

4.5 CLIMATE CHANGE

This section analyzes greenhouse gas emissions and climate change impacts associated with implementation of the proposed project. At the direction of the State Legislature in Senate Bill (SB) 97, the California Natural Resources Agency recently adopted amendments to the California Environmental Quality Act (CEQA) Guidelines that require analysis of climate change and greenhouse gas (GHG) emissions in CEQA documents¹. (CNRA 2009a) Information in this section is derived in part from the *Greenhouse Gas Assessment for the Rancho Cucamonga General Plan Update, City of Rancho Cucamonga* prepared by Mestre Greve Associates and dated January 2010 which is included in its entirety as Appendix D.

4.5.1 RELEVANT POLICIES AND REGULATIONS

Federal

The Federal government began studying the phenomenon of global warming as early as 1978 with the National Climate Protection Act (92 Stat. 601), which required the President to establish a program to “assist the Nation and the world to understand and respond to natural and man-induced climate processes and their implications.” The 1987 Global Climate Protection Act (Title XI of Pub. L. 100-204), directed the U.S. Environmental Protection Agency (USEPA) to propose a “coordinated national policy on global climate change,” and ordered the Secretary of State to work “through the channels of multilateral diplomacy” to coordinate efforts to address global warming. Further, in 1992, the United States ratified a nonbinding agreement among 154 nations to reduce atmospheric greenhouse gases (GHGs).

More recently, in *Massachusetts v. EPA* (April 2, 2007), the United States Supreme Court held that GHGs fall within the Clean Air Act’s definition of an “air pollutant,” and directed the USEPA to consider whether GHGs are causing climate change. If so, the USEPA must regulate GHG emissions from automobiles under the Clean Air Act.

There are no Federal laws or regulations governing GHG emissions. However, the following statement by the U.S. Environmental Protection Agency (USEPA) describes the most recent Federal administrative action.

On December 7, 2009, the Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act. The rule 1) declares that GHGs endanger human health and 2) represents the first step to regulation through the Federal Clean Air Act. The USEPA defines six key GHGs (carbon dioxide [CO₂], methane [CH₄], nitrous oxide [N₂O], hydroflourocarbons [HFCs], perflourocarbons [PFCs], and sulfur hexaflouride [SF₆]). The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to the greenhouse gas pollution which threatens public health and welfare. These findings do not impose any requirements on industry or other entities. However, this action is a prerequisite to finalizing the USEPA’s proposed greenhouse gas emission standards for light-duty vehicles, which were jointly proposed by USEPA and the Department of Transportation’s National Highway Safety Administration on September 15, 2009.

In addition, Congress has increased the corporate average fuel economy (CAFE) of the U.S. automotive fleet. In December 2007, former President Bush signed a bill raising the minimum

¹ The CEQA Guidelines revisions were adopted December 30, 2009. The Adopted Amendments will not become effective until after the Office of Administrative Law completes its review of the Adopted Amendments and rulemaking file, and transmits the Adopted Amendments to the Secretary of State for inclusion in the *California Code of Regulations* (CNRA 2009a).

average miles per gallon for cars, sport utility vehicles, and light trucks to 35 miles per gallon by 2020. This increase in CAFE standard will create a substantial reduction in GHG emissions from automobiles, which is the largest single emitting GHG sector in California.

Multi-State

Western Regional Climate Action Initiative

The Western Regional Climate Action Initiative (2007) includes Arizona, California, New Mexico, Oregon, Utah, Washington. Acknowledging that the western states already experience a hotter, drier climate, the Governors of the foregoing states have committed to three time-sensitive actions: (1) by August 26, 2007, to set a regional goal to reduce emissions from the states collectively, consistent with state-by state goals; (2) by August 26, 2008, to develop “a design for a regional market-based multi-sector mechanism, such as a load-based cap and trade program, to achieve the regional GHG reduction goal;” and (3) to participate in a multi-state GHG registry “to enable tracking, management, and crediting for entities that reduce GHG emissions, consistent with state GHG reporting mechanisms and requirements.”

Western Climate Initiative

The Western Climate Initiative (WCI), a regional collaboration between the Governors of Arizona, California, New Mexico, Oregon and Washington and the Canadian provinces of British Columbia and Manitoba (joined in April 2007), has established a regional goal to reduce greenhouse gas (GHG) emissions in the west to 15 percent below 2005 levels by 2020. The regional goal does not replace the individual state’s goals regarding GHG emissions, but rather the WCI members will use the regional goal in the design of the multi-sector market-based mechanism.

State

Executive Order S-3-05

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05, which proclaims that California is vulnerable to climate change impacts. It declares that increased temperatures could reduce snowpack in the Sierra Nevadas, further exacerbate California’s air quality problems, and potentially cause a rise in sea levels. In an effort to avoid or reduce climate change impacts, Executive Order S-3-05 calls for a reduction in GHG emissions to 2000 levels by 2010; 1990 levels by 2020; and for an 80 percent reduction in GHG emissions below 1990 levels by 2050. It also directs the California Environmental Protection Agency (CalEPA) to prepare biennial science reports on the potential impact of continued global warming on certain sectors of the California economy.

Assembly Bill 1493

Assembly Bill (AB) 1493 (2002)(*Health and Safety Code § 43018.5*) required CARB to develop and adopt the nation’s first GHG emission standards for automobiles. Subsequent to prolonged litigation, the USEPA denied California’s waiver request. California filed a petition with the Ninth Circuit Court of Appeals challenging the USEPA’s denial on January 2, 2008. The Obama Administration subsequently directed the USEPA to re-examine its decision. On May 19, 2009, challenging parties, automakers, the State of California, and the Federal government reached an agreement on a series of actions that would resolve these current and potential future disputes over the standards through model year 2016. In summary, the USEPA and the USDOT agreed to adopt a Federal program to reduce GHGs and improve fuel economy, respectively,

from passenger vehicles in order to achieve equivalent or greater GHG benefits as the AB 1493 regulations for the 2012–2016 model years. Manufacturers agreed to ultimately drop current and forego similar future legal challenges, including challenging a waiver grant, which occurred on June 30, 2009. The State of California committed to revising (1) its standards to allow manufacturers to demonstrate compliance with the fleet-average GHG emission standard by “pooling” California and specified State vehicle sales; (2) its standards for 2012–2016 model year vehicles so that compliance with USEPA-adopted GHG standards would also comply with California’s standards; and (3) its standards, as necessary, to allow manufacturers to use emissions data from the Federal CAFE program to demonstrate compliance with the AB 1493 regulations (CARB 2009a).

Assembly Bill 32

In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Global Warming Solutions Act of 2006 (*Health and Safety Code § 38500 et seq.*). AB 32 directs the California Air Resources Board (CARB) to do the following:

- On or before June 30, 2007, CARB shall publish a list of discrete early action measures for reducing GHG emissions that can be implemented by January 1, 2010;
- On or before January 1, 2010, adopt regulations to implement the early action GHG emission reduction measures;²
- By January 1, 2008, establish the Statewide GHG emissions cap for 2020, based on CARB’s calculation of Statewide GHG emissions in 1990 (an approximately 25 percent reduction in existing Statewide GHG emissions);
- Also by January 1, 2008, adopt mandatory reporting rules for GHG emissions sources that “contribute the most to Statewide emissions” (Health & Safety Code § 38530);
- By January 1, 2009, adopt a scoping plan that indicates how GHG emission reductions will be achieved from significant GHG sources through regulations, market mechanisms, and other strategies;
- On or before January 1, 2011, adopt quantifiable, verifiable, and enforceable emission reduction measures by regulation that will achieve the Statewide GHG emissions limit by 2020;
- On January 1, 2012, CARB’s GHG emissions regulations become operative; and
- On January 1, 2020, achieve 1990 levels of GHG emissions.

