

DRAFT

Supplemental Environmental Impact Report
for
Merced County's
Regional Transportation Plan

April 30, 2010

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editorial notes:

- *throughout the entire document, unless otherwise noted, change all instances of ~~2004 RTP~~ to 2011 RTP.*
- *deletions are marked in red strikethrough:* ~~deletion~~
- *additions are in blue underline:* addition
- *unchanged text is in black normal:* unchanged

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Executive Summary

(new introductory paragraphs and minor changes only)

editorial note: throughout the entire document, unless otherwise noted, change all instances of ~~2004 RTP~~ to 2011 RTP.

Draft Supplemental EIR

This Supplemental Environmental Impact Report (SEIR) represents the environmental review for the Merced County Association of Governments (MCAG) 2011 Regional Transportation Plan (“2011 RTP”), which is the “project” under review. This document supplements the certified 2004 MCAG RTP EIR (“2004 RTP EIR”), State Clearinghouse number 2003121163, which is incorporated by reference. The information contained in this SEIR is intended to provide MCAG with the environmental information necessary to consider approval and adoption of the project.

Why a Supplemental EIR?

CEQA Guidelines sections 15162 and 15163 describe the circumstances that may trigger a Supplemental EIR. Under section 15163 “the lead or responsible agency may choose to prepare a supplement to an EIR rather than a subsequent EIR if:

1. Any of the conditions described in section 15162 [15162(a)(3) identifies “new information of substantial importance”] would require the preparation of a subsequent EIR, and
2. Only minor additions or changes would be necessary to make the previous EIR adequately apply to the project in the changed situation.

The 2011 RTP is largely based on the 2004 RTP but includes an updated socioeconomic forecast as well as an expanded discussion of Global Climate Change. Therefore this SEIR includes a new chapter – Chapter 17 Climate Change – to comply with new CEQA Guidelines, as well as making minor changes to reflect the updates in the 2011 RTP.

This SEIR is not a comprehensive update to every chapter of the 2004 RTP EIR. Chapters 1, 2, 3, 6, and 13 have been updated with minor additions or revised information. Chapter 17 is new. The remainder of the 2004 RTP EIR is unchanged and is not reproduced herein. The full text of the 2004 RTP EIR is available for reference at www.mcagov.org

Project Description

This Environmental Impact Report evaluates the potential for environmental impacts from the implementation of the Merced County Association of Governments’ ~~2004~~2011 Regional Transportation Plan. The plan evaluates five scenarios (alternatives), plus a No-Build scenario. The scenarios include transportation projects and programs located throughout the county.

The 2011 RTP does not provide project designs or construction schedules, and adoption of this comprehensive planning document does not represent an approval action for any of the individual transportation programs or projects. Details relating to the site-specific alignment, location, design and scheduling of the transportation improvement projects identified in the 2011 RTP are not fixed in, or defined by, this document. The adoption of the 2011 RTP represents an essential first step in qualifying for the receipt of the funding necessary to permit the implementation of projects and programs.

All other information and text from the Executive Summary of the certified 2004 RTP EIR remain valid and unchanged.

Introduction

(minor changes only)

editorial note: throughout the entire document, unless otherwise noted, change all instances of ~~2004 RTP~~ to [2011 RTP](#).

1.1 Overview of Proposed Project and Approach to Analysis

The Merced County Association of Governments proposes to adopt a ~~2004~~[2011](#) Regional Transportation Plan to address anticipated growth and the associated transportation needs of Merced County. In accordance with state and federal laws, the Merced County Association of Governments has the responsibility of preparing a Regional Transportation Plan with a minimum 20-year planning horizon and updating the plan every three to four years to incorporate new projects and changes in policy direction.

The California Transportation Commission's guidelines for the preparation of Regional Transportation Plans state that "environmental analysis and development of alternatives to minimize adverse environmental impacts is fundamental to the transportation planning process." In addition, the "Regional Transportation Plan and any subsequent revisions, amendments or updates shall be in compliance with the California Environmental Quality Act" (Public Resources Code 21002.1).

[The 2011 RTP is largely based on the 2004 RTP but includes an updated socioeconomic forecast as well as an expanded discussion of Global Climate Change. Therefore this SEIR includes a new chapter – Chapter 17 Climate Change – to comply with new CEQA Guidelines, as well as making minor changes to reflect the updates in the 2011 RTP.](#)

1.6 Scope of this Environmental Impact Report

This Environmental Impact Report concentrates on the long-term environmental impacts of the Regional Transportation Plan and provides the basis for further project-level California Environmental Quality Act compliance for the implementation of future transportation projects.

The following topics are analyzed in this Program Environmental Impact Report:

- land use and planning
- agricultural resources
- recreation
- population and housing
- biological resources
- cultural resources
- hydrology and water quality
- geology and soils
- hazards and hazardous materials

- transportation and traffic
- air quality
- noise
- utilities and service systems
- mandatory findings of significance
- aesthetics
- cumulative and growth-related impacts
- [global climate change](#)

All other information and text from the Introduction of the certified 2004 RTP EIR remain valid and unchanged.

Chapter 2 – Regional Transportation Plan Scenarios (Alternatives)

(minor changes only)

editorial note: throughout the entire document, unless otherwise noted, change all instances of 2004 RTP to 2011 RTP.

2.2 Project Location

The study area for the ~~2004~~2011 Regional Transportation Plan for Merced County is shown in Figure 2-1. Located at the northern end of the San Joaquin Valley in Central California, Merced County encompasses 1,971 square miles of land. The county is bounded by Stanislaus County to the north, Mariposa County to the east, Madera and Fresno counties to the south, and Santa Clara and San Benito counties to the west. ~~The 2003 population estimate (Merced County Association of Governments, 2003) indicates the current county population is 225,115, representing a more than 21% increase since 1990. Census projections indicate Merced County's population will double to 417,200 by year 2030.~~

The 2010 population estimate (Merced County Association of Governments, 2010) indicates the current county population is 260,000, representing a 23% increase since 2000. MCAG projections indicate Merced County's population will increase 80%, to 465,000, by the year 2035.

