157
2011	180	53	5.5	N/A
2014	195	58	5.9	N/A
2017	210	63	6.7	N/A
2020	225	68	7.3	2,264
2023	242	73	7.5	N/A
2030	281	85	8.8	2,277

VEHICLE REGISTRATIONS

Madera County Transportation Commission 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. 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.

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 the 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

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. It is important to note that the PM-10 exhaust reductions are reduced by the ARB size fraction for diesel exhaust to yield a PM2.5 exhaust 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 Amended 2003 PM-10 Plan only affects diesel vehicle exhaust.

The PM-10 diesel exhaust emission reductions are reduced by the ARB size fraction for diesel vehicle exhaust to yield a PM_{2.5} diesel exhaust emission reduction. This is documented in the spreadsheet EMFAC explanation tab. The PM_{2.5} 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. ARB 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 Transportation Improvement Program or Regional Transportation Plan (RTP) are consistent with the applicable SIPs, 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 is anticipated to publish an adequacy determination for the 2011, 2014, and 2017 conformity budgets contained in the 2007 Ozone Plan in January 2009.
- The 2007 PM-10 Maintenance Plan was approved by EPA on November 12, 2008.

It is important to note that the San Joaquin Valley 2008 PM_{2.5} Plan has been developed and submitted to EPA. However, EPA has not acted on the budget at this time; therefore, the PM_{2.5} Plan is not an applicable SIP.

Regional emissions have been estimated for the horizon years 2010, 2020, 2023 and 2030; other analysis years are interpolated per conformity regulation. The conformity regulation requirements for the selection of the horizon years are summarized in Chapter 1.

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 State Implementation Plan (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.

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/>).

ARB 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 vehicle miles traveled (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 an ARB methodology in which the miles of unpaved road are multiplied by the assumed vehicle miles traveled (VMT) and an emission factor. In the 2007 PM-10 Maintenance Plan, it is assumed that all non-agricultural unpaved roads within the SJV 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 an ARB 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 NOx 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.

PM2.5 APPROACH

EPA issued guidance for creating annual on-road mobile source emission inventories for PM2.5 in August 2005 (EPA, 2005c). The guidance indicates that all areas currently designated nonattainment for PM2.5 are violating the annual standard for the pollutant. Therefore, in order to be consistent with the standard, PM2.5 nonattainment areas must develop annual emission inventories for the purpose of developing SIP budgets and demonstrating transportation conformity.

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 vehicle miles traveled (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 San Joaquin Valley 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 San Joaquin Valley 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. However, EPA has not acted on the budget at this time.

Whatever approach is selected, the latest planning assumptions, latest emissions model, and

appropriate methods for estimating travel and speeds must be used as required by the conformity regulation. In addition, 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.

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.

SUMMARY OF PROCEDURES FOR REGIONAL EMISSIONS ESTIMATES

Step-by-step air quality modeling procedures, including instructions, references and controls, for the Conformity Analysis are available on the Fresno COG website at [<http://www.fresnocog.org/>]. In addition, documentation of the conformity analysis is provided in Appendix C, including:

- 2009 adjust_vmt Spreadsheet
- 2009 Conformity EMFAC Spreadsheet
- 2009 Conformity Paved Road Spreadsheet
- 2009 Conformity Unpaved Road Dust Spreadsheet
- 2009 Conformity Construction Spreadsheet
- 2009 Conformity Trading Spreadsheet
- 2009 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.

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.”

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.

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 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, PM2.5, 2007 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 was 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.

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.

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

In May 2003, the San Joaquin Valley COG Directors committed to conduct feasibility analyses as part of each new RTP in support of the 2003 PM-10 Plan. While this commitment was retained in the 2007 PM-10 Maintenance Plan, it is important to note that there is no new RTP development with Amendment #3 to the 2009 Interim FTIP. As a result, there is no update to the 2007 conformity analysis with respect to inclusion of additional long-range local government control measures.

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 SJVUAPCD 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 hearing process documentation. The response to comments received as part of the public comment process are included in Appendix G.

INTERAGENCY CONSULTATION

Consultation is generally conducted through the San Joaquin Valley Model Coordinating Committee. The San Joaquin Valley Model Coordinating Committee (MCC) has been established by the Valley Transportation Planning Agency's Director's Association to provide a coordinated approach to valley air quality, conformity and transportation modeling issues. The committee's goal is to ensure Valley wide coordination, communication and compliance with Federal and California Clean Air Act requirements. Each of the eight Valley Metropolitan Planning Organizations (MPOs) and the San Joaquin Valley Unified Air Pollution Control District (SJVUAPCD) are represented. In addition, the Federal Highway Administration, Federal Transit Administration, the Environmental Protection Agency, the California Air Resources Board and Caltrans are all represented on the committee. The MCC meets approximately monthly; agendas, minutes, and other air quality related items are posted on the Fresno COG website at <http://www.fresnocog.org>

The interagency consultation process for the 2009 TIP Conformity Analysis began on the October 11, 2007 MCC conference call with a discussion of the timeline and approach, as well as a review of the latest planning assumptions to be used. A comment period was provided for the summary of latest planning assumptions and both FHWA and EPA responded that they had no comments. Interagency consultation was conducted on the proposed processes, instructions for

regional emission estimates, and draft boilerplate documentation in March 2008. All documentation is contained on the 2009 Conformity web-page on Fresno COG website (see information located at <http://www.fresnocog.org>).

Due to uncertainty with EPA's PM10 Maintenance Plan approval schedule, each MPO prepared both the 2009 FTIP/Conformity Analysis and an Interim TIP (which would allow some, but not all projects to move forward) for public review.

The 2007 PM-10 Maintenance Plan and Request for Redesignation was submitted to EPA on November 16, 2007. EPA proposed approval of the Plan and conformity budgets on April 25, 2008. In early April, EPA indicated that final action on the plan could be available by late June 2008. On May 15, 2008, EPA provided a signed Federal Register notice for the technical corrections to the motor vehicle budgets which included an extension of the public comment period to June 10, 2008. EPA then indicated that final action on the plan could be available by late July 2008.

In early June 2008, EPA indicated that they would be unable to issue final action on the PM-10 Maintenance Plan (thus providing conformity budgets needed for the 2009 FTIP) by July 31, 2008 due to two exceedances of the standard monitored in late-May. Consequently, the 2009 Interim FTIPs were then adopted in July 2008 by each of the SJV MPOs and submitted to Caltrans by August 1, 2008 for inclusion in the 2009 FSTIP. There was no action taken on the Draft 2009 TIP, corresponding Conformity Analysis, or Draft 2007 RTP Amendments. In summary, there are approximately 100 projects with \$2.4 billion in funding that are not included in the Interim TIP four year element (FY 08/09 through FY 11/12).

In July, 2008, EPA indicated that the anticipated date of final action on the Maintenance Plan was September 2008. However, it was unclear what impact the current and/or future exceedances of the PM-10 standard have on meeting this schedule. Consequently, both FHWA and Caltrans requested that the SJV MPOs process a first off-cycle amendment to the 2009 Interim FTIP that relies on a previous emissions analysis. In response, the SJV MPOs drafted Amendment #1 and released for public review in September, with Board adoption scheduled for October. This amendment included approximately 75 (of the 100) projects that were determined to be eligible to rely on a previous emissions analysis and be added to the Interim TIPs.

On September 24, 2008, EPA signed the approval notice for the San Joaquin Valley 2007 PM-10 Maintenance Plan, including motor vehicle emissions budgets for conformity. These budgets replace the previously approved budgets and invalidates Amendment #1 that Relies on a Previous Emissions Analysis. Consequently, each MPO has withdrawn Amendment #1 from public review and Board consideration in October.

At least three MPOs need to process Type #2 and/or Type #3 amendments (no conformity analysis required) prior to this conformity analysis. These amendments are being labeled #2 to the 2009 Interim FTIP and will be processed in accordance with the applicable Public Participation Plan.