California Air Resource Board

The CARB is the lead agency for implementing AB 32. In December 2008, CARB adopted a Scoping Plan, in coordination with the Climate Action Team (CAT), to establish a comprehensive set of actions designed to reduce overall greenhouse gas emissions in California. The measures in the Scoping Plan approved by the CARB will be developed over the next two years and be in place by 2020. According to climate scientists, California and the rest of the developed world will have to cut emissions by 80 percent from today’s levels to stabilize

² The current status of implementation of the totality of CARB’s early action measures is not known based on publicly available information.

the amount of CO₂ in the atmosphere and prevent the most severe effects of global climate change. This long range goal is reflected in California Executive Order S-3-05 that requires an 80 percent reduction of greenhouse gases from 1990 levels by 2050. Reducing GHG emissions to 1990 levels means cutting approximately 30 percent from business-as-usual emissions levels projected for 2020, or about 15 percent from today's levels. On a per-capita basis, that means reducing annual emissions of 14 tons of CO equivalent for every man, woman and child in California down to about 10 tons per person by 2020.

Significant progress can be made toward the 2020 goal through existing technologies, and improving the efficiency of energy use. Other solutions involve improving the State's infrastructure, transitioning to cleaner and more secure sources of energy, and adopting 21st Century land use planning and development practices. Key elements of California's recommendations for reducing its greenhouse gas emissions to 1990 levels by 2020 include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standard;
- Achieving a Statewide renewable energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related greenhouse gas emissions for regions throughout California, and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long term commitment to AB 32 implementation.

CARB anticipated a 5 MMTCO₂e reduction for Regional Transportation-Related Greenhouse Gas Targets. To meet the 1990 target established by CARB, CARB recommends a de minimis (minimal importance) emission threshold of 0.1 MMT annual (100,000 MT per year) CO₂e per transportation source category. Source categories whose total aggregated emissions are below this level are not proposed for emission reduction requirements in the Scoping Plan but may contribute toward the target via other means. As each regulation to implement the Scoping Plan is developed, CARB and other agencies will consider more specific de minimis levels below which the regulatory requirements would not apply. These levels will consider the cost to comply, especially for small businesses, and other factors. Until approved thresholds and guidelines are adopted at the local and regional level, the proposed de minimis threshold of 100,000 MTCO₂e per year for transportation sources will be utilized.

In addition to the Scoping Plan, CARB released the Preliminary Draft Staff Proposal (Staff Proposal) on October 24, 2008 with the objective of developing interim significance thresholds for commercial and residential projects. CARB has proposed a threshold of 7,000 annual MT for industrial operational sources. However, the Staff Proposal does not yet include thresholds applicable for residential and commercial sources. Therefore, criteria for determining threshold levels for residential and commercial sources have yet to be defined. Under CARB's Staff Proposal, recommended approaches for setting interim significant thresholds for GHG under the CEQA are underway. CARB staff proposes to define certain performance standards

(e.g., for energy efficiency) by referencing or compiling lists from existing local, State or national standards. For some sub-sources of GHG emissions (e.g. construction, transportation, waste), CARB staff has not identified reference standards.

The Staff Proposal's Potential Performance Standards and Measures report was released in December 2008. Within the Proposal, CARB's Potential Performance Standard and Measures included some construction measures. These guideline measures are:

- Provide alternative transportation mode options or incentives for workers to and from worksite on days that construction requires 200 or more workers;
- Recycle and/or salvage at least 75 percent of non-hazardous construction and demolition debris by weight (residential) or by weight in volume (commercial); and
- Use recycled materials for at least 20 percent of construction materials based on cost for building materials and based on volume for roadway, parking lot, sidewalk, and curb material. Recycled materials may include salvaged, reused, and recycled content materials.

CARB's Staff Proposal has identified CEC's Tier II Energy Efficiency goals as an appropriate performance standard for energy use. Under State law, the CEC is required to establish eligibility criteria, conditions for incentives, and rating standards. Thus, the CEC established energy efficiency standards for homes and commercial structures, and requires new buildings to exceed current building standards by meeting Tier II Energy Efficiency goals. Currently, CEC's proposed guidelines for the solar energy incentive program recommend a Tier II goal for residential and commercial projects of a 30 percent reduction in building combined space heating, cooling, and water heating energy compared to the 2008 Title 24 standards.

Existing green building rating systems like LEED, GreenPoint Rated, the California Green Building Code, and others, contain examples of measures that are expected to result in substantial GHG emission reductions from residential and commercial projects. Performance standards that already exist and have been proven to be effective at the local, State, national or international level are preferable. For residential and commercial projects, staff has proposed that the GHG emissions of some projects that meet GHG performance standards might, under some circumstances, still be considered cumulatively considerable and therefore significant. However, criteria threshold for residential and commercial have yet to be developed.

AB 32 takes into account the relative contribution of each source or source category to protect adverse impacts on small businesses and others by requiring CARB to recommend a *de minimis* (minimal importance) threshold of GHG emissions below which emissions reduction requirements would not apply. AB 32 also allows the Governor to adjust the deadlines mentioned above for individual regulations or the entire State to the earliest feasible date in the event of extraordinary circumstances, catastrophic events, or threat of significant economic harm.

CARB Mandatory Reporting Regulations and Scoping Plan

In December 2008, CARB propounded regulations to govern mandatory greenhouse gas emissions reporting for certain sectors of the economy, most dealing with approximately 94 percent of the industrial and commercial stationary sources of emissions. Regulated entities include electricity generating facilities, electricity retail providers, oil refineries, hydrogen plants, cement plants, cogeneration facilities, and industrial sources that emit over 25,000 metric tons of CO₂ from stationary source combustion.

Also in December 2008, CARB adopted a Scoping Plan pursuant to AB 32.

Executive Order S-01-07

Executive Order S-01-07 (2007) calls for a reduction in the carbon intensity of California's transportation fuels by at least 10 percent by 2020. As noted above, the low-carbon fuel standard ("LCFS") was adopted by CARB as one of its three "early action measures" on June 21, 2007.

Executive Order S-13-08

In November 2008, Governor Schwarzenegger issued Executive Order S-13-08 directing State agencies to plan for sea level rise and other climate change impacts. There are four key actions in the Executive Order: (1) initiation of a climate change adaptation strategy that will assess the State's expected climate change impacts where the State is most vulnerable, with recommendations by early 2009; (2) an expert panel on sea level rise will inform State planning and development efforts; (3) interim guidance to State agencies on planning for sea level rise in coastal and floodplain areas for new projects; and (4) initiation of a report on critical existing and planned infrastructure projects vulnerable to sea level rise.

Senate Bill 1368

Senate Bill (SB) 1368 (2006)(*Public Utilities Code §§ 8340-41*) requires the California Public Utilities Commission (PUC) to establish a "GHG emission performance standard" by February 1, 2007, for all electricity providers under its jurisdiction, including the State's three largest privately-owned utilities. These utilities provide approximately 30 percent of the State's electric power. After the PUC acted, the California Energy Commission (CEC) adopted a performance standard "consistent with" the PUC performance standard and applied it to local publicly-owned utilities on May 23, 2007 (over one month ahead of its June 30, 2007 deadline). However, the California Office of Administrative Law (OAL) found four alleged flaws in the CEC's rulemaking. The CEC overcame these alleged flaws and adopted reformulating regulations in August 2007.

Senate Bill 107

SB 107 (2006) requires investor-owned utilities such as Pacific Gas and Electric, Southern California Edison and San Diego Gas and Electric, to ensure 20 percent of their electricity is generated from renewable sources by 2010. Previously, State law required that this target be achieved by 2017. Based on pending and approved contracts, the investor-owned utilities are expected to achieve the 20 percent target in the 2013 - 2014 timeframe (CPUC 2009).

Senate Bill 97.