All other information and text from Chapter 2 of the certified 2004 RTP EIR remain valid and unchanged.

Chapter 3 – Public Outreach

(minor changes only)

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This chapter describes the coordination and public outreach that was done as the Environmental Impact Report and the Regional Transportation Plan were being developed.

As noted in the introduction, the 2011 RTP is based largely on the 2004 RTP but concerns the period from 2010 to 2035. A very extensive public outreach campaign was conducted in the development of the 2004 RTP.

In 2008, MCAG adopted a revised Public Participation Plan and this plan was followed during the 2011 RTP update. Details of the public meetings held in 2009-2010 are contained in the draft 2011 RTP.

All other information and text from Chapter 3 of the certified 2004 RTP EIR remain valid and unchanged.

Chapter 6 – Population, Economics, Housing, and Environmental Justice

(updated information and minor changes)

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Current Population

Population growth is a significant issue for the San Joaquin Valley and for Merced County. Incorporated urban areas in Merced County include: Atwater (population 27,300), Dos Palos (5,000), Gustine (5,200), Livingston (13,900), Los Banos (36,200), and the county seat, the City of Merced (80,500). The total population for Merced County (including ten rural population centers) is 256,450 as of January 2009 (source: Department of Finance, May 2009).

Population and Employment Forecasts

MCAG's socioeconomic forecasts were updated for the 2011 RTP, extending them out to at least 2035. They are based on the most recent Department of Finance (DOF) projections for the county-wide total population (DOF, 2007), but adjusted downward somewhat because of the slowdown in growth (2007 to present) associated with the economic downturn.

Population Forecast for Merced County to 2050

<u>Year</u>	<u>2010</u>	<u>2020</u>	<u>2030</u>	<u>2040</u>	<u>2050</u>
County-wide Population	260,000	331,000	417,500	513,600	619,200

Housing Projections for Merced County to 2035

<u>Housing</u>	<u>2010</u>	<u>2020</u>	<u>2030</u>	<u>2035</u>
Single-family	63,800	80,100	99,700	109,100
Multiple-family	20,100	26,700	35,000	40,400
Total Number of Units	83,900	106,800	134,700	149,500

County-Wide Employment Forecast to 2035

	<u>2010</u>	<u>2020</u>	<u>2030</u>	<u>2035</u>
Employment	85,200	110,800	138,200	155,300

All other information and text from Chapter 6 of the certified 2004 RTP EIR remain valid and unchanged.

Chapter 13 – Air Quality

(minor changes)

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13.5 Air Quality Conformity and Analysis

...

Regional Analysis

[A regional emissions analysis was conducted for the years 2011, 2012, 2014, 2017, 2020, 2023, 2025, and 2035 for the required pollutants. All analyses were conducted using the latest planning assumptions and emissions models. The details of the conformity analysis are contained in the *Draft Conformity Analysis* \(April 2010\). The analysis demonstrates that all conformity tests are satisfied.](#)

The remainder of this section, including Table 13-2, is deleted.

All other information and text from Chapter 13 of the certified 2004 RTP EIR remain valid and unchanged.

Chapter 17 – Climate Change

[\(new chapter\)](#)

17.1 Overview

This section includes a discussion of global climate change, its causes and the contribution of human activities, as well as a summary of existing greenhouse gas emissions. This section also describes the criteria for determining the significance of climate change impacts, and estimates the likely greenhouse gas emissions that would result from vehicular traffic and other emission sources related to the Project. Where appropriate, mitigation measures are recommended to reduce project-related impacts.

Climate refers to any significant change in measures of climate (such as temperature, precipitation, or wind) lasting for an extended period (decades or longer). Global Climate Change (GCC) means shift in the climate of the earth as a whole. It does occur naturally as in the case of the ice age. According to CARB, the climate change that is occurring today differs from previous climate changes in both time and scale.

Gases that catch heat in the atmosphere are regularly called greenhouse gases (GHG's). The Earth's surface temperature would be about 61 degrees Fahrenheit colder than it is currently if it were not for the innate heat trapping effect of GHG's. The buildup of these gases in the earth's atmosphere is considered the source of the observed increase in the earth's temperature (global warming). Some greenhouse gases such as carbon dioxide occur naturally in nature and are emitted to the atmosphere through natural processes and as well as anthropocentric activities. Other GHG's (e.g., fluorinated gases) are created and emitted solely through human activities.

Since the Industrial Revolution (approximately 1750), global concentrations of carbon dioxide (CO₂) have risen about 36%, chiefly due to the burning of fossil fuels. Questions remain about the amount of warming that will occur, how fast it will occur, and how the warming will affect the rest of the climate system including weather events.

The United Nations Intergovernmental Panel on Climate Change constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. The Panel concluded that a stabilization of GHGs at 400 to 450 parts per million (ppm) CO₂ equivalent concentration is required to keep global mean warming below 3.6° Fahrenheit (2° Celsius). This is presumed necessary to avoid dangerous climate change (Association of Environmental Professionals, 2007).