The SJV MPOs began drafting Amendment #3 to the 2009 Interim FTIP to add project phases and/or projects that were not included in the 2009 Interim TIPs in October. A new conformity determination and new regional emissions analysis is required for Amendment #3. Amendment #3 was released for public review in November, with public hearings to be conducted in December, followed by Board adoption in January 2009. Federal approval of Amendment #3 and the corresponding Conformity Analysis is anticipated in March 2009.

Interagency consultation with MCTC's member agencies was conducted through monthly Technical Advisory Committee (TAC) meetings and correspondence while developing Amendment #3 to the 2009 FTIP and the 2007 RTP.

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 the subject of a public notice and 30 day review period prior to adoption. 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) and for particulate matter under ten and 2.5 microns in diameter (PM-10 and PM_{2.5}). 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 PM_{2.5} (PM_{2.5}/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 is anticipated to publish the notice of adequacy determination for the 2011, 2014, and 2017 conformity budgets in the Federal Register in January 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 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 budgets for 2005 and 2020. The TIP/RTP therefore satisfy the conformity emissions tests for PM-10.

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}.

As all requirements of the Transportation Conformity regulation have been satisfied, a finding of conformity for Amendment #3 to the 2009 Interim Federal Transportation Improvement Program and the 2007 Regional Transportation Plan is supported.

**Table 6-1
Conformity Results Summary**

		ROG (tons/day)	NOx (tons/day)	ROG	NOx
	Ozone	2011 Budget	3.7	12.2	
2011		3.7	12.1	YES	YES
2014 Budget		3.1	9.7		
2014		2.9	9.4	YES	YES
2017 Budget		2.6	7.7		
2017		2.6	7.7	YES	YES
2020		2.2	6.4	YES	YES
2023		2.0	5.3	YES	YES
2030		1.9	4.8	YES	YES

		PM-10 (tons/day)	NOx (tons/day)	PM-10	NOx
	PM-10	Adjusted 2005 Budget	3.8	13.6	
2010		3.8	13.6	YES	YES
Adjusted 2020 Budget		4.6	6.7		
2020		4.6	6.5	YES	YES
Adjusted 2030 Budget		5.3	5.6		
2030		5.3	4.9	YES	YES

		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
	PM2.5 24-Hour Standard	2002 Base Year	0.5	13.7	
2010		0.5	13.6	YES	YES
2020		0.4	6.5	YES	YES
2030		0.4	4.9	YES	YES

		PM2.5 (tons/year)	NOx (tons/year)	PM2.5	NOx
	PM2.5 Annual Standard	2002 Base Year	183	5001	
2010		183	4964	YES	YES
2020		146	2373	YES	YES
2030		146	1789	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. 2004. 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.
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- EPA/DOT. 1991a. *Guidance for Determining Conformity of Transportation Plans, Programs, and Projects with Clean Air Act Implementation Plans During Phase I of the Interim Period*. U.S. Environmental Protection Agency and Department of Transportation. June 7, 1991.
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- USDOT. 2001. *Use of Latest Planning Assumptions in Conformity Determinations*. Memorandum from U.S. Department of Transportation. January 18, 2001.

APPENDIX A
CONFORMITY CHECKLIST

Conformity Analysis Documentation

FHWA Checklist for MPO TIPs/RTPs

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. 5	
§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. 16, 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 p. 1ff	
§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. 5	
§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. 16	
USDOT/EPA 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. 16	
§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 assumptions and show that they were agreed to through Interagency and public consultation.	Ch. 2 p. 16	
§93.111	Document the use of the latest emissions model approved by EPA.	Ch. 3 p. 26	

2007 RTP and Amendment #3 to the 2009 Interim FTIP Air Quality Conformity Finding
Madera County Transportation Commission

40 CFR	Criteria	Page	Comments
§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. 37	
§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. 31, 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).	Analy sis addre sses both docu ments	
§93.118 (a, c, e)	<u>For areas with SIP budgets:</u> 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. 40	
§93.118 (b)	Document for which years consistency with motor vehicle emissions budgets must be shown.	Ch. 1 p. 5	
§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. 40	
§93.119 ¹	<u>For areas without applicable SIP budgets:</u> 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. 40	
§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. 5	
§93.119 (h,i)	Document how the baseline and action scenarios are defined for each analysis year.	Ch. 3 p. 26	
§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 p. 16, App B	
§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	Ch. 2 p. 16	

40 CFR	Criteria	Page	Comments
	Act requires the program (indicate applicable date). Discuss the implementation status of these programs and the associated emissions credit for each analysis year.		
§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. 16	
§93.122 (b)(1)(ii) ²	Document the land use, population, employment, and other network-based travel model assumptions.	Ch. 2 p. 16	
§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. 16	
§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. 16	
§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. 16	
§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. 16	
§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. 16	
§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. 16	
§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. 16	
§93.122 (e, f)	Document, in areas where a SIP identifies construction-related PM10 or PM 2.5 as significant pollutants, the inclusion of PM10 and/or PM 2.5 construction emissions in the conformity analysis.	Ch. 3 p. 26	
§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 p. 16, 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

Madera County Transportation Commission
Exempt Project Listing

Jurisdiction/Agency	TIP/RTP Project ID	CTIPs Project ID (if available)	Description			Estimated Cost	Exemption Code (per CTIPs - next sheet)
			Facility Name/Route	Project Limits	Type of Improvement		
CALTRANS	MAD405001	22100000127	Emergency repairs - non capacity increasing - various locations			\$250,000	1.12
CALTRANS	MAD406002	22100000133	SHOPP - Collision Reduction			\$6,142,000	1.01
CALTRANS	MAD407001	22100000236	SHOPP - Minor program			\$558,000	5.02
CALTRANS	MAD406001	32100000000	SHOPP - non-capacity increasing - various locations			\$58,375,000	1.10
CHOWCITY	MAD302013	22100000014	Construct High School pedestrian facilities - Along Humbolt, Orange, etc			\$290,000	3.02
CHOWCITY	MAD302040	22100000154	Purchase 1 Transit Bus			\$65,000	2.10
CHOWCITY	MAD302047	22100000202	Inter-city public transit services, Chowchilla to Merced			\$62,000	2.01
CHOWCITY	MAD302048	22100000203	Construct school pedestrian facilities - various locations			\$325,000	3.02
CHOWCITY	MAD302049	22100000204	Robertson Commercial District - pave alleys			\$112,000	0.00
CHOWCITY	MAD302051	22100000251	Purchase 1 Gasoline Transit Replacement Bus			\$67,000	2.10
CHOWCITY	MAD302052	22100000252	Robertson Blvd Commercial District - Pave Alleys			\$301,000	0.00
CHOWCITY	MAD313029	12100000213	Section 5311 Operating Assistance			\$290,000	2.01
CHOWCITY	MAD313030	12100000214	Section 5311 Operating Assistance			\$244,000	2.01
CHOWCITY	MAD313031	22100000224	Section 5311 Operating Assistance			\$321,000	2.01
CHOWCITY	MAD313032	22100000266	Section 5311 Operating Assistance - CATX			\$330,000	2.01
CHOWCITY	MAD313033	22100000267	Section 5311 Operating Assistance - CATX			\$340,000	2.01
MADCITY	MAD202046	22100000160	Fresno River Trail	Gateway & UPRR	Bike/Ped Undercrossing	\$338,000	3.02
MADCITY	MAD202055	22100000170	Fresno River Trail	Westberry to Road 2	Class I Bike/Ped Facility	\$159,000	3.02
MADCITY	MAD202056	22100000188	Raymond & Cleveland		Traffic Signal	\$300,000	5.02
MADCITY	MAD202058	22100000190	Tozer	Clinton to MID canal	Shoulder Paving	\$70,000	1.04
MADCITY	MAD202059	22100000191	MAX/DAR Purchase 2 CNG Transit Buses			\$158,000	2.10
MADCITY	MAD202061	22100000193	MAX/DAR Purchase 2 Clean Diesel Transit Buses			\$130,000	2.10
MADCITY	MAD202062	22100000194	Fresno River Trail	Schnoor Ave	Bike/Ped Undercrossing	\$248,000	3.02
MADCITY	MAD202063	22100000245	Dual Left Turn Lane	Cleveland and Schnoor		\$341,000	1.19
MADCITY	MAD202064	22100000246	Purchase 2 CNG Transit Buses			\$261,000	2.10
MADCITY	MAD202065	22100000247	Construct Pedestrian Facilities - Rotary Park Area			\$314,000	3.02
MADCITY	MAD202066	22100000248	Fresno River Trail	Laurel Street	Class I Bike/Ped Facility	\$268,000	3.02
MADCITY	MAD213043	22100000115	Section 5307 Capital - MAX - Purchase 2 Buses			\$188,000	2.10
MADCITY	MAD213045	22100000135	Section 5307 Capital - Operations/Maintenance Facility Phase I			\$1,813,000	2.11
MADCITY	MAD213052	22100000141	Section 5307 Capital - Purchase 6 shelters/benches/trash receptacles			\$289,000	2.07
MADCITY	MAD213053	22100000142	Section 5307 Operating Assistance - MAX			\$540,000	2.01
MADCITY	MAD213054	22100000143	Section 5307 Operating Assistance - Dial a Ride			\$540,000	2.01
MADCITY	MAD213055	22100000144	Section 5307 Capital - Intermodal Facility			\$44,000	2.11
MADCITY	MAD213056	22100000145	Section 5307 Capital - Dial a Ride - Purchase 1 Bus			\$75,000	2.10
MADCITY	MAD213058	22100000205	Section 5307 Capital - Dial a Ride - Purchase 1 Bus			\$75,000	2.10
MADCITY	MAD213059	22100000217	Section 5307 Operating - Intermodal Facility			\$20,000	2.11
MADCITY	MAD213060	22100000218	Section 5307 Operating Assistance - MAX			\$560,000	2.01
MADCITY	MAD213061	22100000219	Section 5307 Operating Assistance - Dial a Ride			\$520,000	2.01
MADCITY	MAD213062	22100000220	Section 5307 Operating Assistance - Intermodal Facility			\$11,000	2.11
MADCITY	MAD213063	22100000221	Section 5307 Capital - Dial a Ride - Purchase 2 Buses			\$192,000	2.10
MADCITY	MAD213064	22100000222	Section 5307 Capital - MAX - Purchase 2 Buses			\$244,000	2.10
MADCITY	MAD213065	22100000223	Section 5307 Capital - Intermodal Facility			\$30,000	2.11
MADCITY	MAD213066	22100000227	Section 5307 Operating Assistance - Dial a Ride			\$580,000	2.01
MADCITY	MAD213067	22100000228	Section 5307 Operating Assistance - MAX			\$609,000	2.01
MADCITY	MAD213068	22100000229	Section 5307 Operating Assistance - Intermodal Facility			\$13,000	2.01
MADCITY	MAD213069	22100000230	Section 5307 Capital - Dial a Ride - Purchase 3 Buses			\$290,000	2.10
MADCITY	MAD213070	22100000231	Section 5307 Capital - MAX - Purchase 2 Buses			\$250,000	2.10