Recent amendments to CEQA Guidelines Senate Bill (SB) 97 directs the California Natural Resources Agency (CNRA) to adopt amendments to the CEQA Guidelines that require evaluation of GHG emissions or the effects of GHG emissions by January 1, 2010. The CNRA has done so, and the amendments to the CEQA Guidelines, in a new Section 15064.4, titled Determining the Significance of Impacts from Greenhouse Gas Emissions, provide that (CNRA 2009b):

- (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 to the extent possible on scientific and factual data, 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 or methodology 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; and/or
 - (2) Rely on a qualitative analysis or performance based standards.
- (b) A lead agency should consider the following factors, among others, 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 requirements must be adopted by the relevant public agency through a public review process and must 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 amendments add a new Section 15126.4 (c) Mitigation Measures Related to Greenhouse Gas Emissions. This new section includes the following:

“Lead agencies shall consider feasible means, supported by substantial evidence and subject to monitoring or reporting, of mitigating the significant effects of greenhouse gas emissions. Measures to mitigate the significant effects of greenhouse gas emissions may include, among others:

- (2) Reductions in emissions resulting from a project through implementation of project features, project design, or other measures, such as those described in Appendix F;”

Appendix F, Energy Conservation, in Section II. EIR Contents includes the following:

“D. Mitigation Measures may include:

1. Potential measures to reduce wasteful, inefficient and unnecessary consumption of energy during construction, operation, maintenance and/or removal. The discussion should explain why certain measures

were incorporated in the Project and why other measures were dismissed.

2. The potential of siting, orientation, and design to minimize energy consumption, including transportation energy, increase water conservation and reduce solid-waste.
3. The potential for reducing peak energy demand.
4. Alternate fuels (particularly renewable ones) or energy systems.
5. Energy conservation which could result from recycling efforts.”

Senate Bill 375

In September 2008, SB 375 was signed by Governor Schwarzenegger. SB 375 is a comprehensive global warming bill that helps to achieve the goals of AB32. To help establish targets, the CARB assigned a Regional Targets Advisory Committee to recommend factors to be considered and methodologies for setting greenhouse gas emission reduction targets. SB 375 also provides incentive – relief from certain CEQA requirements for development projects that are consistent with regional plans that achieve the targets. SB 375 requires CARB to develop, in collaboration with Metropolitan Planning Organizations (MPOs), which is the Southern California Association of Governments (SCAG) for the City of Rancho Cucamonga, passenger vehicle greenhouse gas emissions reduction targets for 2020 and 2035 by September 30, 2010. The MPOs are required to include and adopt, in their regional transportation plan, a sustainable community strategy that will meet the region’s target provided by CARB.

SCAG began work in January 2009 on the next RTP, scheduled for adoption in Spring 2012. This will be the first RTP developed pursuant to SB 375, which includes requirements for inclusion of a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy to meet a greenhouse gas (GHG) emission reduction target for light and medium duty vehicles and for integration of the growth forecast for the RTP with the Regional Housing Needs Assessment (RHNA).

SB 375 provides for subregions and transportation commissions to develop their own subregional SCS to be integrated into the regional plan. These entities are delegated RHNA responsibilities if they choose to take on this task. Thus far, financial support from State sources to support this work is lacking. Final regional targets are scheduled to be established by CARB by October 1, 2010, but SCAG is requested subregional commitments to prepare subregional SCSs by the later part of 2009. SANBAG has developed and maintained land use databases and planning tools and coordinated local agency input to support regional growth forecasts and RHNAs, and will do so on the 2012 RTP as well. In addition, SANBAG, in cooperation with SCAG and many member agencies, has recently completed a multi-jurisdictional COMPASS implementation study that is expected to provide a basis for the SCS within San Bernardino County. SCAG’s Compass Blueprint 2% Strategy seeks to promote integration of land use and transportation in order to make efficient use of infrastructure investments for new higher density and mixed use development. When this happens, it is expected that regional mobility will improve, neighborhoods will be livable, the community will prosper and the region will be sustainable.

Assembly Bill 811

AB 811 would authorize all cities and counties in California to designate areas within which willing property owners could enter into contractual assessments to finance the installation of distributed renewable generation, as well as energy efficiency improvements, that are permanently fixed to the property owner's residential, commercial, industrial, or other real property. These financing arrangements would allow property owners to finance renewable generation and energy efficiency improvements through low-interest loans that would be repaid as an item on the property owner's property tax bill. The contractual assessments could not be used to finance the purchase or installation of appliances that are not permanently fixed to the real property.

California's Renewable Energy Portfolio Standard Program

In 2002, California established its Renewable Energy Portfolio Standard Program, which originally included a goal of increasing the percentage of renewable energy in the State's electricity mix to 20 percent by 2017. The State's most recent Energy Action Plan (2005) raises the renewable energy goal from 20 percent by 2017, to 33 percent by 2020.

Title 24 Energy Efficiency Standards

The Energy Efficiency Standards for Residential and Nonresidential Buildings (Title 24, Part 6 of the *California Code of Regulations* [CCR]) were established in 1978 in response to a legislative mandate to reduce California's energy consumption. Since that time, the energy efficiency standards have undergone several revisions. Most recently, the California Energy Commission (CEC) adopted the 2008 changes to the Building Energy Efficiency Standards as a response to recent legislative and policy directives, including AB 32. The CEC adopted the 2008 changes to the Building Energy Efficiency Standards in order to (1) "Provide California with an adequate, reasonably-priced, and environmentally-sound supply of energy" and (2) "Respond to Assembly Bill 32, the Global Warming Solutions Act of 2006, which mandates that California must reduce its greenhouse gas emissions to 1990 levels by 2020" (CEC 2009). Effective January 1, 2010, the adopted 2008 Title 24 standards replaced the 2005 Title 24 standards.

An impact analysis of the 2008 Energy Efficiency Standards estimates that compared to the 2005 Standards, for new multi-family residential construction, electricity use will be reduced by 19.7 percent; peak demand will be reduced by 7.4 percent; and gas consumption will be reduced by 7.0 percent. For new single-family residential construction, electricity use will be reduced by 22.7 percent; peak demand will be reduced by 8.2 percent; and gas consumption will be reduced by 10.0 percent. These percent savings are relative to heating, cooling, lighting, and water heating only and do not include other appliances, outdoor lighting that is not attached to buildings, plug loads, or other energy uses (CEC 2007b).

Attorney General

The California Attorney General (AG) has filed numerous comment letters with agencies discussing their analysis of climate change in CEQA documents. As part of the AG's efforts to work with agencies on addressing climate change in their CEQA documents, the AG publishes and updates *Sustainability and General Plans: Examples of Policies to Address Climate Change*. In the most recent version, the AG states, "a local government has a greater number of mitigation and adaption options when it looks at the "big picture" than if the analysis is done only at the project-specific level." (DOJ 2010) Among the many resources recommended by the AG is the California Air Pollution Control Officers Association (CAPCOA), *Model Policies for Greenhouse Gases in General Plans* (June 2009), as described in the following paragraph. The

AG notes, "This white paper sets out objectives, goals, and well over 350 general plan policies designed to reduce greenhouse gas emissions and create more sustainable, livable communities."

California Air Pollution Control Officers Association

The introduction to CAPCOA's *Model Policies for Greenhouse Gases in General Plans* includes the following:

"CAPCOA has prepared this white paper consideration of model policies for addressing greenhouse gas emissions in General Plans to provide a common platform of information and tools to support local governments. This paper is intended as a resource, not a guidance document. It is not intended, and should not be interpreted, to dictate the manner in which a city or county chooses to address greenhouse gas emissions in the context of its General Plan.

This paper has been prepared at a time of flux in California law and regulation, as well as accepted practice, regarding how climate change should be addressed in government programs. There is . . . active legislation at the Federal level. And finally, our understanding of the science of climate change continues to evolve, too. In the face of this uncertainty, local governments are working to understand the new expectations, and how best to meet them. This paper is provided as a resource to local policy and decision makers to enable them to make the best decisions they can during this period of uncertainty." (CAPCOA 2009)

The majority of the report is comprised of model policies for GHG reduction that can be incorporated into a jurisdiction's General Plan. Model language is provided in nine major categories: GHG Reduction Planning (overall); Land Use and Urban Design; Transportation; Energy Efficiency; Alternative Energy; Municipal Operations; Waste Reduction and Diversion; Conservation and Open Space; and Education. A comparison of the proposed Rancho Cucamonga General Plan policies with CAPCOA recommended policies is included in Section 4.5.6 of this analysis.