State law defines greenhouse gases as any of the following compounds: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF₆) (California Health and Safety Code Section 38505(g).) CO₂, followed by CH₄ and N₂O, are the most common GHGs that result from human activity. The characteristics of state defined GHGs are described below:

- Carbon dioxide – CO₂ results from fossil fuel combustion in stationary and mobile sources. It contributes to the greenhouse effect, but not to stratospheric ozone depletion. In 2004, CO₂ accounted for approximately 84 percent of total GHG emissions in the state (CEC, 2006);
- Methane – CH₄ can also be divided into anthropogenic (i.e., resulting from human activities and/or processes) and natural sources. Anthropogenic sources include rice agriculture, livestock, landfills, and waste treatment, some biomass burning, and fossil fuel combustion. Natural sources are wetlands, oceans, forests, fire, termites and geological sources. Anthropogenic sources currently account for more than 60 percent of the total global emissions; and
- Other regulated GHGs include Nitrous Oxide (N₂O), Sulfur Hexafluoride (S₆), Hydrofluorocarbons (HFC), and Perfluorocarbons (PFC) - These gases all possess heat-trapping characteristics that are greater than CO₂. Emission sources of nitrous oxide gases include, but are not limited to, waste combustion, waste water treatment, fossil fuel combustion, and fertilizer production. Because the volume of emissions is small, the net effect of nitrous oxide emissions relative to CO₂ or CH₄ is relatively small. SF₆, HFC, and PFC emissions occur at even lower rates

Over the last 200 years, human activities have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere, and enhancing the natural greenhouse effect, which is believed to be causing global warming. While manmade GHGs include naturally occurring GHGs such as CO₂, methane, and N₂O, some gases, like HFCs, PFCs, and SF₆ are completely new to the atmosphere.

Certain other gases, such as water vapor, are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

Globally, climate change has the potential to impact numerous environmental resources through potential, though uncertain, impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. A warming of about 0.2°C (0.36° Fahrenheit) per decade is projected, and there are identifiable signs that global warming is taking place, including substantial ice loss in the Arctic.

However, the understanding of GHG emissions, particulate matter, and aerosols on global climate trends remains uncertain. In addition to uncertainties about the extent to which human activity rather than solar or volcanic activity is responsible for increasing warming, there is also evidence that some human activity has cooling, rather than warming, effects, as discussed in detail in numerous publications by the International Panel on Climate Change (IPCC), namely “Climate Change 2001, The Scientific Basis” (2001).

Climate change modeling shows that further warming could occur, which would induce additional changes in the global climate system during the current century. Changes to the global climate system, ecosystems, and the environment of California could include, but are not limited to:

GHGs have the potential to affect the environment because such emissions are believed to cumulatively contribute to global climate change. Although GHG emissions from one single project will not by itself cause global climate change, it is thought that GHG emissions from multiple projects, past, present and future throughout the world may collectively result in a cumulative impact with respect to global climate change. It is speculated that global climate change could contribute to rising sea levels, which can inundate low-lying areas; impact rainfall and snowfall, which could change water supply, affect habitat which could affect biological resources, along with other unknown affects.

The consumption of nonrenewable energy (primarily gasoline and diesel fuel) associated with construction activities and the operation of passenger, public transit, and commercial vehicles results in GHG emissions that cause global climate change. In addition, alternative fuels like natural gas including CNG and liquid natural gas (LNG), ethanol, and electricity (unless derived from solar, wind, nuclear, or another energy source that does not produce carbon emissions) also result in GHG emissions and contribute to global climate change.

Climate models indicate that temperatures in California may rise by 4.7°F to 10.5°F by the end of the century if GHG emissions continue to proceed at a medium or high rate (CEC, 2006). Lower emission rates would reduce the projected warming to 3.0°F to 5.6° Fahrenheit. Almost all climate scenarios include a continuing trend of warming through the end of the century given the amounts of GHGs already released, and the difficulties associated with reducing emissions to a level that would stabilize the climate. Total GHG emissions in California have been approximated by CARB, which found that 468 MMT of CO₂E GHG emissions were produced in California in 2004 . CARB also found transportation to be the source of 38 percent of the state's GHG emissions; followed by electricity generation at 25 percent and industrial sources at 20 percent.

Global climate change is a problem caused by cumulative worldwide GHG emissions. Mitigating global climate change will require worldwide solutions. Combined gases in the earth's GHGs plays a critical role in the earth's radiation budget by trapping infrared radiation emitted from its surface, which otherwise could have escaped to space. Prominent GHGs contributing to this process include water vapor, carbon dioxide, methane, ozone, nitrous oxide, and certain fluorocarbons. This phenomenon, known as the "greenhouse effect", keeps the earth's atmosphere near the surface warmer than it would be under other circumstances. Increases in these gases leads to higher radiation absorption, thereby warming the lower atmosphere and increasing evaporation rates and temperatures near the surface.

Emissions of the GHGs in excess of natural ambient concentrations are thought to be responsible for enhancing the greenhouse effect and contribute to what is termed "global warming", or the unnatural warming of the earth's natural climate. Climate change is a global problem, and GHGs are global pollutants, unlike criteria air pollutants (such as ozone precursors). Worldwide, California is the 12th to 16th largest emitter of carbon dioxide (CO₂), according to the California Energy Commission (CEC), and is responsible for approximately 2% of the world's CO₂ emissions.

The Intergovernmental Panel on Climate Change (IPCC) was established by the World Meteorological Organization and United Nations Environment Programme to assess scientific, technical, and socioeconomic information to further understand climate change, its potential impacts, and options for adaptation and mitigation. The IPCC predicts substantial increases in

temperatures globally of between 1.1 to 6.4 degrees Celsius, depending on the scenario studied. This may impact the natural environment in California in the following ways:

- Rising sea levels along the California coastline, particularly in the San Francisco Bay Area and within the San Joaquin Delta because of ocean expansion.
- Extreme-heat conditions, such as heat waves and very high temperatures, which could last longer and become more frequent.
- An increase in heat-related human deaths, infectious diseases, and a higher risk of respiratory problems caused by deteriorating air quality.
- Reduced snow pack and stream flow in the Sierra Nevada mountains, affecting winter recreation and water supplies.
- Potential increases in the severity of winter storms, affecting peak stream flows and flooding.
- Changes in growing season conditions that could affect California agriculture, causing variations in crop quality and yield.
- Changes in the distribution of plant and wildlife species because of changes in temperature, competition from colonizing species, changes in hydrologic cycles, changes in sea levels, and other climate-related effects.
- Increase in the number of days conducive to ozone formation by 25 to 85 percent (depending on the future temperature scenario) in high ozone areas of Los Angeles and the San Joaquin Valley by the end of the 21st century.
- High potential for erosion of California's coastlines and seawater intrusion into the Delta and levee systems due to the rise in sea level.