Madera County Transportation Commission
Exempt Project Listing

MADCITY	MAD213071	22100000232	Section 5307 Capital - Intermodal Facility			\$13,000	2.04
MADCITY	MAD213072	22100000256	Section 5307 Capital - Install Bus Shelters and Amenities			\$225,000	2.07
MADCITY	MAD213073	22100000257	Section 5307 Operating Assistance - Dial a Ride			\$600,000	2.01
MADCITY	MAD213074	22100000258	Section 5307 Operating Assistance - MAX			\$630,000	2.01
MADCITY	MAD213075	22100000259	Section 5307 Operating Assistance - Intermodal Facility			\$13,000	2.01
MADCITY	MAD213076	22100000260	Section 5307 Capital - Intermodal Facility			\$10,000	2.04
MADCITY	MAD213077	22100000261	Section 5307 Operating Assistance - Dial a Ride			\$600,000	2.01
MADCITY	MAD213078	22100000262	Section 5307 Operating Assistance - MAX			\$660,000	2.01
MADCITY	MAD213079	22100000263	Section 5307 Operating Assistance - Intermodal Facility			\$13,000	2.01
MADCITY	MAD213080	22100000264	Section 5307 Capital - Dial A Ride - Purchase 2 Buses			\$250,000	2.10
MADCITY	MAD213081	22100000265	Section 5307 Capital - Intermodal Facility			\$10,000	2.04
MADCITY	MAD215001	22100000125	Fresno River Trail	Gateway & UPRR	Bike/Ped Undercrossing	\$560,000	3.02
MADCITY	MAD215003	22100000181	Fresno River Trail	Schnoor Ave	Bike/Ped Undercrossing	\$159,000	3.02
MADCITY	MAD216001	22100000273	Section 5316 Operating Assistance - MAX Express Service			\$66,000	2.01
MADCITY	MAD217001	22100000274	Section 5317 Operating Assistance - MAX Express Service			\$4,000	2.01
MADCO	MAD102034	22100000074	SR41	In Oakhurst	Pedestrian facilities	\$150,000	3.02
MADCO	MAD102035	22100000075	Bass lake Bike Trail			\$117,000	3.02
MADCO	MAD102039	22100000108	SR41 & Yosemite Springs Parkway		Traffic Signal	\$205,000	5.02
MADCO	MAD102042	22100000152	Glenn Oaks & Rancho Ave	Ave 21.5 to Elmwood	Pave Dirt Road	\$106,000	1.10
MADCO	MAD102044	22100000155	Valley View Road	Ave 21.5 to Ave 22	Pave Dirt Road	\$106,000	1.10
MADCO	MAD102045	22100000156	Road 426 Northside	SR 41 to Road 427	Construct Pedestrian Facilities	\$88,000	3.02
MADCO	MAD102046	22100000161	Ave 15	SR 41 to Road 36	Shoulder Paving	\$895,000	1.04
MADCO	MAD102049	22100000164	Ave 12 & Goldenstate; Road 29, Sr99 NB off ramp		Traffic Signals	\$893,000	5.02
MADCO	MAD102050	22100000183	Road 28.5	Ave 13 to Ave 15	Shoulder Paving	\$367,000	0.00
MADCO	MAD102051	22100000184	Ave 25	Road 8 to Road 11	Shoulder Paving	\$522,000	0.00
MADCO	MAD102053	22100000186	Road 407	Willow Crk Bridge	Pave Dirt Road	\$408,000	0.00
MADCO	MAD102054	22100000187	Road 407	Road 600	Pave Dirt Road	\$408,000	0.00
MADCO	MAD102055	21100000241	Hickory Street	Palm St to End	Pave Dirt Road	\$63,000	0.00
MADCO	MAD102056	21100000242	Road 30	Ave 12 north	Shoulder Paving	\$71,000	0.00
MADCO	MAD102057	21100000243	Road 406	Road 400 east	Pave Dirt Road	\$496,000	0.00
MADCO	MAD102058	21100000244	Valley Lake Ranchos	Various Locations	Pave Dirt Roads	\$708,000	0.00
MADCO	MAD102059	22100000249	Willow Pond Lane		Pave Dirt Road	\$46,000	0.00
MADCO	MAD113032	22100000209	Section 5311 Operating Assistance			\$350,000	2.01
MADCO	MAD113033	22100000210	Section 5311 Operating Assistance			\$375,000	2.01
MADCO	MAD113034	22100000225	Section 5311 Purchase 1 Replacement Bus			\$77,000	2.10
MADCO	MAD113035	22100000226	Section 5311 Operating Assistance			\$462,000	2.01
MADCO	MAD113036	22100000240	Section 5311 Capital - Purchase 1 Replacement Transit Van			\$60,000	2.10
MADCO	MAD113037	22100000268	Section 5311 Operating Assistance			\$476,000	2.01
MADCO	MAD113038	22100000269	Section 5311 Operating Assistance			\$491,000	2.01
MADCO	MAD115001	22100000124	SR41	In Oakhurst	Pedestrian facilities	\$150,000	3.02
MADCO	MAD118002	12100000201	Amtrak Station Relocation Project			\$800,000	2.11
MCTC	MAD517005	12100000065	Planning, Programming, Monitoring			\$1,150,000	4.01
VAR AGENCIES	MAD410001	22100000036	Caltrans - Highway Bridge Program - various locations			\$1,479,000	1.19
VAR AGENCIES	MAD406003	22100000237	Caltrans Non SHOPP Local Section 130 Grade Crossings			\$2,000,000	1.01
VAR AGENCIES	MAD420001	22100000238	Safe Routes to Schools lump sum program			\$1,000,000	3.02
VAR AGENCIES	MAD419004	22100000239	Highway Safety Improvement Program - Lump sum program			\$548,000	1.06
VAR AGENCIES	MAD502006	22100000195	Purchase 2 CNG School Buses - MUSD			\$300,000	2.10
VAR AGENCIES	MAD502007	22100000196	Purchase 2 CNG School Buses - MUSD			\$300,000	2.10
VAR AGENCIES	MAD502008	22100000197	Purchase 2 CNG School Buses - MUSD			\$300,000	2.10
VAR AGENCIES	MAD502010	22100000253	Purchase 5 CNG Replacement School Buses - MUSD			\$960,000	0.00