Climate Action Registry

SB 1771 and SB 527 (2001) created the structure of the California Climate Action Registry (Registry), and former Governor Gray Davis signed the final version of the Registry's enabling legislation into law on October 13, 2001. These bills establish the Registry as a non-profit entity to help companies and organizations establish GHG emissions baselines against which future GHG emission reduction requirements could be applied. Using any year from 1990 forward as a base year, participants can record their annual GHG emissions with the Registry. In return for this voluntary action, the State of California promises to offer its "best efforts" to ensure that participants receive consideration for their early action if they are subject to any future State, Federal, or international emissions regulatory scheme.

Regional

South Coast Air Quality Management District

The South Coast Air Quality Management District (SCAQMD) is the agency responsible for comprehensive air pollution control in the South Coast Air Basin (SoCAB), which includes all of Orange County and the urban portions of Los Angeles, Riverside and San Bernardino counties, which includes Rancho Cucamonga. To that end, the SCAQMD, a regional agency, works

directly with SCAG, County transportation commissions, and local governments and cooperates actively with all Federal and State government agencies. The SCAQMD develops rules and regulations; establishes permitting requirements for stationary sources; inspects emissions sources; and enforces such measures through educational programs or fines, when necessary.

The South Coast Air Quality Management District (SCAQMD) adopted a “Policy on Global Warming and Stratospheric Ozone Depletion” in April 1990. The policy commits the SCAQMD to consider global impacts in rulemaking and in drafting revisions to the Air Quality Management Plan (AQMP). In March 1992, the SCAQMD Governing Board reaffirmed this policy and adopted amendments to the policy to include the following directives:

- Phase out the use and corresponding emissions of chlorofluorocarbons (CFCs), methyl chloroform (1,1,1-trichloroethane or TCA), carbon tetrachloride, and halons by December 1995;
- Phase out the large quantity use and corresponding emissions of hydrochlorofluorocarbons (HCFCs) by the year 2000;
- Develop recycling regulations for HCFCs (e.g., SCAQMD Rules 1411 and 1415);
- Develop an emissions inventory and control strategy for methyl bromide; and,
- Support the adoption of a California GHG emission reduction goal.

Beginning in April 2008, the SCAQMD convened a working group to provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. The Working Group meets approximately once per month. On December 5, 2008, the SCAQMD Governing Board adopted its staff proposal for an interim CEQA GHG significance threshold for industrial projects where the SCAQMD is the lead agency (SCAQMD 2008). The interim screening threshold for industrial projects is 10,000 metric tons of carbon dioxide equivalent per year (MTCO₂e/yr). The Working Group has adopted a philosophy similar to recommendations made by other agencies in California to identify “Significance Screening Levels” (or thresholds) for GHG emissions. Projects with GHG emissions less than these levels or thresholds would be less than significant although the projects may be required to demonstrate (1) energy efficiency greater than that required by the California Building Code (commonly referred to as Title 24 standards) and (2) water use efficiency, such as recycled water use or the installation of “smart” controllers for landscape irrigation. Projects with GHG emissions greater than the Significance Screening Levels would be required to implement specific performance standards or purchase offsets³ to reduce the climate change impact(s) to less than significant. The SCAQMD continues to consider screening levels under CEQA for residential, commercial, and mixed-use projects.

4.5.2 EXISTING CONDITIONS

Climate Change Background

The Earth’s climate has always been in the process of changing, due to many different natural factors. However, since the late 18th century, humans have had an increasing impact of the rate of climate change beginning with the Industrial Revolution. Many human activities have augmented the amount of GHGs being released into our atmosphere, specifically through the burning of fossil fuels, such as coal and oil, and deforestation. The gases increase the efficiency

³ Purchase of offsets consists of contributions to a fund that would be used to implement GHG emission reductions at some location other than the Project site.

of the greenhouse effect, which is the process of trapping and recycling energy (in the form of heat) that the Earth emits naturally, resulting in higher temperatures worldwide. The Intergovernmental Panel on Climate Change (IPCC) stated in February 2007 that warming is unequivocal, expressing very high confidence (expressed as a nine out of ten chance of being correct) that the net effect of human activities since 1750 has been one of warming. According to the National Oceanic and Atmospheric Administration (NOAA) and National Aeronautics and Space Administration (NASA) data, the average surface temperature of the Earth has increased by about 1.2 to 1.4 degrees Fahrenheit (°F) since 1900. The warmest global average temperatures in human record have all occurred within the past 15 years, with the warmest two years being 1998 and 2005.

This process of heating is often referred to as 'global warming', although the National Academy of Sciences prefers the terms 'climate change' as an umbrella phrase which includes global warming as well as other environmental changes. Some of these effects include changes to rainfall, wind, and current weather patterns, as well as snow and ice cover, and sea level. The potential effects of climate change are discussed further below.

Depending on which GHG emissions scenario is used, climate models predict that the Earth's average temperature could rise anywhere between 2.5 to 10.4°F from the average recorded temperature in 1990 to the end of this century. The degree of change is influenced by the assumed amount of GHG emissions, and how quickly atmospheric GHG levels are stabilized. Current climate change models are not capable of predicting local impacts, but predict global trends.

GHGs

Some GHGs emitted into the atmosphere are naturally occurring, while others are caused solely by human activities. The principal GHGs that enter the atmosphere because of human activities are:

- **Carbon dioxide (CO₂)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), agriculture, irrigation, and deforestation, as well as the manufacturing of cement.
- **Methane (CH₄)** is emitted through the production and transportation of coal, natural gas, and oil, as well as from livestock. Other agricultural activities influence methane emissions as well as the decay of waste in landfills.
- **Nitrous oxide (N₂O)** is released most often during the burning of fuel at high temperatures. This greenhouse gas is caused mostly by motor vehicles, which also include non-road vehicles, such as those used for agriculture.
- **Fluorinated Gases** are emitted primarily from industrial sources, which often include hydrofluorocarbons (HFC), perfluorocarbons (PFC), and sulfur hexafluoride (SF₆). Though they are often released in smaller quantities, they are referred to as High Global Warming Potential Gases because of their ability to cause global warming. Fluorinated gases are often used as substitutes for ozone depleting substances.

These gases have different potentials for trapping heat in the atmosphere, called global warming potential (GWP). For example, one pound of methane has 21 times more heat capturing potential than one pound of carbon dioxide, which represents a GWP of 1. Because of the differences in GWP between gases, when dealing with an array of emissions, the gases are converted to carbon dioxide equivalents for comparison purposes. Global GHG emissions are

measured in million metric tons of carbon dioxide equivalent (MMTCO₂e) units. A metric ton is approximately 2,205 pounds (lbs). Processes that absorb and accumulate CO₂, often called CO₂ “sinks,” include absorption by vegetation and dissolution into the ocean.

Effects of Climate Change

The long-term effects of global warming may include sea level rise that could cause erosion and flooding of coastal cities and villages, as well as more intense hurricanes and typhoons worldwide. In the United States, Chicago is projected to experience 25 percent more frequent heat waves and Los Angeles would experience a four-to-eight-fold increase in heat wave days by the end of the century. In 2006, the California Climate Change Center predicted that California could witness the following events:

- Temperature increases between 3 and 10.5°F;
- 6 to 20 inches or more increase in sea level;
- 2 to 4 times as many heat wave days in major urban centers;
- 2 to 6 times as many heat-related deaths in major urban centers;
- 1 to 1.5 times more critically dry years; and
- 10 to 55 percent increase in the risk of wildfires.