Changes in California's climate and ecosystems are occurring at a time when the State's population is expected to increase from 34 to 59 million by 2040, according to the CEC. As such, the number of people potentially affected by climate change, as well as the amount of anthropogenic GHG emissions expected under a "business as usual" scenario, is expected to increase.

Similar changes would also occur in other parts of the world with regional variations in resources affected and vulnerability to adverse effects. According to the CEC, GHG emissions in California are attributable to human activities associated with industrial/manufacturing, utilities, transportation, residential, and agricultural sectors, as well as natural processes. Transportation is responsible for 41% of the state's GHG emissions, followed by the industrial sector (23%), electricity generation (20%), agriculture and forestry (8%) and other sources (8%). Emissions of carbon dioxide and nitrous oxide are byproducts of fossil fuel combustion, among other sources. Methane, a highly potent GHG, results from off-gassing associated with agricultural practices and landfills, among other sources. Sinks of carbon dioxide include uptake by vegetation and dissolution into the ocean.

The State of California GHG Inventory performed by the CARB compiled statewide human sources of GHG emissions. It includes estimates for CO₂, CH₄, N₂O, SF₆, HFCs, and PFCs. The current inventory covers the years 1990 to 2004, and is summarized in Table 17-1. When accounting for GHGs, all types of GHG emissions are expressed in terms of CO₂ equivalents (CO₂E) and are typically quantified in metric tons (MT) or millions of metric tons (MMT). Data sources used to calculate this GHG inventory include California and federal agencies, international organizations, and industry associations. The calculation methodologies are consistent with guidance from the Intergovernmental Panel on Climate Change (IPCC). The 1990 emissions level is the sum total of

sources from all sectors and categories in the inventory. The inventory is divided into seven broad sectors and categories in the inventory. These sectors include: Agriculture; Commercial; Electricity Generation; Forestry; Industrial; Residential; and Transportation.

TABLE 17-1
State of California GHG Emissions By Sector
 MMT CO₂E (million metric tons of CO₂ equivalent emissions)

SECTOR	TOTAL 1990 EMISSIONS	PERCENT OF TOTAL 1990 EMISSIONS	TOTAL 2004 EMISSIONS	PERCENT OF TOTAL 2004 EMISSIONS
Agriculture	23.4	5%	27.9	6%
Commercial	14.4	3%	12.8	3%
Electricity Generation	110.6	26%	119.8	25%
Forestry	0.2	<1%	0.2	<1%
Industrial	103.0	24%	96.2	20%
Residential	29.7	7%	29.1	6%
Transportation	150.7	35%	182.4	38%
Forestry Sinks (Absorption)	(6.7)		(4.7)	
Total	432	100%	468	100%

Source: Staff Report – California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit, California Air Resources Board, November 2007.

17.2 Regulatory Setting

Federal

In 1988, the United Nations established the Intergovernmental Panel on Climate Change to assess the impacts of global warming and to develop strategies that nations could apply to curb global climate change. In 1992, the United States joined other countries around the world in signing the United Nations' Framework Convention on Climate Change accord with the goal of controlling greenhouse gas emissions.

The Climate Change Action Plan was developed as a result to address the reduction of greenhouse gases in the United States. The plan is comprised of more than 50 voluntary programs. Additionally, the Montreal Protocol was first signed in 1987 and considerably amended in 1990 and 1992. The Montreal Protocol instructs that the production and consumption of compounds that deplete ozone in the stratosphere--chlorofluorocarbons (CFCs), halons, carbon tetrachloride, and methyl chloroform--were to be phased out by 2000 (2005 for methyl chloroform).

Recently, in *Massachusetts v. EPA* (April 2, 2007), the U.S. Supreme Court held that GHG's fall within the Clean Air Act's definition of an "air pollutant" and directed the EPA to deem whether GHG's are affecting climate change. The EPA must regulate GHG emissions from automobiles under the Clean Air Act if it is determined GHG's do affect climate change. Currently, the EPA has not yet begun rule-making proceedings to judge whether GHG's are contributing to climate change. In addition, Congress has enlarged the corporate average fuel economy (CAFE) of the U.S.

automotive fleet. In December 2007, President Bush signed a bill increasing the minimum average miles per gallon for cars, sport utility vehicles and light trucks to 35 miles per gallon by 2020. This rise in CAFE' standard will result in a significant reduction in GHG emissions from automobiles, which are the largest single emitting GHG group in California.

On April 17, 2009, EPA issued its proposed endangerment finding for GHG emissions. EPA is proposing to find that greenhouse gases in the atmosphere endanger the public health and welfare of current and future generations. Concentrations of greenhouse gases are at unprecedented levels compared to the recent and distant past. EPA has stated that these high atmospheric levels are the unambiguous result of human emissions, and are very likely the cause of the observed increase in average temperatures and other climatic changes. The effects of climate change observed to date and projected to occur in the future – including but not limited to the increased likelihood of more frequent and intense heat waves, more wildfires, degraded air quality, more heavy downpours and flooding, increased drought, greater sea level rise, more intense storms, harm to water resources, harm to agriculture, and harm to wildlife and ecosystems – are effects on public health and welfare within the meaning of the CAA.

The U.S. EPA annually publishes the *Inventory of U.S. Greenhouse Gas Emissions and Sinks* for estimating sources of GHGs that is generally consistent with the IPCC methodology developed in its *Guidelines for National Greenhouse Gas Inventories*.

The Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the U.S. would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicle in the U.S. Pursuant to the Act, the National Highway Traffic and Safety Administration, which is part of the USDOT, is responsible for establishing additional vehicle standards and for revising existing standards.

State

Various statewide and local initiatives to reduce California's contribution to GHG emissions have raised awareness that, even though the various contributors to and consequences of global climate change are not yet fully understood, global climate change is occurring. Every nation emits GHGs; therefore, global cooperation will be required to reduce the rate of GHG emissions. There are currently no state regulations in California that establish ambient air quality standards for GHGs. However, the state of California has passed legislation directing CARB to develop actions to reduce GHG emissions.