Madera County Transportation Commission
Regionally Significant Project Listing

Jurisdiction/Agency	TIP/RTP Project ID	CTIPs Project ID (if available)	Type of Improvement	Description		Estimated Cost	2010	Conformity Analysis Year (project open to traffic)						
				Facility Name/Route	Project Limits			2011	2014	2017	2020	2023	2030	
CALTRANS	MAD418001	1210000072	4 to 6 Lane Freeway IC at Ave 22	SR 99	Ave 21 to SR 152 (Fairmead)	\$73,644,000	X							
CALTRANS	MAD418002	22100000270	4 to 6 Lane Freeway	SR 99	Ashlan Ave in Fresno to Ave 7	\$172,600,000		X						
CALTRANS			4 to 6 Lane Freeway IC at Ellis	SR 99	Ave 12 to Ellis	\$155,000,000		X						
CALTRANS			4 to 6 Lane Freeway	SR 99	Ave 7 to Ave 12	\$77,000,000		X						
CALTRANS			4 to 6 Lane Freeway IC at Ave 17	SR 99	Ellis to Ave 21 1/2	\$100,000,000				X				
CALTRANS			New IC and Rail Crossing	SR 99	SR 152 interchange	\$96,600,000						X		
CALTRANS			4 to 6 Lane Freeway IC at Ave 24	SR 99	SR 152 to Merced County Line	\$125,000,000						X		
CALTRANS			Reconstruct Interchange	SR 99	SR 233 interchange	\$35,000,000				X				
CALTRANS	MAD417001	22100000235	Reconstruct Interchange	SR 99	Ave 12 interchange	\$68,000,000		X						
CALTRANS			Extend Freeway IC at Ave 12	SR 41	Ave 10 to Ave 12	\$67,300,000				X				
CALTRANS			Construct passing lanes	SR 41	Between SR 145 and Road 200	\$30,560,000						X		
CALTRANS			Widen from 2 to 4 lanes	SR 41	Road 420 to SR 49 (South of Oakhurst)	\$22,900,000								X
CALTRANS			4 to 6 lanes	SR 41	Madera County Ln to Ave 10	\$4,700,000				X				
CHOWCITY			Restripe 2 to 4 Lanes	ROBERTSON	15th Street to Palm Pkwy	\$803,000		X						
CHOWCITY			2 Lane OC to Chowchilla Blvd	FIG TREE	SR 99 Overcrossing	\$10,800,000			X					
CHOWCITY			2 to 4 Lanes	AVENUE 26	SR 99 to Coronado	\$5,400,000								X
MADCITY	MAD217003	22100000180	IC Recon	SR 99 / SR 145 IC	Interchange	\$10,213,000	X							
MADCITY	MAD217005	22100000234	Reconstruct street & Construct overcrossing	Ellis/Avenue 16	Granada to Road 26 & new SR99 Overcrossing	\$19,510,000	X							
MADCITY	MAD217030	22100000271	Reconstruct/widen from 2 to 4 lanes w/RR Xing and SR 99 Overcrossing	4th Street	K Street to Lake	\$8,400,000			X					
MADCITY			Reconstruct/widen from 2 to 4 lanes	Gateway Ave	Cleveland to Yosemite	\$3,200,000						X		
MADCITY			Reconstruct/widen from 2 to 4 lanes	Gateway (SR 145)	Yosemite to SR 99	\$2,800,000						X		
MADCITY			Reconstruct/widen from 4 to 6 lanes	Cleveland	Schnoor to SR 99	\$3,400,000								X
MADCITY			Reconstruct/widen from 2 to 4 lanes	Lake	4th to Cleveland	\$1,600,000								X
MADCITY			Reconstruct/widen from 2 to 4 lanes	Sunrise	B Street to Road 28	\$1,600,000								X
MADCITY			Reconstruct/widen from 4 to 6 lanes w/RR Xing	Cleveland	Rd 26 to SR 99	\$8,300,000								X
MADCITY			Restripe to 4 lanes	Cleveland	Tozer to Lake	\$280,000			X					
MADCITY			Restripe to 4 lanes	Airport	Ave 17 to Yeager	\$270,000				X				
MADCITY			Restripe to 4 lanes	Cleveland	Lake to Rd. 26 (Country Club Dr.)	\$30,000			X					
MADCITY			Pavement rehab & restripe to 4 lanes	Schnoor	Trevor to Sunset	\$830,000			X					
MADCITY			Pavement rehab & restripe to 4 lanes	Yeager	Airport to Falcon	\$270,000						X		
MADCITY	MAD217031	22100000272	Widen to 4 lanes	Lake	Cleveland to Ellis	\$4,670,000	X							
MADCO			2 to 4 lanes	Ave 12	Road 38 to SR 41	\$21,239,189								X
MADCO			2 to 4 lanes	Rd 29	Olive to Ave 13	\$4,857,311								X
MADCO			2 to 4 lanes	Ave 12	SR 99 to Road 32	\$12,200,000								X
MADCO			2 to 4 lanes and realignment	Rd 29	Ave 12 to Ave 13	\$9,567,994								X
MADCO			6 to 8 lanes	Children's Blvd	SR 41 NB Ramps to Peck Blvd.	\$3,800,795	X							
MADCO			2 to 6 lanes	Ave 12	SR 41 to North Rio Mesa Blvd	\$2,451,205			X					
MADCO			2 1/4 to 6 lanes	Children's Blvd	Road 401/2 to Peck Blvd	\$2,280,000	X							
MADCO			2 to 4 lanes	Ave 10	Road 401/2 to SR 41	\$4,336,462			X					
MADCO			2 to 4 lanes	Rd 30 1/2	Ave 12 to Ave 13	\$4,830,687					X			
MADCO			1 to 2 lanes	SR 41	NB On Ramp/SR 41 @ Children's Blvd	\$20,200,000					X			
MADCO			Widen to 6 lanes	Children's Blvd	Between SR 41 Ramps	\$5,000,000					X			
MADCO			2 to 4 Lanes	N. RIO MESA	Rio Mesa Blvd to Ave 15 @ SR 41	\$11,359,284					X			
MADCO			2 to 6 lanes	Lanes Bridge	At Children's Blvd	\$1,122,227			X					
MADCO			6 to 8 lanes	Children's Blvd	SR 41 to Lanes Bridge	\$1,627,392	X							

Madera County Transportation Commission
 Federally-Funded Non-Regionally Significant Project Listing

Jurisdiction/Agency	TIP/RTP Project ID	CTIPs Project ID (if available)	Type of Improvement	Description Facility Name/F Project Limits	Estimated Cost	Conformity Analysis Year (project open to traffic)					
						2010	2011	2014	2017	2020	2023
no projects qualify											