In the field of climate change, there is the concept of adaptation, which refers to potential climate change impacts on a project, the responses to the changing climate and policies to minimize the predicted impacts. For projects in California, adaptation “impacts” related to climate change have altered weather patterns and water supply, leading to increased water shortages (i.e., a dwindling snowpack, bigger flood flows, rising sea levels, longer and harsher droughts). Water supplies are also at risk from rising sea levels. Risks may include degrading California’s estuaries, wetlands, and groundwater aquifers, which would threaten the quality and reliability of the major California fresh water supply. Higher temperatures would also likely increase electricity demand due to higher air conditioning use. Even if the population remained unchanged, toward the end of the century annual electricity demand could increase by as much as 20 percent if temperatures rise into the higher warming range, though implementing aggressive efficiency measures could lower this estimate. Higher temperatures may also lead to increased water usage for landscaping. However, of these climate change issues, sea level rise is not a concern in Rancho Cucamonga given its distance from the ocean.

Existing Greenhouse Gas Emissions

To put perspective on the emissions generated by a project and to better understand the sources of GHGs, it is important to look at emission inventories. The United Nations has taken the lead in quantifying GHG emissions and compiling the literature on climate change. The United Nations’ estimate for CO₂ equivalents for the world and for the top ten CO₂ producing countries is presented in Table 4.5-1.

**TABLE 4.5-1
TOP TEN CO₂ PRODUCING NATIONS BETWEEN 1990–2004**

County	Emissions (MMTCO ₂ e)	Percent of Global Emissions
1. United States	7017.32	21.06%
2. China	4057.31	12.17%
3. Japan	1340.08	4.02%
4. India	1214.25	3.64%
5. Germany	1004.79	3.02%
6. Canada	720.63	2.16%
7. Brazil	658.98	1.98%
8. United Kingdom	655.79	1.97%
9. Italy	567.92	1.70%
10. France	546.53	1.64%
Total Global	33,326	N/A
N/A: Not Applicable Source: Mestre Greve 2009		

As shown, global CO₂ equivalent emissions totaled 33,326 MMTCO₂e in 2006. Of this, the United States released 7,017 MMTCO₂e in 2006, which is approximately 21 percent of global emissions. Within the United States, California is the state with the second highest level of GHG production in 2006, at 480 MMTCO₂e, or 1.44 percent of the earth's emissions (Texas has the highest). In 2001, the burning of fossil fuels produced over 81 percent of total GHG emissions from the United States.

California GHG Emissions

In a December 2006 report, CARB estimated that California emitted between 425 and 468 million metric tons of CO₂ in 1990. In December 2007, CARB finalized 1990 emissions at 427 million metric tons of CO₂. In the August 2007 draft report, CARB estimated California emitted approximately 480 million metric tons of CO₂ in 2004. More recent data from the U.S. Census Bureau indicates that the total emission is about 13 metric tons of CO₂ per capita, based on a 2007 California population of 36,553,215.

The CEC categorizes GHG generation by source into five broad categories, as follows:

- **Transportation** includes the combustion of gasoline and diesel in automobiles and trucks. Transportation also includes jet fuel consumption and bunker fuel for ships.
- **Agriculture and forestry** GHG emissions are composed mostly of nitrous oxide from agricultural soil management, CO₂ from forestry practice changes, methane from enteric fermentation that takes place in the digestive systems of animals, and methane and nitrous oxide from manure management.
- **Commercial and residential** uses generate GHG emissions primarily from the combustion of natural gas for space and water heating.
- **Industrial** GHG emissions are produced from many industrial activities. Major contributors include oil and natural gas extraction; crude oil refining; food processing; stone, clay, glass, and cement manufacturing; chemical manufacturing; and cement production. Wastewater treatment plants are also significant contributors to this category.

- **Electricity generation** includes both emissions from power plants in California as well as power plants located outside of the State that supply electricity to the State.

Consumption of fossil fuels in the transportation sector (such as automobiles, trucks, and airplanes) was the single largest source of GHG emissions in California, accounting for 40.7 percent of total GHG emissions in the State, between 1990 and 2004. This category was followed by the electric power sector (including both in-state and out-of-state sources) (22.2 percent) and the industrial sector (20.5 percent). The smallest GHG contributors are the commercial and residential sector, as well as the agricultural and forestry sector, accounted for about 10 percent and 8 percent, respectively.

While California has the second highest rate of GHG production in the nation, California has one of the lowest per capita rates of GHG emissions. California had the fourth lowest per capita rate of CO₂ production from fossil fuels in the United States in 2001. Wyoming produced the most CO₂ per capita, while the District of Columbia produced the least.

4.5.3 THRESHOLDS OF SIGNIFICANCE

The following significance criteria are derived from Appendix G of the State CEQA Guidelines. A project would result in a significant adverse impact related to land use and planning if it would:

Threshold 4.5a: Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Threshold 4.5b: Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

There are no established local quantitative significance criteria for GHG emissions impacts. A June 2008 OPR Technical Advisory encouraged lead agencies to analyze GHG emissions in environmental documents and to follow three basic steps: (1) identify and quantify the GHG emissions that could result from a proposed project; (2) analyze the effects of those emissions and determine whether the effect is significant; and (3) identify feasible mitigation measures or alternatives that would reduce the impact to below a level of significance if the impact is significant (OPR 2008). The revisions to the CEQA guidelines allow lead agencies to select specific significance criteria in a similar manner as occurs for air pollutants.

As described in Section 4.5.1 above, CARB recommends a de minimis emission threshold of 100,000 MT per year CO₂e for transportation sources. Transportation projects whose total aggregated emissions are below this level are not proposed for emission reduction requirements in the Scoping Plan. Since the proposed 2010 General Plan Update is an areawide project, similar to most transportation projects, the CARB threshold is the most relevant and will be applied to the proposed 2010 General Plan Update for Threshold 4.5a. Therefore, the proposed 2010 General Plan Update would result in significant impact if it would result in a net increase of GHG emissions of 100,000 MTCO₂e per year or more.

Because of the global nature of the climate change problem, most projects will not result in GHG emissions that are individually significant (CAPCOA 2009). This concept is supported in the various AG, OPR, and SCAQMD publications described above that almost exclusively address cumulative impacts. Therefore, it is accepted as very unlikely that any individual development project or General Plan would have GHG emissions of a magnitude to directly impact global climate change and the impact of the proposed 2010 General Plan Update is considered on a cumulative basis.

4.5.4 GENERAL PLAN GOALS AND POLICIES

Many goals and policies in the proposed Rancho Cucamonga 2010 General Plan Update address issues directly or indirectly related to GHG emission reduction. These issues include but are not limited to vehicle trip reduction, energy conservation, water conservation, and reduction of solid waste. Implementation of these goals and policies and their corresponding implementation actions would reduce GHG emissions impacts and demonstrate conformity with plans, policies, and regulations adopted for the purpose of reducing GHG emissions. 2010 General Plan Update Chapters and the Implementation Plan include goals, policies, and implementation actions related to GHG emissions, as listed below.

Goal LU-2: Facilitate sustainable and attractive infill development that complements surrounding neighborhoods and is accessible to pedestrians, bicycles, transit, and automobiles.

Policy LU-2.1: Plan for vibrant, pedestrian-friendly mixed-use and high-density residential areas at strategic infill locations along transit routes.

Implementation Action: *Review and modify the Development Code and Specific Plans to ensure that those areas identified in Table LU-2 of Chapter 2: Managing Land Use, Community Design, and Historic Resources allow for the type and densities/intensities of development as outlined.*

Policy LU-2.2: Require new infill development to be designed for pedestrians and automobiles equally, and to provide connections to transit and bicycle facilities.

Implementation Action: *Continue development review of applications for infill development between the various City departments and regional-serving agencies to coordinate and maximize non-vehicular connections within the proposed developments and connecting to other areas of the City.*

Policy LU-2.3: Provide direct pedestrian connections between development projects where possible.

Implementation Action: *Establish procedures that allow City staff, during their review of infill development applications, to require pedestrian access studies to ensure that each development has maximized convenient and safe pedestrian connections to existing surrounding developments and public rights-of-way.*

Policy LU-2.4: Promote complementary infill development, rehabilitation, and re-use that contributes positively to the surrounding residential neighborhood areas.