Assembly Bill 1493 (Pavley)

California Assembly Bill 1493 (Pavley) enacted on July 22, 2002, required the CARB to develop and adopt regulations that reduce greenhouse gases emitted by passenger vehicles and light duty trucks. Regulations adopted by ARB would apply to 2009 and later model year vehicles. CARB estimated that the regulation would reduce climate change emissions from light duty passenger vehicle fleet by an estimated 18% in 2020 and by 27% in 2030 (AEP 2007). In 2005, the CARB requested a waiver from EPA to enforce the regulation, as required under the Clean Air Act. Despite the fact that no waiver had ever been denied over a 40-year-period, the then Administrator of the EPA sent Governor Schwarzenegger a letter in December, 2007, indicating he had denied the waiver. On March 6, 2008 the waiver denial was formally issued in the Federal Register. Governor

Schwarzenegger and several other states immediately filed suit against the federal government to reverse that decision. On January 21, 2009, CARB requested that EPA reconsider denial of the waiver. EPA scheduled a re-hearing on March 5, 2009 and is considering the case.

Executive Order S-3-05

Governor Schwarzenegger established Executive Order S-3-05 in 2005. This Executive Order set forth a series of target dates by which statewide emissions of GHGs would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels.
- By 2020, reduce GHG emissions to 1990 levels.
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The executive order directed the secretary of the California Environmental Protection Agency (Cal/EPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. The secretary will also submit biannual reports to the governor and California Legislature describing the progress made toward the emissions targets, the impacts of global climate change on California's resources, and mitigation and adaptation plans to combat these impacts. To comply with the executive order, the secretary of Cal/EPA created the CAT, made up of members from various state agencies and commissions. The team released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of California businesses, local governments, and communities and through state incentive and regulatory programs.

Assembly Bill 32 (California Global Warming Solutions Act of 2006)

California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500 - 38599). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished by enforcing a statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires CARB to adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrived at the cap; institute a schedule to meet the emissions cap; and develop tracking reporting, and enforcement mechanisms to ensure that the state reduces GHG emissions enough to meet the cap. AB 32 also includes guidance on instituting emissions reductions in an economically efficient manner, along with conditions to ensure that businesses and consumers are not unfairly affected by the reductions. Using these criteria to reduce statewide GHG emissions to 1990 levels by 2020 would represent an approximate 25 to 30 percent reduction in current emissions levels. However, CARB has discretionary authority to seek greater reductions in more significant and growing GHG sectors, such as transportation, as compared to other sectors that are not anticipated to significantly increase emissions. Under AB 32, CARB must adopt regulations by January 1, 2011 to achieve reductions in GHGs to meet the 1990 emission cap by 2020.

Executive Order S-1-07

Executive Order S-1-07, which was signed by Governor Schwarzenegger in 2007, proclaims that the transportation sector is the main source of GHG emissions in California, generating more than 40 percent of statewide emissions. It establishes a goal to reduce the carbon intensity of transportation fuels sold in California by at least ten percent by 2020. This order also directs CARB to determine whether this Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32. On April 23, 2009 CARB approved the proposed regulation to implement the LCFS. The LCFS will reduce GHG emissions from the transportation sector in California by about 16 MMT in 2020. The LCFS is designed to reduce California's dependence on petroleum, create a lasting market for clean transportation technology, and stimulate the production and use of alternative, low-carbon fuels in California. The LCFS is designed to provide a durable framework that uses market mechanisms to spur the steady introduction of lower carbon fuels. The framework establishes performance standards that fuel producers and importers must meet each year beginning in 2011. One standard is established for gasoline and the alternative fuels that can replace it. A second similar standard is set for diesel fuel and its replacements.

The standards are "back-loaded"; that is, there are more reductions required in the last five years, than the first five years. This schedule allows for the development of advanced fuels that are lower in carbon than today's fuels and the market penetration of plug-in hybrid electric vehicles, battery electric vehicles, fuel cell vehicles, and flexible fuel vehicles. It is anticipated that compliance with the LCFS will be based on a combination of strategies involving lower carbon fuels and more efficient, advanced-technology vehicles.

Senate Bill 97

SB 97, signed August 2007 (Chapter 185, Statutes of 2007; PRC Sections 21083.05 and 21097), acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. This bill directs the Governor's Office of Planning and Research (OPR), which is part of the state Resources Agency, to prepare, develop, and transmit to CARB guidelines for the feasible mitigation of GHG emissions (or the effects of GHG emissions), as required by CEQA, by July 1, 2009. The Resources Agency is required to certify and adopt those guidelines by January 1, 2010. SB 97 also removes, both retroactively and prospectively, the legitimacy of litigation alleging inadequate CEQA analysis of effects of GHG emissions in the environmental review of projects funded by the Highway Safety, Traffic Reduction, Air Quality and Port Security Bond Act of 2006 or the Disaster Preparedness and Flood Protection Bond Act of 2006 (Proposition 1B or 1E). This provision will be repealed by operation of law on January 1, 2010; at that time, any such projects that remain unapproved will no longer be protected against litigation claims of failure to adequately address climate change issues. In the future, this bill will only protect a handful of public agencies from CEQA challenges on certain types of projects, and only for a few years time.

As set forth more fully below, in June 2008, OPR published a technical advisory recommending that CEQA lead agencies make a good-faith effort to estimate the quantity of GHG emissions that would be generated by a proposed Project. Specifically, based on available information, CEQA lead agencies should estimate the emissions associated with project-related vehicular traffic, energy consumption, water usage, and construction activities to determine whether project-level or

cumulative impacts could occur, and should mitigate the impacts where feasible (Governor's Office of Planning and Research, 2008). OPR requested CARB technical staff to recommend a method for setting CEQA thresholds of significance, as described in Section 15064.7 of the CEQA Guidelines, which will encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the state.