APPENDIX C

CONFORMITY ANALYSIS DOCUMENTATION

- 2009 adjust_vmt Spreadsheet
- 2009 Conformity EMFAC Spreadsheet
- 2009 Conformity Paved Road Spreadsheet
- 2009 Conformity Unpaved Road Dust Spreadsheet
- 2009 Conformity Construction Spreadsheet
- 2009 Conformity Trading Spreadsheet
- 2009 Conformity Totals Spreadsheet

Madera CTC 2009 Conformity

Variable	Source	Analysis Year							
		2010	2011	2014	2017	2020	2023	2030	
EDP	EMFAC 2007	120,740	123,910	133,928	144,757	156,462	166,237	191,489	
EVMT	EMFAC 2007	5,434,572	5,578,454	6,107,059	6,711,048	7,326,504	7,727,762	8,823,885	
MVMT	TPA Model	5,423,879	5,542,761	5,905,494	6,684,285	7,316,411	7,486,935	8,820,235	<=Enter Modeled Daily VMT Here
N	Calculated	120,502	123,117	129,508	144,180	156,246	161,056	191,410	<= Read New Vehicle Population Here

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

EMFAC Emissions (tons/day)

MADERA

<u>Pollutant</u>	<u>Source</u>	<u>Description</u>	2011	2014	2017	2020	2023	2030
Ozone	EMFAC 2007 (Summer Run)	ROG Total Exhaust (All Vehicles Total)	3.68	2.96	2.60	2.27	2.02	1.90
	District Existing Local Reductions	Indirect Source Mitigation and School Bus Fleet rules	0.00	0.00	0.00	0.00	0.00	0.00
	ARB Existing Local Reductions	Refresh, Idling, and Moyer	0.00	0.00	0.00	0.00	0.00	0.00
	District New/Proposed Local Reductions	Employee Trip Reduction	0.02	0.02	0.02	0.03	0.03	0.03
	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	3.68	2.96	2.59	2.24	1.99
Ozone	EMFAC 2007 (Summer Run)	NOx Total Exhaust (All Vehicles Total)	13.08	10.31	8.57	7.21	6.15	5.67
	District Existing Local Reductions	Indirect Source Mitigation and School Bus Fleet rules	0.06	0.04	0.06	0.06	0.05	0.05
	ARB Existing Local Reductions	Refresh, Idling, and Moyer	0.93	0.87	0.80	0.78	0.81	0.81
	District New/Proposed Local Reductions	Employee Trip Reduction	0.01	0.01	0.01	0.01	0.01	0.01
	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	12.08	9.99	7.70	6.36	5.28
PM-10	EMFAC 2007 (Annual Run)	PM-10 Total (All Vehicles Total) * includes tire & brake wear	0.68			0.54		0.59
	ARB	Existing Refresh, Idling, and Moyer (HDI, PFR, Moyer, AB1493, Refresh)	0.00			0.00		0.00
			Conformity Total	0.68		0.54		0.59
PM-10	EMFAC 2007 (Annual Run)	NOx Total Exhaust (All Vehicles Total)	14.11			7.25		5.68
	ARB	Existing Refresh, Idling, and Moyer (HDI, PFR, Moyer, AB1493, Refresh)	0.52			0.78		0.78
			Conformity Total	13.59		6.47		4.90
PM2.5	EMFAC 2007 (Annual Run)	PM2.5 Total Exhaust (All Vehicles Total) * includes tire & brake wear	0.54			0.38		0.40
	ARB	Existing Refresh, Idling, and Moyer (HDI, PFR, Moyer, AB1493, Refresh)	0.00			0.00		0.00
			Conformity Total	0.54		0.38		0.40
PM2.5	EMFAC 2007 (Annual Run)	NOx Total Exhaust (All Vehicles Total)	14.11			7.25		5.68
	ARB	Existing Refresh, Idling, and Moyer (HDI, PFR, Moyer, AB1493, Refresh)	0.52			0.78		0.78
			Conformity Total	13.60		6.50		4.90

Paved Road Dust Emissions (tons/day)

MADERA 2010

	VMT Daily	VMT (million/year)	Base Emissions (PM10 tpy)	Rain Adj. Emissions (PM10 tpy)	Rain Adj. Emissions (PM10 tons/day)	District Rule 8061/ISR Control Rates	Control-Adjusted Emissions
Enter Freeway VMT ==>	Freeway	2,199,630	803	230,339	223,510	0.612	0.566
Enter Arterial VMT ==>	Arterial	1,691,901	618	254,899	247,341	0.678	0.487
Enter Collector VMT ==>	Collector	1,174,948	429	177,016	171,767	0.471	0.279
Enter Total of Urban and Rural Local VMT Here =>	Urban	96,140	35	61,038	59,229	0.162	0.110
	Rural	261,259	95	472,169	458,170	1.255	1.142
	Totals	5,423,879	1,980	1195.460	1160.017	3.178	2.564

MADERA 2020

	VMT Daily	VMT (million/year)	Base Emissions (PM10 tpy)	Rain Adj. Emissions (PM10 tpy)	Rain Adj. Emissions (PM10 tons/day)	District Rule 8061/ISR Control Rates	Control-Adjusted Emissions
Enter Freeway VMT ==>	Freeway	3,142,431	1,147	329,066	319,310	0.875	0.809
Enter Arterial VMT ==>	Arterial	2,288,759	835	344,820	334,597	0.917	0.658
Enter Collector VMT ==>	Collector	1,420,777	519	214,052	207,705	0.569	0.337
Enter Total of Urban and Rural Local VMT Here =>	Urban	124,936	46	79,320	76,968	0.211	0.143
	Rural	339,509	124	613,589	595,397	1.631	1.484
	Totals	7,316,411	2,670	1580.847	1533.977	4.203	3.432

MADERA 2030

	VMT Daily	VMT (million/year)	Base Emissions (PM10 tpy)	Rain Adj. Emissions (PM10 tpy)	Rain Adj. Emissions (PM10 tons/day)	District Rule 8061/ISR Control Rates	Control-Adjusted Emissions
Enter Freeway VMT ==>	Freeway	3,558,417	1,299	372,627	361,579	0.991	0.916
Enter Arterial VMT ==>	Arterial	2,828,314	1,032	426,109	413,475	1.133	0.813
Enter Collector VMT ==>	Collector	1,851,100	676	278,883	270,615	0.741	0.440
Enter Total of Urban and Rural Local VMT Here =>	Urban	156,667	57	99,466	96,517	0.264	0.179
	Rural	425,738	155	769,429	746,617	2.046	1.861
	Totals	8,820,235	3,219	1946.514	1888.803	5.175	4.210

DO NOT CHANGE ANY ITEMS BELOW THIS LINE

MADERA

HPMS Local Urban/Rural Percent
From 1999 Assembly of Statistical Reports - Caltrans
26.9% Urban
73.1% Rural
100.0% Total

Road Type	Base EF (lb PM10/VMT)
Freeway	0.590573793
Arterial	0.600825524
Collector	0.500825524
Local	0.603478828
Rural	0.009902924

MADERA

	January	February	March	April	May	June	July	August	September	October	November	December	Total/Average
Rain Days	6.0	7.0	7.0	4.0	2.0	1.0	0	0	1.0	2.0	5.0	6.0	
Total Days	31	28	31	30	31	30	31	31	30	31	30	31	
Rain Reduction Factor	0.94	0.94	0.94	0.97	0.98	0.99	1.00	1.00	0.99	0.98	0.98	0.95	0.970351703

Unpaved Road Dust Emissions (tons/day)

MADERA 2010

	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 8061/ISR Control Rates	Control-Adjusted Emissions
City/County	87.0	10	317.6	317.550	279.891	0.767	0.333	0.513

MADERA 2020

	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 8061/ISR Control Rates	Control-Adjusted Emissions
City/County	87.0	10	317.6	317.550	279.891	0.767	0.333	0.513

MADERA 2030

	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 8061/ISR Control Rates	Control-Adjusted Emissions
City/County	87.0	10	317.6	317.550	279.891	0.767	0.333	0.513