Implementation Action: *Develop guidelines or standards that are specific to potential infill development sites to ensure that developers have considered the individual needs of the community and unique characteristics of the aesthetics, particularly those lots identified within each of the specific Mixed Use designations.*

Goal LU-3: Encourage sustainable development patterns that link transportation improvements and planned growth, create a healthy balance of jobs and housing, and protect the natural environment.

Policy LU-3.2: Encourage a mix of retail, service, industrial and manufacturing, and professional uses that creates diverse, well-paying employment opportunities.

Implementation Action: Focus economic development initiatives on infill sites and on businesses that can provide a range of employment opportunities for skilled and professional workers.

Policy LU-3.3: Locate regionally serving land uses with immediate access to the regional transportation network that is designed to provide maximum access capabilities and permit maximum dispersal of traffic.

Implementation Action: Review and modify, as necessary, zoning designations along Foothill Boulevard and I-15 for consistency with General Plan land use designations.

Policy LU-3.4: Promote development that is sustainable in its use of land and that limits impacts to natural resources, energy, and air and water quality.

Implementation Action: Adopt a sustainable development program that incorporates green building standards.

Policy LU-3.6: Create focused, pedestrian-friendly neighborhoods that are reminiscent of the qualities found in earlier days, particularly within the original communities of Cucamonga, Alta Loma, and Etiwanda, and along Historic Route 66 (Foothill Boulevard).

Implementation Action: Continue to identify, prioritize, and install streetscape and landscape amenities that provide pleasant and comfortable streets, enhance City identity, and promote walking.

Policy LU-3.8: Implement land use patterns and policies that incorporate smart growth practices, including placement of higher densities near transit centers and along transit corridors, allowing mixed-use development, and encouraging and accommodating pedestrian movement.

Implementation Action: Review and modify the Development Code and Specific Plans to ensure that those areas identified in Table LU-2 of Chapter 2: Managing Land Use, Community Design, and Historic Resources allow for the type and densities/intensities of development as outlined.

Goal LU-4: Establish a pedestrian-friendly Foothill Boulevard corridor that facilitates transit use and provides a range of commercial destinations to serve both local and regional needs.

Policy LU-4.1: Provide new mixed-use development opportunities along the Foothill Boulevard Corridor to allow residential, commercial, and civic uses, and to accommodate both transit and automobiles.

Implementation Action: Review and modify the Foothill Boulevard Specific Plan to ensure that allowable land uses not only provide for, but encourage, a mix of residential, commercial, and civic uses that target all modes of transportation.

Policy LU-4.2: Concentrate community- and regional-serving uses on Foothill Boulevard (east of Haven Avenue), providing a range of commercial, office, residential, restaurant, and entertainment-related uses.

Implementation Action: Modify the Development Code as needed to ensure that zoning regulations allow the types of uses that would serve community and regional needs east of Haven Avenue.

Goal LU-5: Support a regionally serving office district that provides professional and technical employment opportunities for the Inland Empire.

Policy LU-5.4: Promote a pedestrian-friendly corridor where employees can walk to restaurants, commercial services, and other amenities in the area.

Implementation Action: *Assess the streetscape and landscape amenities along the Haven Avenue corridor to determine where enhancements can be programmed into new development or redevelopment in the future.*

Policy LU-5.5: Require development to provide courtyards and plazas, public art, and landscaped open spaces that promote safe and convenient pedestrian movement with continuous landscaped pathways between buildings and along Haven Avenue.

Implementation Action: *Assess the streetscape and landscape amenities along the Haven Avenue corridor to determine where enhancements can be programmed into new development or redevelopment in the future.*

Policy LU-5.6: Support the integration of transportation facilities, including transit, to support the office environment.

Implementation Action: *Require new development projects to coordinate with transit authorities as part of a pre-application process to determine how and where transportation facilities can be incorporated into a project.*

Goal LU-9: Foster a cohesive, healthy community through appropriate patterns and scales of development, including complementary transitions between districts, neighborhoods, and land uses.

Policy LU-9.5: Establish mixed-use areas as higher intensity “urban centers” where there is sensitive integration of land uses, convenient modes of transportation, and a focused “sense of place” that emanates from the architectural and landscape design.

Implementation Action: *Review and modify the Design Guidelines to include principles for development within the Mixed Use designations.*

Goal LU-10: Encourage sustainable landscaping and streetscape design.

Policy LU-10.1: Continue to require implementation of the City’s Water Efficient Ordinance, which should be reviewed and updated periodically.

Implementation Action: *Review and modify the regulations for the City’s Water Efficiency Ordinance as industry standards evolve. In particular, implement the provisions of AB 1881 regarding water-efficient landscaping.*

Policy LU-10.3: Promote low water usage, and emphasize fire-safe defensible space.

Implementation Action: *Develop a listing of acceptable fire-resistant plant types to be incorporated into new and rehabilitated development sites.*

Goal LU-12: Foster a variety of travel routes that are enjoyable ways to experience Rancho Cucamonga.

Policy LU-12.3: Support development projects that are designed to facilitate convenient access for pedestrians, bicycles, transit, and automobiles.

Implementation Action: *Adopt a sustainable development program that incorporates green building standards.*

Goal CM-1: Provide an integrated and balanced multi-modal transportation network of complete streets to meet the needs of all users and transportation modes.

Policy CM-1.5: Implement street design standards. Modified standards may be applied where appropriate on arterial corridors relating to transit, bicycle facilities, sidewalks, and on-street parking to be context sensitive to adjacent land uses and districts, and to all roadway users, including transit, bicycles, and pedestrians.

Implementation Action: *Integrate into the CIP process the planning of modified standards for Foothill Boulevard to accommodate bus rapid transit (BRT) and for other arterials as appropriate to reflect the bikeway plan and pedestrian improvements necessary to support mixed-use districts.*

Goal CM-2: Plan, implement, and operate transportation facilities to support healthy and sustainable community objectives.

Policy CM-2.1: Facilitate bicycling and walking citywide.

Implementation Action: *Implement the Bicycle Master Plan included in the Community Mobility Chapter. Require that pedestrian facilities and connections be provided as part of all development projects, with an emphasis on connections within Mixed Use districts. Implement all bicycling and walking policies and Mobility Chapter components. Preparation and distribute bike route maps and bike facilities information. Publish and make readily available pedestrian route maps and pedestrian facilities information.*

Policy CM-2.2: Encourage all feasible measures to reduce total vehicle miles traveled by automobiles, including enhanced transit access and land use approaches that provide compact and focused development along major transit corridors.

Implementation Action: *Review and modify the Development Code and Specific Plans to ensure that those areas identified in Table LU-2 of Chapter 2: Managing Land Use, Community Design, and Historic Resources allow for the type and densities/intensities of development as outlined. Assess the streetscape and landscape amenities along the Haven Avenue corridor to determine where enhancements can be programmed into new development or redevelopment in the future. Require new development projects to coordinate with transit authorities as part of a pre-application process to determine how and where transportation facilities can be incorporated into a project. Implement the Bicycle Master Plan included in the Community Mobility Chapter. Require that pedestrian facilities and connections be provided as part of all development projects, with an emphasis on connections within Mixed Use districts. Implement all bicycling and walking policies and Mobility Chapter components. Preparation and distribute bike route maps and bike facilities information. Publish and make readily available pedestrian route maps and pedestrian facilities information.*

Policy CM-2.3: Support the use of hybrid, electric, and low/zero emission vehicles.

Implementation Action: Continue to maintain the Green Team Sustainability Action Matrix that identifies current and proposed efforts that procure vehicles that includes providing gas-efficient vehicles. Amend the Development Code as appropriate to accommodate alternative fuel service stations and charging facilities.

Policy CM-2.4: Replace City vehicles with energy-efficient and alternative fuel source models when replacing vehicles or adding to the City's fleet.