Senate Bill 375

SB 375, signed in September 2008 (Chapter 728, Statutes of 2008), aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a sustainable communities strategy (SCS) or alternative planning strategy (APS) that will prescribe land use allocation in that MPOs regional transportation plan. CARB, in consultation with MPOs, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets. CARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet the GHG reduction targets, transportation projects may not be eligible for funding programmed after January 1, 2012.

This law also extends the minimum time period for the regional housing needs allocation cycle from five years to eight years for local governments located within an MPO that meets certain requirements. City or county land use policies (including general plans) are not required to be consistent with the regional transportation plan (and associated SCS or APS). However, new provisions of CEQA would incentivize (through streamlining and other provisions) qualified projects that are consistent with an approved SCS or APS, categorized as "transit priority projects."

California Climate Action Registry General Reporting Protocol

The California Climate Action Registry (CCAR) was established in 2001 by SB 1771 and SB 527 (Chapter 1018, Statutes of 2000, and Chapter 769, Statutes of 2001, respectively) as a nonprofit voluntary registry for GHG emissions. The purpose of the CCAR is to help companies and organizations with operations in the state to establish GHG emissions baselines against which any future GHG emissions reduction requirements may be applied. CCAR has developed a general protocol and additional industry-specific protocols that provide guidance on how to inventory GHG emissions for participation in the registry.

This protocol provides the principles, approach, methodology, and procedures required for participation in CCAR. It is designed to support the complete, transparent, and accurate reporting of an organization's GHG emissions inventory in a fashion that minimizes the reporting burden and maximizes the benefits associated with understanding the connection between fossil fuel consumption, electricity use, and GHG emissions in a quantifiable manner. The most updated version of this protocol was prepared in April 2008. All cabinet-level state agencies and departments have joined the CCAR. Membership in the CCAR means that all members of the Governor's Cabinet will be reporting their GHG emissions on a yearly basis

California Code of Regulations Title 24

Although not originally intended to reduce greenhouse gas emissions, California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The GHG emission inventory was based on Title 24 standards as of October 2005; however, Title 24 has been updated as of 2008 and standards are set to be phased in summer 2009. Energy efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for water heating) results in greenhouse gas emissions. Therefore, increased energy efficiency results in decreased greenhouse gas emissions.

CAPCOA January 2008 CEQA and Climate Change White Paper

In January 2008, the California Air Pollution Control Officers Association (CAPCOA) issued a "white paper" on evaluating GHG emissions under CEQA. The CAPCOA white paper strategies are not guidelines and have not been adopted by any regulatory agency; rather, the paper is offered as a resource to assist lead agencies in considering climate change in environmental documents. The CAPCOA white paper addresses what constitutes new emissions, how baseline emissions should be established, what should be considered cumulatively considerable under CEQA, what a business as usual (BAU) scenario means, and whether an analysis should include life-cycle emissions.

The CAPCOA white paper contains a Climate Change Significance Criteria Flow Chart that proposes a tiered approach to determining significance under CEQA. The flow chart would consider a proposed plan's impact to be less than significant if a General Plan for the project area exists that is in compliance with AB 32 (showing that GHG emissions for 2020 would be less than 1990 emissions for the plan area). The flow chart would consider a proposed Project's impact to be significant unless one of the following can be demonstrated:

- The project is exempt under SB 97.
- The project is on the "Green List".
- A General Plan for the project area exists that is in compliance with AB 32.
- GHG emissions are analyzed and mitigated to less-than-significant.

The CAPCOA white paper considers GHG impacts to be exclusively cumulative impacts.

CARB Climate Change proposed Scoping Plan

On December 11, 2008, CARB adopted its Scoping Plan, which functions as a roadmap of CARB's plans to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. CARB has estimated that the 1990 GHG emissions level was 427 MMT net CO₂e (CARB 2007b). CARB estimates that a reduction of 173 MMT net CO₂e emissions below BAU would be required by 2020 to meet the 1990 levels (CARB, 2007b). This amounts to a 15 percent reduction from today's levels, and a 30 percent reduction from projected BAU levels in 2020 (CARB, 2008a).

CARB's Scoping Plan calculates 2020 BAU emissions as those expected to occur in the absence of any GHG reduction measures. The 2020 BAU emissions estimate was derived by projecting

emissions from a past baseline year using growth factors specific to each of the different economic sectors, i.e. transportation, electrical power, commercial and residential, industrial etc. CARB used three-year average emissions, by sector, for 2002-2004 to forecast emissions to 2020. At the time CARB's Scoping Plan process was initiated, 2004 was the most recent year for which actual data was available. The measures described in CARB's Scoping Plan are intended to reduce the projected 2020 BAU to 1990 levels, as required by AB 32. CARB's Scoping Plan also breaks down the amount of GHG emissions reductions CARB recommends for each emissions sector of the state's GHG inventory. CARB's Scoping Plan calls for the largest reductions in GHG emissions to be achieved by implementing the following measures and standards:

- Improved emissions standards for light-duty vehicles (estimated reductions of 31.7 MMT CO₂E).
- The LCFS (15.0 MMT CO₂E).
- Energy efficiency measures in buildings and appliances, and the widespread development of combined heat and power systems (26.3 MMT CO₂E).
- A renewable portfolio standard for electricity production (21.3 MMT CO₂E).

CARB has identified a GHG reduction target of 5 MMT (of the 174 MMT total) for local land use changes (Table 2 of CARB's Scoping Plan), by Implementation of Reduction Strategy T-3 regarding Regional Transportation-Related GHG Targets. Additional land use reductions may be achieved as SB 375 is implemented. CARB's Scoping Plan states that successful implementation of the plan relies on local governments' land use, planning, and urban growth decisions because local governments have primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions. CARB further acknowledges that decisions on how land is used will have large effects on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emission sectors. CARB's Scoping Plan does not include any direct discussion about GHG emissions generated by construction activity. The measures approved by the Board will be developed over the next two years and be in place by 2012. CARB's Scoping Plan expands the list of nine Discrete Early Action Measures to a list of 39 Recommended Actions contained in Appendices C and E of CARB's Scoping Plan.