DO NOT CHANGE ANY ITEMS BELOW THIS LINE

MADERA													
	January	February	March	April	May	June	July	August	September	October	November	December	Total/Average
Rain Days	6.0	7.0	7.0	4.0	2.0	1.0	0	0	1.0	2.0	5.0	6.0	
Total Days	31	28	31	30	31	30	31	31	30	31	30	31	
Rain Reduction Factor	0.74	0.75	0.77	0.87	0.94	0.97	1.00	1.00	0.97	0.94	0.83	0.81	0.88140651

Road Construction Dust

MADERA

Description	2010		2020		2030	
	Year	Lane Miles	Year	Lane Miles	Year	Lane Miles
Baseline	2005	2144	2010	2157	2020	2263.5
Horizon	2010	2,157	2020	2,264	2030	2,277
Difference	5	13.000	10	106.500	10	13.100
Lane Miles per Year		2.600		10.650		1.310
Acres Disturbed		10.085		41.309		5.081
Acre-Months		181.527		743.564		91.462
Emissions (tons/year)		19.968		81.792		10.061
Annual Average Day Emissions (tons)		0.055		0.224		0.028
District Rule 8021 Control Rates		0.290		0.290		0.290
Total Emissions (tons per day)		0.039		0.159		0.020

PM10 Emission Trading Worksheet

MADERA CONFORMITY ESTIMATES (tons/day)

	2010		2020		2030	
	PM10	NOx	PM10	NOx	PM10	NOx
Total On-Road Exhaust	0.680	13.590	0.540	6.470	0.590	4.900
Paved Road Dust	2.584		3.432		4.210	
Unpaved Road Dust	0.511		0.511		0.511	
Road Construction Dust	0.039		0.159		0.020	
Total	3.814	13.590	4.642	6.470	5.331	4.900

Difference (2005 Budget - 2010)

	PM10	NOx
2005 Budgets	3.6	13.9
2010	3.8	13.6
Difference	-0.2	0.3
* 1.5 (Adjustment to NOx Budget)	0.3	

Difference (2020 Budget - 2020)

	PM10	NOx
2020 Budgets	4.7	6.5
2020	4.6	6.5
Difference	0.1	0.0
* 1.5 (Adjustment to NOx Budget)	-0.2	

Difference (2020 Budget - 2030)

	PM10	NOx
2020 Budgets	4.7	6.5
2030	5.3	4.9
Difference	-0.6	1.6
* 1.5 (Adjustment to NOx Budget)	0.9	

1:1.5 PM10 to NOx Trading

	PM10	NOx
2005 Budget	3.6	13.9
Adjusted 2005 Budget	3.8	13.6
2010 Conformity Total	3.8	13.6
Difference	0.0	0.0

NOTE: FINAL DIFFERENCE MUST BE POSITIVE

	PM10	NOx
2020 Budget	4.7	6.5
Adjusted 2020 Budget	4.6	6.7
2020 Conformity Total	4.6	6.5
Difference	0.0	0.2

NOTE: FINAL DIFFERENCE MUST BE POSITIVE

	PM10	NOx
Adjusted 2020 Budget	5.3	5.6
2030 Conformity Total	5.3	4.9
Difference	0.0	0.7

NOTE: FINAL DIFFERENCE MUST BE POSITIVE

2009 Conformity Results Summary -- MADERA

Ozone		ROG (tons/day)	NOx (tons/day)	ROG	NOx
	2011 Budget	3.7	12.2		
	2011	3.7	12.1	YES	YES
	2014 Budget	3.1	9.7		
	2014	2.9	9.4	YES	YES
	2017 Budget	2.6	7.7		
	2017	2.6	7.7	YES	YES
	2020	2.2	6.4	YES	YES
2023	2.0	5.3	YES	YES	
2030	1.9	4.8	YES	YES	

PM-10		PM-10 (tons/day)	NOx (tons/day)	PM-10	NOx
	Adjusted 2005 Budget	3.8	13.6		
	2010	3.8	13.6	YES	YES
	Adjusted 2020 Budget	4.6	6.7		
	2020	4.6	6.5	YES	YES
Adjusted 2030 Budget	5.3	5.6			
2030	5.3	4.9	YES	YES	

PM2.5 24-Hour Standard		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
	2002 Base Year	0.5	13.7		
	2010	0.5	13.6	YES	YES
	2020	0.4	6.5	YES	YES
2030	0.4	4.9	YES	YES	

PM2.5 Annual Standard		PM2.5 (tons/year)	NOx (tons/year)	PM2.5	NOx
	2002 Base Year	183	5001		
	2010	183	4964	YES	YES
	2020	146	2373	YES	YES
2030	146	1789	YES	YES	

APPENDIX D

**PM_{2.5} CONFORMITY RESULTS SUMMARY FOR EACH MPO
IN THE SAN JOAQUIN VALLEY NONATTAINMENT AREA**

PM2.5 Conformity Results Summary – Fresno

Pollutant	Scenario	Emissions Total		DID YOU PASS?	
		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
PM2.5 24-Hour Standard	2002 Base Year	2.2	63.4		
	2010	2.0	52.7	YES	YES
	2020	1.3	23.0	YES	YES
	2030	1.2	15.5	YES	YES

Pollutant	Scenario	Emissions Total		DID YOU PASS?	
		PM2.5 (tons/year)	Nox (tons/year)	PM2.5	NOx
PM2.5 Annual Standard	2002 Base Year	803	23141		
	2010	730	19236	YES	YES
	2020	475	8395	YES	YES
	2030	438	5658	YES	YES

PM2.5 Conformity Results Summary – Kern

Pollutant	Scenario	Emissions Total		DID YOU PASS?	
		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
PM2.5 24-Hour Standard	2002 Base Year	3.7	94.1		
	2010	3.2	86.0	YES	YES
	2020	1.8	38.5	YES	YES
	2030	1.5	27.2	YES	YES

Pollutant	Scenario	Emissions Total		DID YOU PASS?	
		PM2.5 (tons/year)	Nox (tons/year)	PM2.5	NOx
PM2.5 Annual Standard	2002 Base Year	1351	34347		
	2010	1168	31390	YES	YES
	2020	657	14053	YES	YES
	2030	548	9928	YES	YES

PM2.5 Conformity Results Summary – Kings

Pollutant	Scenario	Emissions Total		DID YOU PASS?		
		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx	
PM2.5 24-Hour Standard	2002 Base Year	0.8	18.5			
	2010			YES	YES	
			0.6	16.1	YES	YES
			0.3	6.7	YES	YES
	2030	0.3	4.7	YES	YES	

Pollutant	Scenario	Emissions Total		DID YOU PASS?		
		PM2.5 (tons/year)	Nox (tons/year)	PM2.5	NOx	
PM2.5 Annual Standard	2002 Base Year	292	6753			
	2010			YES	YES	
			219	5877	YES	YES
			110	2446	YES	YES
	2030	110	1716	YES	YES	

PM2.5 Conformity Results Summary – Madera

Pollutant	Scenario	Emissions Total		DID YOU PASS?		
		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx	
PM2.5 24-Hour Standard	2002 Base Year	0.5	13.7			
	2010			YES	YES	
			0.5	13.6	YES	YES
			0.4	6.5	YES	YES
	2030	0.4	4.9	YES	YES	

Pollutant	Scenario	Emissions Total		DID YOU PASS?		
		PM2.5 (tons/year)	Nox (tons/year)	PM2.5	NOx	
PM2.5 Annual Standard	2002 Base Year	183	5001			
	2010			YES	YES	
			183	4964	YES	YES
			146	2373	YES	YES
	2030	146	1789	YES	YES	

PM2.5 Conformity Results Summary – Merced

Pollutant	Scenario	Emissions Total		DID YOU PASS?	
		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
PM2.5 24-Hour Standard	2002 Base Year	1.5	37.1		
	2010	1.3	30.4	YES	YES
	2020	0.7	12.8	YES	YES
	2030	0.7	10.0	YES	YES