Implementation Action: Continue to maintain the Green Team Sustainability Action Matrix that identifies current and proposed efforts that procure vehicles that includes providing gas-efficient vehicles. Amend the Development Code as appropriate to accommodate alternative fuel service stations and charging facilities.

Policy CM-2.5: Establish priority parking locations for hybrid, electric, and low/zero emission, and alternative fuel vehicles.

Implementation Action: Consider updating the Development Code (§17.12) to include regulations on establishing priority parking locations for hybrid, electric, and low/zero emission, and alternative fuel vehicles for large office and commercial developments.

Policy CM-2.6: Accommodate charging and fueling stations for alternative fuel vehicles, and put forth strong efforts to have charging facilities provided at employment centers.

Implementation Action: Continue to maintain the Green Team Sustainability Action Matrix that identifies current and proposed efforts that procure vehicles that includes providing gas-efficient vehicles. Amend the Development Code as appropriate to accommodate alternative fuel service stations and charging facilities. Consider updating the Development Code (§17.12) to include regulations on establishing priority parking locations for hybrid, electric, and low/zero emission, and alternative fuel vehicles for large office and commercial developments.

Policy CM-2.7: Require new developments of more than 100 employees (per building or per tenant/company) to develop Transportation Demand Management programs to minimize automobile trips and to encourage use of transit, ridesharing, bicycling, and walking.

Implementation Action: Consider expanding §17.10.070 Trip Reduction of the Development Code to include additional Transportation Demand Management programs.

Policy CM-2.8: Support the installation of high-speed communications infrastructure to facilitate the ability of residents to work at home.

Implementation Action: Continue to implement Title 7 Telecommunications Regulations of the Municipal Code.

Goal CM-3: Provide a transportation system that includes connected transit, bicycle, and pedestrian networks.

Policy CM-3.1: Consult with regional transit operators to maintain and improve the coverage and frequency of transit service in the City.

Implementation Action: Consult and work with regional transit operators to add service coverage and frequency of service in Rancho Cucamonga per Figure CM-4 of the Community Mobility Chapter. Provide input to and monitor results of the Omnitrans Short Range Transit Plan to: (1) ensure that the Plan is responsive to the City's needs, and (2) be in a position to incorporate appropriate conditions of approval on development projects that could benefit from transit access. Coordinate specific location of local bus routes and service loops to provide optimum transit service to the City's residents and businesses. Focus particularly on areas in which the mix and intensities of uses are most in need of a transit option and most likely to support transit operations. Actively promote the use of transit in the City through the publication of transit route maps, schedules and other information, the development and implementation of marketing programs, and the provision of coordinated transit service and bicycle and pedestrian facilities information. Provide locations in the City where residents can purchase transit passes. Provide park-and-ride lots at rail stations and transit centers and near freeway interchanges to encourage ridesharing and transit use. Support the Gold Line Extension from Montclair to Ontario Airport, with a preferred alignment along the Metrolink right-of-way and the Cucamonga Channel.

Policy CM-3.2: Support Omnitrans' expansion of Bus Rapid Transit (BRT) into Rancho Cucamonga, along Foothill Boulevard, with stops at all major north-south streets, and with direct routing via Victoria Gardens.

Implementation Action: Proactively engage with Omnitrans to identify the timing of BRT service, preferred BRT stops within the City, and necessary local infrastructure improvements needed to accommodate BRT service. Develop a time frame and development requirements so that development projects at affected locations can incorporate needed improvements along planned BRT routes. Work with Omnitrans to develop station designs, lighting, and station amenities that are compatible with Rancho Cucamonga's design character.

Policy CM-3.3: Provide local transit circulator service in the City, to serve local neighborhoods, Victoria Gardens, the Metrolink Station, the Civic Center, Central Park, and key destinations.

Implementation Action: Study the feasibility of establishing a local transit circulator to connect businesses, adjacent development, and activity centers in the City. Explore options for alternative funding from sources other than the General Fund, such as having merchants sponsor the shuttle. These buses should operate on fixed routes (with possibly some minimal real-time deviation) and on regular and convenient schedules. The service could be based on smaller (20-35 seat) buses. This action to include the following:

Conduct a Transit Planning Study

Study to determine the best approach to initiating local transit service, to develop a Short-Range (Five Year) Transit Plan for operating such a service, and to determine funding sources.

Explore the Feasibility of Extending Local Transit Service

Explore the possibility of extending to adjacent jurisdictions in cooperation with such jurisdictions who could also participate in funding, if beneficial to the City.

Work with Regional Transit Operators (Omnitrans)

Develop the optimum coordination and integration of bus transit services between the local City circulator system and the regional service.

Policy CM-3.4: Consult with Omnitrans to establish and maintain transit hubs at Victoria Gardens, Chaffey College, the Metrolink Station, and other locations as appropriate to facilitate use of transit and transfers between transit services.

Implementation Action: *Consult and work with regional transit operators to add service coverage and frequency of service in Rancho Cucamonga per Figure CM-4 of the Community Mobility Chapter. Provide input to and monitor results of the Omnitrans Short Range Transit Plan to: (1) ensure that the Plan is responsive to the City's needs, and (2) be in a position to incorporate appropriate conditions of approval on development projects that could benefit from transit access. Coordinate specific location of local bus routes and service loops to provide optimum transit service to the City's residents and businesses. Focus particularly on areas in which the mix and intensities of uses are most in need of a transit option and most likely to support transit operations. Actively promote the use of transit in the City through the publication of transit route maps, schedules and other information, the development and implementation of marketing programs, and the provision of coordinated transit service and bicycle and pedestrian facilities information. Provide locations in the City where residents can purchase transit passes. Provide park-and-ride lots at rail stations and transit centers and near freeway interchanges to encourage ridesharing and transit use. Support the Gold Line Extension from Montclair to Ontario Airport, with a preferred alignment along the Metrolink right-of-way and the Cucamonga Channel.*

Policy CM-3.5: Consider and evaluate the relocation of Metrolink Station to Haven Avenue to provide improved connections to transit and to support planned transit-oriented land uses along Haven Avenue.

Implementation Action: *Work with Metrolink and SCRRA to study the feasibility of moving the Metrolink Station from its current location to Haven Avenue. Explore options for alternative funding from sources other than the General Fund, such as grants, and specifically grants that promote transit-oriented development.*

Policy CM-3.6: In addition to requiring private development to provide transit amenities, consult with regional transit operators to provide attractive and convenient bus stops, including shade/weather protection, seats, transit information, and bus shelters as appropriate.

Implementation Action: *Consult and work with regional transit operators to add service coverage and frequency of service in Rancho Cucamonga per Figure CM-4 of the Community Mobility Chapter. Provide input to and monitor results of the Omnitrans Short Range Transit Plan to: (1) ensure that the Plan is responsive to the City's needs, and (2) be in a position to incorporate appropriate conditions of approval on development projects that could benefit from transit access. Coordinate specific location of local bus routes and service loops to provide optimum transit service to the City's residents and businesses. Focus particularly on areas in which the mix and intensities of uses are most in need of a transit option and most likely to support transit operations. Actively promote the use of transit in the City through the publication of transit route maps, schedules and other information, the development and implementation of marketing programs, and the provision of coordinated transit service and bicycle and pedestrian facilities information. Provide locations in the City where residents can purchase transit*

passes. Provide park-and-ride lots at rail stations and transit centers and near freeway interchanges to encourage ridesharing and transit use. Support the Gold Line Extension from Montclair to Ontario Airport, with a preferred alignment along the Metrolink right-of-way and the Cucamonga Channel. Develop a program, with identified funding sources, for providing amenities at bus stops in the City.

Policy CM-3.7: Continue to develop and maintain a citywide bicycle network of off-street bike paths, on-street bike lanes, and bike streets, to provide connections between neighborhoods, schools, parks, civic center/facilities, recreational facilities, and major commercial centers.