OPR June 2008 Technical Advisory on CEQA and Climate Change

SB 97 directs the Governor's Office of Planning and Research (OPR) to develop guidelines for the mitigation of GHG emissions or the effects of GHG emissions under CEQA. OPR is required to prepare and transmit these guidelines by July 1, 2009 for certification and adoption by January 1, 2010. In the interim, a June 2008 Technical Advisory provides informal guidance for public agencies as they address the issue of climate change in their CEQA documents. The June 2008 Technical Advisory offers recommendations for identifying GHG emissions, determining significance under CEQA, and mitigating impacts.

The June 2008 OPR Advisory states that lead agencies under CEQA should develop their own approach to performing a climate change analysis for projects that generate GHG emissions. The June 2008 OPR Advisory also states that the lead agency should assess whether project emissions are individually or cumulatively significant, and implement strategies to avoid, reduce, or otherwise mitigate the impacts of those emissions when impacts are potentially significant. However, CARB's

subsequently released draft thresholds acknowledge that the GHG analysis be on a cumulative basis as GHG is a global phenomena.

Regional agencies can attempt to reduce GHG emissions through their planning processes. For example, regional transportation planning agencies can adopt plans and programs that address congestion relief and reduce VMT.

In April 2009, OPR published its proposed revisions to CEQA to address GHG emissions. The amendments to CEQA indicate the following:

- Climate action plans and other greenhouse gas reduction plans can be used to determine whether a project has significant impacts, based upon its compliance with the plan.
- Local governments are encouraged to quantify the greenhouse gas emissions of proposed projects, noting that they have the freedom to select the models and methodologies that best meet their needs and circumstances. The section also recommends consideration of several qualitative factors that may be used in the determination of significance, such as the extent to which the given project complies with state, regional, or local GHG reduction plans and policies. OPR does not set or dictate specific thresholds of significance. Consistent with existing CEQA Guidelines, OPR encourages local governments to develop and publish their own thresholds of significance for GHG impacts assessment.
- When creating their own thresholds of significance, local governments may consider the thresholds of significance adopted or recommended by other public agencies, or recommended by experts.
- New amendments include guidelines for determining methods to mitigate the effects of greenhouse gas emissions in Appendix F of the CEQA Guidelines.
- OPR is clear to state that “to qualify as mitigation, specific measures from an existing plan must be identified and incorporated into the project; general compliance with a plan, by itself, is not mitigation”.
- OPR emphasizes the advantages of analyzing GHG impacts on an institutional, programmatic level. OPR therefore approves tiering of environmental analyses and highlights some benefits of such an approach.

EIRs must specifically consider a project's energy use and energy efficiency potential.

OPR January 8, 2009 Preliminary Draft CEQA Guideline Amendments for GHG Emissions

In January 2009, OPR released preliminary proposed amendments to the CEQA Guidelines regarding GHG emissions. No significance threshold is included in the draft and the guidelines afford the customary deference provided to lead agencies in their analysis and methodologies. The introductory preface to the amendments recommends that CARB set state-wide thresholds of significance. CARB released draft thresholds, as referenced below. OPR emphasized the necessity of having a consistent threshold available to analyze projects, and the analyses should be performed based on the best available information. For example, if a lead agency determines that GHGs may be generated by a proposed Project, the agency is responsible for quantifying estimated GHG emissions by type and source. The preliminary draft guidelines provide the following recommendations for determining the significance of GHG emissions under draft section 15064.4:

- a. The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency should make a good-faith effort, based on available information, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:
 1. Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; or
 2. Rely on a qualitative analysis or performance based standards.
- b. A lead agency may consider the following when assessing the significance of impacts from greenhouse gas emissions on the environment:
 1. The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.
 2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
 3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

The proposed amendments reiterate that the analysis of GHG impacts is cumulative. Section 15130 (f) provides that an EIR shall analyze GHG emissions resulting from a proposed Project when the incremental contribution of those emissions may be cumulatively considerable. On April 13, 2009, OPR submitted its proposed amendments to the state CEQA Guidelines for GHG emissions to the Secretary for Natural Resources, as required by Senate Bill 97 (Chapter 185, 2007). The Natural Resources Agency will conduct formal rulemaking in 2009, prior to certifying and adopting the amendments, as required by Senate Bill 97.

CARB Preliminary Draft Staff Proposal, October 2008

Separate from CARB's Scoping Plan approved in December 2008, CARB issued a Staff Proposal in October 2008, as its first step toward developing recommended statewide interim thresholds of significance for GHGs that may be adopted by local agencies for their own use. The proposal does not attempt to address every type of project that may be subject to CEQA, but instead focuses on common project types that, collectively, are responsible for substantial GHG emissions – specifically, industrial, residential, and commercial projects. CARB is developing thresholds in these sectors to advance climate objectives, streamline project review, and encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the state. These draft thresholds

are under revision in response to voluminous comments received. Finalized thresholds are expected sometime in 2009.

CARB staff's objective in this proposal is to develop a threshold of significance that would require the vast majority (approximately 90 percent statewide) of GHG emissions from new industrial projects to be subject to CEQA's requirement to impose feasible mitigation. CARB believes this can be accomplished with a threshold that allows small projects to be considered insignificant. CARB staff used existing data for the industrial sector to derive a proposed hybrid threshold. The threshold consists of a quantitative threshold of 7,000 metric tons of CO₂E per year (MT/year CO₂E) for operational emissions (excluding transportation), and performance standards for construction and transportation emissions. These performance standards have not yet been developed.