Pollutant	Scenario	Emissions Total		DID YOU PASS?	
		PM2.5 (tons/year)	Nox (tons/year)	PM2.5	NOx
PM2.5 Annual Standard	2002 Base Year	548	13542		
	2010	475	11096	YES	YES
	2020	256	4672	YES	YES
	2030	256	3650	YES	YES

PM2.5 Conformity Results Summary – San Joaquin

Pollutant	Scenario	Emissions Total		DID YOU PASS?	
		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
PM2.5 24-Hour Standard	2002 Base Year	1.5	43.4		
	2010	1.5	37.7	YES	YES
	2020	1.0	16.8	YES	YES
	2030	1.1	12.3	YES	YES

Pollutant	Scenario	Emissions Total		DID YOU PASS?	
		PM2.5 (tons/year)	Nox (tons/year)	PM2.5	NOx
PM2.5 Annual Standard	2002 Base Year	548	15841		
	2010	548	13761	YES	YES
	2020	365	6132	YES	YES
	2030	402	4490	YES	YES

PM2.5 Conformity Results Summary – Stanislaus

Pollutant	Scenario	Emissions Total		DID YOU PASS?	
		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
PM2.5 24-Hour Standard	2002 Base Year	1.0	30.2		
	2010	0.9	24.8	YES	YES
	2020	0.6	10.1	YES	YES
	2030	0.6	7.0	YES	YES

Pollutant	Scenario	Emissions Total		DID YOU PASS?	
		PM2.5 (tons/year)	Nox (tons/year)	PM2.5	NOx
PM2.5 Annual Standard	2002 Base Year	365	11023		
	2010	329	9052	YES	YES
	2020	219	3687	YES	YES
	2030	219	2555	YES	YES

PM2.5 Conformity Results Summary – Tulare

Pollutant	Scenario	Emissions Total		DID YOU PASS?	
		PM2.5 (tons/day)	NOx (tons/day)	PM2.5	NOx
PM2.5 24-Hour Standard	2002 Base Year	0.8	26.4		
	2010	0.8	22.9	YES	YES
	2020	0.6	10.5	YES	YES
	2030	0.6	7.4	YES	YES

Pollutant	Scenario	Emissions Total		DID YOU PASS?	
		PM2.5 (tons/year)	Nox (tons/year)	PM2.5	NOx
PM2.5 Annual Standard	2002 Base Year	292	9636		
	2010	292	8359	YES	YES
	2020	219	3833	YES	YES
	2030	219	2701	YES	YES

APPENDIX E

**TIMELY IMPLEMENTATION DOCUMENTATION FOR
TRANSPORTATION CONTROL MEASURES**

Madera County Transportation Commission
2002 RACM Timely Implementation Documentation

<u>RACM Commitment</u>	<u>Agency</u>	<u>Measure Title</u>	<u>Measure Description (not verbatim)</u>	<u>Implementation Status</u> (as of 1/07)	<u>2009 Conformity Update</u> (as of 10/08)
MA3.5	MCTC	Preferential Parking for Carpools and Vanpools	Encourage the establishment of preferential parking for carpools and vanpools annually	MCTC has an ongoing public awareness program that utilizes the GO Madera Newsletter and the MCTC Website. See Project TID Table.	The MCTC Public Awareness program is an ongoing annual program.
MA3.9	MCTC	Encourage merchants and employers to subsidize the cost of transit for employees	Provide outreach services annually	MCTC has an ongoing public awareness program that utilizes the GO Madera Newsletter and the MCTC Website. See Project TID Table.	The MCTC Public Awareness program is an ongoing annual program.
MA5.3	Chowchilla	Reduce Traffic Congestion at Major Intersections	Improve intersections projected to experience congestion		Chowchilla identified and implemented a traffic signal project on Robertson Blvd. See Project TID Table.
MA9.3	Chowchilla	Bicycle/Pedestrian Program	Implement City Bike Plan	Chowchilla identified and implemented a bike lane project on Ave 26. See Project TID Table. Chowchilla has not identified or implemented any Bike/Pedestrian projects since May 2006.	Chowchilla has not identified or implemented any Bike/Pedestrian projects since the date of the last report January 2007.
MA5.3	Madera County	Reduce Traffic Congestion at Major Intersections	Improve intersections projected to experience congestion	The County has identified and implemented several traffic signal projects since 2002. See Project TID Table. The County has not identified or implemented any Traffic Signal projects since May 2006.	The County identified and implemented a traffic signal project on SR 41. See Project TID Table.
MA9.3	Madera County	Bicycle/Pedestrian Program	Implement County Bike Plan	The County has identified and implemented several bicycle and pedestrian facilities projects. See Project TID Table. The County has not identified or implemented any Bike/Pedestrian projects since May 2006.	The County identified and implemented two bicycle and pedestrian projects on Road 36. See Project TID Table
MA5.3	City of Madera	Reduce Traffic Congestion at Major Intersections	Continue intersection improvements to reduce traffic congestion at major intersections	Madera has identified and implemented several traffic signal projects since 2002. See Project TID Table. Traffic conditions are determined by staff using traffic counts, traffic flow, and accident history. Madera has not identified or implemented any Traffic Signal projects since May 2006.	Madera has identified and implemented a traffic signal project on Sunset Ave. See Project TID Table.
MA9.3	City of Madera	Bicycle/Pedestrian Program	Implement City Bike Plan	Madera has identified and implemented several bicycle and pedestrian facilities projects. See Project TID Table. Madera has not identified or implemented any Bike/Pedestrian projects since May 2006.	Madera has not identified or implemented any Bike/Pedestrian projects since the date of the last report January 2007.

MADERA COUNTY TRANSPORTATION COMMISSION
Timely Implementation Documentation

RACM Commitment	Agency	Commitment Description	Commitment Schedule	Commitment Funding	TIP	TIP Project ID	Project Description	Implementation Status (as of 1/07)	2009 Conformity Update (as of 10/08)
MA 3.1	MCTC	Commute Solutions		Funding is allocated through the annual budget process.			MCTC agrees to act as an information resource for employers within Madera County for the Commute Solutions Program. MCTC will promote the program by providing information to employers with fifty or greater employees on an annual basis.	The Commute Solutions Program is not programmed in the TIP. MCTC expanded our efforts through the newsletter, which has regular articles documenting the benefits of alternative commuting methods. Over 300 subscribers (including every Madera business with 30 or more employees) receive each newsletter. MCTC continues to provide commute solutions information through the Public Awareness Program.	MCTC continues to provide commute solutions information through the Public Awareness Program.
MA 14.1 (MA 11.2, MA 11.6, MA 13.3, 13.4, TCM3,)	MCTC	Area wide Public Awareness Programs		Funding is allocated through the annual budget process and documented in MCTC's OWP. \$40,000 will be budgeted for the first year of implementation.			MCTC agrees to expand public outreach by implementation of this measure through a new work element entitled "Public Awareness Program." This program will be developed during the first year of implementation and will include the following activities: Development of public outreach tools (i.e., website, newsletter, etc.); Rideshare promotion; Providing resources for the Commute Solutions program to employers; Promotion of alternative modes of transportation (i.e., bicycle, pedestrian, transit, and rail); Encouraging telecommuting and the use of teleconferencing; Encouraging other emission reduction behavior modifications (i.e., voluntary limiting of idling, engine retrofits, and implementation of incentive programs). This measure is an expansion of previous accomplishments through participation in the Rideshare Program with COFCG.	Public awareness programs are not programmed in the TIP. MCTC expanded public outreach by developing a newsletter and website. Newsletters can be downloaded from the following address: http://www.maderactc.org/news.html . Additionally, MCTC developed a Public Participation Plan, which was approved in May 2004. The MCTC Public Awareness Program is an ongoing annual program.	The MCTC Public Awareness Program is an ongoing annual program.
MA 5.2	City of Madera	Cleveland Avenue	not specified	not specified	2002	MAD217004	In City of Madera; reconstruct & widen existing 2 lane street to provide raised median, bike lane, sidewalks, & install 2 traffic signals.	4 intersections on Cleveland Ave. were upgraded to improve traffic flow. 2 intersections were revised to accommodate left/right turn lanes and 2 intersections received new signals. The timing of each signal was optimized. This project was completed in October 2003. Traffic volumes on the corridor will continue to be monitored and final signal coordination will be done in the future, when warranted. The City of Madera reviews its signal systems (4 or more contiguous) in accordance with the FTIP CMAQ programming cycle. Signal coordination is not warranted on Cleveland Ave. at this time.	The City of Madera reviews its signal systems (4 or more contiguous in accordance with the FTIP CMAQ programming cycle). Signal coordination is not warranted on Cleveland Ave. at this time.
		Gateway Drive: coordinate five signals	not specified	not specified	2002	MAD202045	In Madera, Gateway Drive from 4th Street to Olive Avenue: signal coordination	Project Completed November 2005.	Complete
MA 5.9	City of Madera	Bus Pullouts in Curbs for passenger Loading	31-Mar-02	Funding is allocated through the annual budget process and through the regular project programming cycle			Bus pullout project scheduled at intersection of W. Cleveland and N. Schnoor Avenues.	This project was not included in the TIP. The bus pullout project on the N.W. corner of Cleveland and Schnoor was locally funded and completed in June 2002.	Complete
ADDITIONAL PROJECTS IDENTIFIED									
MA3.5	MCTC	Preferential Parking for Carpools and Vanpools		Funding is allocated through the annual budget process.			Encourage the establishment of preferential parking for carpools and vanpools annually	The Preferential Parking Outreach Program is not programmed in the TIP. The MCTC website and newsletters have regular articles documenting the benefits of alternative commuting methods. Over 500 subscribers (including every Madera business with 30 or more employees) receive each newsletter. MCTC continues to provide Preferential Parking; Vanpool; and Carpool information through the Public Awareness Program.	MCTC continues to provide Preferential Parking; Vanpool; and Carpool information through the Public Awareness Program.

MADERA COUNTY TRANSPORTATION COMMISSION
Timely Implementation Documentation

RACM Commitment	Agency	Description	Commitment Schedule	Commitment Funding	TIP	TIP Project ID	Project Description	Implementation Status	2009 Conformity Update
MA3.3	MCTC	Encourage managers and employees to subsidize the cost of transit for employees		Funding is allocated through the annual budget process.			Provide outreach services annually	The Transit Subsidy Outreach Program is not programmed in the TIP. The MCTC website and newsletters have regular articles documenting the benefits of alternative commuting methods. Over 500 subscribers (including every Madera business with 30 or more employees) receive each newsletter. MCTC continues to provide Transit Subsidy information through the Public Awareness Program.	MCTC continues to provide Transit Subsidy information through the Public Awareness Program.
MA3.3	City of Chowchilla	Reduce Traffic Congestion at Major Intersections		Local		N/A	Installed traffic signal at intersection of Robertson Blvd/SR 233 and 11th Street		Project Completed Summer 2007.
MA3.3	City of Chowchilla	Bicyclist/Pedestrian Program		Local		N/A	In Chowchilla, Class II Bike Lane on Avenue 26 from Road 16 1/2 to Fg 11th Road	Project Completed September 2002.	Complete
MA3.3	Madera County	Reduce Traffic Congestion at Major Intersections		Local		N/A	In Coarsegold, installed traffic signal at Chukchuck Casino	Project Completed in 2002.	Complete
				Local		N/A	In Madera Ranchitos, installed traffic signal at Road 36/Avenue 12	Project Completed in 2002.	Complete
				Local		N/A	In Oakhurst, installed traffic signal at Road 427/Road 426	Project Completed in 2002.	Complete
				Local		N/A	Installed traffic signs at Road 200/SR 41	Project Completed in 2002.	Project Completed November 2007.
MA3.3	Madera County	Bicyclist/Pedestrian Program		Local		N/A	Class II Bicycle lanes on Road 427	Project Completed July 2002.	Complete
				Local		N/A	In Oakhurst, constructed sidewalks on SR41	Project Completed January 2003.	Complete
				Local		N/A	Constructed sidewalks on Road 26 at Ave 17	Project Completed January 2004.	Complete
				Local		N/A	Class II Bicycle Lanes on RD 26 from Madera city limits to Ave 17	Project Completed November 2005.	Complete
				Local		N/A	Constructed sidewalks on Road 36 at Ave 12	Project Completed June 2002.	Project Completed September 2006
MA3.3	City of Madera	Reduce Traffic Congestion at Major Intersections		Local		N/A	In Madera, installed traffic signal at Olive/Gateway	Project Completed June 2002.	Project Completed September 2006
				Local		N/A	In Madera, installed traffic signal at Olive/Stadium	Project Completed February 2004.	Complete
				Local		N/A	In Madera, installed traffic signal at Schnoor/Roxgrove	Project Completed June 2004.	Complete
				Local		N/A	In Madera, installed traffic signal at Schnoor/Sunset	Project Completed June 2004.	Complete
				Local		N/A	Class I Bike Path - Fresno River Trail - Schnoor to Granada	Project completed in 2002.	Complete
MA3.3	City of Madera	Bicyclist/Pedestrian Program		Local		N/A	Class II Bike Path - Fresno River Trail - Granada to Westberry	Project completed in 2005.	Complete
				Local		N/A	Class II Bike Lane - Cleveland Ave from Sharon to Raymond	Project completed in 2005.	Complete
				Local		N/A	Class II Bike Lane - Stadium Road to Pean	Project completed in 2005.	Complete

APPENDIX F

PUBLIC MEETING PROCESS DOCUMENTATION

**NOTICE OF PUBLIC HEARING ON THE
DRAFT AMENDMENT #3 TO THE 2009 INTERIM FEDERAL TRANSPORTATION
IMPROVEMENT PROGRAM
AND
CORRESPONDING DRAFT CONFORMITY ANALYSIS**

NOTICE IS HEREBY GIVEN that the Madera County Transportation Commission (MCTC) will hold a public hearing on December 17, 2008 at 3 p.m. at the MCTC Board Room at 2001 Howard Road, Suite 201, Madera, CA 93637 regarding the Draft Amendment #3 to the 2009 Interim Federal Transportation Improvement Program (Interim FTIP) and corresponding Draft Conformity Analysis. The purpose of the hearing is to receive public comments.

- The 2009 Interim FTIP is a listing of capital improvement and operational expenditures utilizing federal and state monies for transportation projects in Madera County during the next four years that are eligible to proceed without a conformity determination.
- The Draft Amendment #3 to the 2009 Interim FTIP contains project phases and/or projects that were not included in the 2009 Interim TIP.
- The Draft Conformity Analysis contains the documentation to support a finding that the Draft Amendment #3 meets the air quality conformity requirements for ozone and particulate matter.

A concurrent 30-day public review and comment period will commence on November 20, 2008 and conclude December 19, 2008 at 5pm. The draft documents are available for review at the MCTC office, located at 2001 Howard Road, Suite 201, Madera, CA 93637 and on the MCTC website at <http://www.maderactc.org/>.

Public comments are welcomed at the hearing, or may be submitted in writing by 5pm on December 19, 2008 to Derek Winning at the address below.

After considering the comments, the documents will be considered for adoption, by resolution, by the Madera County Transportation Commission at a regularly scheduled meeting to be held on January 21, 2009. The documents will then be submitted to state and federal agencies for approval.

Contact Person: Derek Winning, Deputy Director
Madera County Transportation Commission
2001 Howard Road, Suite 201
Madera, CA 93637
(559) 975-9465
derek@maderactc.org

APPENDIX G

RESPONSE TO PUBLIC COMMENTS

RESPONSE TO PUBLIC COMMENTS

All 8 MPOs in the San Joaquin Valley nonattainment area had a 30-day public review period and conducted a public hearing on their own Draft Amendment to the 2009 Interim TIP, 2007 RTP Amendment (if applicable) and corresponding Conformity Analyses.

It is important to note that no other verbal or written comments were received from the public or inter-agency consultation partners, including: the California Department of Transportation, California Air Resources Board, U.S. Environmental Protection Agency, and Federal Transit Administration.