Regional

San Joaquin Valley Air Pollution Control District

To assist Lead Agencies, project proponents, permit applicants, and interested parties in assessing and reducing the impacts of project specific greenhouse gas emissions (GHG) on global climate change, the San Joaquin Valley Air Pollution Control District (District) has adopted the guidance: *Guidance for Valley Land-use Agencies in Addressing GHG Emission Impacts for New Projects under CEQA* and the policy: *District Policy – Addressing GHG Emission Impacts for Stationary Source Projects Under CEQA When Serving as the Lead Agency*. The guidance and policy rely on the use of performance based standards, otherwise known as Best Performance Standards (BPS) to assess significance of project specific greenhouse gas emissions on global climate change during the environmental review process, as required by CEQA. Use of BPS is a method of streamlining the CEQA process of determining significance and is not a required emission reduction measure. Projects implementing BPS would be determined to have a less than cumulatively significant impact. Otherwise, demonstration of a 29 percent reduction in GHG emissions, from business-as-usual, is required to determine that a project would have a less than cumulatively significant impact. The guidance does not limit a lead agency's authority in establishing its own process and guidance for determining significance of project related impacts on global climate change.

17.3 Impact Analysis

Implementation of the 2011 RTP could create long-term impacts related to GHG emissions. Emissions would be generated primarily by the on-road vehicles, which would use the capital improvements proposed in the 2011 RTP.

Criteria for Significance

As with any environmental impact, lead agencies must determine what constitutes a significant impact. In the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a "significant impact", individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice. The potential effects of a project may be individually limited but cumulatively significant. Lead agencies should not dismiss a proposed project's direct and/or indirect climate change impacts without careful consideration, supported by substantial evidence. Although climate change is ultimately a cumulative

impact, not every individual project that emits GHGs must necessarily be found to contribute to a significant cumulative impact on the environment. CEQA authorizes reliance on previously approved plans and mitigation programs that have adequately analyzed and mitigated GHG emissions to a less than significant level as a means to avoid or substantially reduce the cumulative impact of a project, encourages reliance on other Environmental Impact Reports that discuss greenhouse gases, and tiering from them. The preliminary draft amendments OPR issued included an introduction letter in which OPR indicated that OPR intends to rely on CARB to recommend a method for setting significance thresholds.

Methodology

Climate change is a significant global cumulative impact that could also have a substantial effect on the natural environment of California and within Merced County. The potential contribution of the 2011 RTP to this cumulative impact is discussed below.

State action on climate change is mandated by AB 32. MCAG, along with other regional planning agencies throughout the state, will be monitoring the progress of state agencies in developing approaches to address GHG emissions. As agreed-upon approaches for project-level CEQA analysis and for transportation planning are established, MCAG expects that climate change will be a key environmental consideration in future regional transportation planning. Both MCAG and responsible agencies implementing projects outlined in the 2011 RTP will be required to adhere to any future applicable mandatory regulations regarding global warming resulting from the passage of AB 32, but the exact character of such future implementing strategies is not known at this time.

While the cumulative significance of climate change has been established, in absence of established project-level significance thresholds, MCAG considers it speculative at this time to determine whether the GHG emissions related to transportation in Merced County represents a considerable contribution to a significant cumulative impact. MCAG does find that implementation of the 2011 RTP is likely to reduce emissions relative to the No-Build Alternative because of increased funding for transit improvements and improved traffic levels of service.

Although the COGs do not have land use authority to implement more compact and energy efficient land use, or limit growth, the eight San Joaquin Valley Councils of Governments or County Transportation Commissions are working on a significant public outreach project called the San Joaquin Valley Blueprint, providing education on the effects of urban sprawl. The process will ultimately identify a preferred land use scenario separate from the local government general plan process. Dependent upon the success of the educational effort now underway, the process could result in a vision for the San Joaquin Valley that is more energy efficient than historic growth trends in the region.

As previously indicated, neither CEQA nor the CEQA Guidelines mention or provide any methodology for analysis of "greenhouse gases," including CO₂, nor do they provide any significance thresholds. However, the air quality model used to predict emissions rates of the criteria pollutants (EMFAC) is capable of modeling the emissions of CO₂, and MCAG analyzed CO₂ emissions resulting from the Proposed Plan. Even though the total VMT increase, the proposed Plan results in a reduction in CO₂ emissions and would represent an improvement over the No Project Alternative as shown in Table 17-2. The improvement in operations compared to the No Project Alternative, particularly higher speed and reduced vehicle hours traveled (VHT), has a

beneficial cumulative impact on CO₂ emissions due to improved traffic flow, resulting in more efficient vehicle operation, which is consistent with the results for the analysis of the other criteria pollutants. The Proposed Plan would result in a positive cumulative effect on the reduction of CO₂ levels and would not require mitigation.

TABLE 17-2
Future CO₂ Emissions (Tons Per Day, in thousands)

Scenario	CO₂
Project Alternative (2035)	13.07
No-Build Alternative (2035)	13.08
Difference	0.01
<i>Project Alternative Lower than No Build?</i>	<i>Yes</i>

The impact assessment for GHG emissions focuses on potential effects the Project might have on GHG emissions within the Merced Region. The assessment is not site or individual improvement project-specific but is a regional analysis.

Analysis Results

Based upon the findings described in Table 17-2, MCAG finds that 2011 RTP would not result in increased CO₂ impacts compared to those in the No Build Alternative.

Project Impacts

Implementation of the 2011 RTP would reduce emissions of greenhouse gases as compared to implementation of the “No Build” scenario. Therefore, long-term impacts are *less than significant*.

The ultimate sources of increased transportation emissions in Merced County are population and employment growth, which will increase with or without projects referenced in the 2011 RTP. MCAG does not implement land use policy in Merced County; rather, this is under the jurisdiction of the County and the various cities. Decisions about the place, pace, and scale of growth and development are reflected in the general plans and project approvals adopted by the local agencies. The 2011 RTP is designed to complement, rather than change, the plans adopted by the local agencies. Thus, the ultimate effect of the 2011 RTP on transportation emissions is not to increase the amount of travel per se, but rather to influence where and how travel occurs within and through the County.