Implementation Action: *Implement the Bicycle Plan pursuant to Figure CM-6. Update the City's Bicycle Circulation Plan in a format suitable for obtaining public funding. Develop the planning, implementation, and design details of the bicycle facility and amenity elements of the Community Mobility Chapter, including the setting of implementation priorities and the identification of both capital and operating funding sources. Implementation should focus on adding a north-south trail along either Deer Creek or Cucamonga Creek as a first priority. Update the City's Trails Implementation Plan to maintain consistency with the General Plan. Review City ordinances to ensure that an adequate mechanism exists to manage the use of trails only by authorized categories of users. Implementation of the Bicycle Plan may require traffic signalization at the crossing of bike paths with arterial roadways to facilitate the safe crossing of those arterials by bicyclists and pedestrians. Signals should be convenient to bicyclists with accessible push-buttons to activate the signal. Provide traffic control push button devices at convenient locations for bicyclists at signalized intersections on the identified Bicycle Network.*

Policy CM-3.8: Continue to encourage the provision of bicycle facilities, such as bicycle lockers and secure bike parking, throughout the City.

Implementation Action: *Identify existing locations where bicycle lockers and secure bicycle parking could be provided at key locations through put the City, and develop a funding and implementation plan. Encourage/require the provision of bicycle lockers and secure bike parking for major development projects, as defined in the Development Code. Modify the Development Code to require provision of bicycle parking spaces, bicycle lockers, and, as appropriate, showers for bicycle riders at new buildings providing significant employment, at transit stations, in the commercial districts, and at recreational destinations in the City.*

Policy CM-3.9: Identify and implement a dedicated funding source for implementation and completion of the bicycle network as identified in the Bicycle Plan.

Implementation Action: *Implement the Bicycle Plan pursuant to Figure CM-6. Update the City's Bicycle Circulation Plan in a format suitable for obtaining public funding. Develop the planning, implementation, and design details of the bicycle facility and amenity elements of the Community Mobility Chapter, including the setting of implementation priorities and the identification of both capital and operating funding sources. Implementation should focus on adding a north-south trail along either Deer Creek or Cucamonga Creek as a first priority. Update the City's Trails Implementation Plan to maintain consistency with the General Plan. Review City ordinances to ensure that an adequate mechanism exists to manage the use of trails only by authorized categories of users. Implementation of the Bicycle Plan may require traffic signalization at the crossing of bike paths with arterial roadways to facilitate the safe crossing of those*

arterials by bicyclists and pedestrians. Signals should be convenient to bicyclists with accessible push-buttons to activate the signal. Provide traffic control push button devices at convenient locations for bicyclists at signalized intersections on the identified Bicycle Network.

Policy CM-3.10: Continue to complete the installation of sidewalks and require new development to provide sidewalks.

Implementation Action: Use the CIP to identify a schedule for installing new and replacement sidewalks throughout the City, placing priority on installing missing sidewalks near schools and activity centers, and replacing sidewalks that have been identified as hazardous to public safety.

Policy CM-3.11: Continue to require pedestrian amenities on sidewalks on major streets that are key pedestrian routes, including the provision of benches, shade trees, and trash cans.

Implementation Action: Identify key pedestrian travel corridors citywide, and prepare a Citywide Pedestrian Circulation Study to determine pedestrian amenity needs, capital and operating funding sources, and a phased implementation program. Develop a program for gradually installing public amenities such as streetlights, benches, trash containers, art, drinking fountains, landscaping, etc. that will enhance the pedestrian environment and encourage increased use of transit. Use both the CIP process and other funding sources, including a program whereby businesses or residents may sponsor street furniture and/or landscaped areas.

Policy CM-3.12: Continue to require that the siting and architectural design of new development promotes safety, pedestrian-friendly design, and access to transit facilities.

Implementation Action: Develop standards to be applied to development projects along transit corridors that require transit and pedestrian accessibility.

Policy CM-3.13: Establish a number of bike hubs in the City (centralized locations with convenient bike parking for trip destinations or transfer to other transportation modes) at key transit nodes and at commercial nodes.

Implementation Action: Conduct a study to determine the best locations for bike hubs in the City, and develop a plan, wayfinding program, and implementation process for providing bike hubs that provide secure bicycle lockers, bike racks, and connections to transit at key locations in the City.

Policy CM-3.14: Enhance pedestrian and bicycle access to local and regional transit, including facilitating connections to transit.

Implementation Action: Implement the Bicycle Plan pursuant to Figure CM-6. Update the City's Bicycle Circulation Plan in a format suitable for obtaining public funding. Develop the planning, implementation, and design details of the bicycle facility and amenity elements of the Community Mobility Chapter, including the setting of implementation priorities and the identification of both capital and operating funding sources. Implementation should focus on adding a north-south trail along either Deer Creek or Cucamonga Creek as a first priority. Update the City's Trails Implementation Plan to maintain consistency with the General Plan. Review City ordinances to ensure that an adequate mechanism exists to manage the use of trails only by authorized

categories of users. Implementation of the Bicycle Plan may require traffic signalization at the crossing of bike paths with arterial roadways to facilitate the safe crossing of those arterials by bicyclists and pedestrians. Signals should be convenient to bicyclists with accessible push-buttons to activate the signal. Provide traffic control push button devices at convenient locations for bicyclists at signalized intersections on the identified Bicycle Network.

Policy CM-3.15: Coordinate the provision of the non-motorized networks (bicycle and pedestrian) with adjacent jurisdictions to maximize sub-regional connectivity.

Implementation Action: *Implement the Bicycle Plan pursuant to Figure CM-6. Update the City's Bicycle Circulation Plan in a format suitable for obtaining public funding. Develop the planning, implementation, and design details of the bicycle facility and amenity elements of the Community Mobility Chapter, including the setting of implementation priorities and the identification of both capital and operating funding sources. Implementation should focus on adding a north-south trail along either Deer Creek or Cucamonga Creek as a first priority. Update the City's Trails Implementation Plan to maintain consistency with the General Plan. Review City ordinances to ensure that an adequate mechanism exists to manage the use of trails only by authorized categories of users. Implementation of the Bicycle Plan may require traffic signalization at the crossing of bike paths with arterial roadways to facilitate the safe crossing of those arterials by bicyclists and pedestrians. Signals should be convenient to bicyclists with accessible push-buttons to activate the signal. Provide traffic control push button devices at convenient locations for bicyclists at signalized intersections on the identified Bicycle Network.*

Policy CM-3.16: Establish fixed route local circulator bus service connecting major activity centers.

Implementation Action: *Explore development of a fixed route local circulator bus system, station location, and funding mechanisms.*

Goal CM-4: *Maximize the operational efficiency of the street system.*

Policy CM-4.1: Continue to implement traffic management and traffic signal operation measures along the arterial roadway to minimize delay and congestion for all modes, without adversely impacting transit, bicycles, and pedestrians.

Implementation Action: *Complete intersection capacity improvements, coordinate traffic signals utilizing Intelligent Transportation Systems (ITS), and improve striping and signage. Striping shall maximize room for bike lanes where feasible and consistent with the Bicycle Plan. Modernize traffic signal equipment as necessary, and continue to update traffic signal timing and synchronization plans to optimize traffic flow along the key arterial corridors, taking into account the needs of transit, bicyclists, and pedestrians as well. Invest in the communications infrastructure necessary to operate a Citywide traffic signal control system.*

Policy CM-4.2: Continue to design and operate arterials and intersections for the safe operation of all modes of transportation, including transit, bicyclists, and pedestrians.

Implementation Action: *Complete intersection capacity improvements, coordinate traffic signals utilizing Intelligent Transportation Systems (ITS), and improve striping and signage. Striping shall maximize room for bike lanes where feasible and consistent with*

the Bicycle Plan. Modernize traffic signal equipment as necessary, and continue to update traffic signal timing and synchronization plans to optimize traffic flow along the key arterial corridors, taking into account the needs of transit, bicyclists, and pedestrians as well. Invest in the communications infrastructure necessary to operate a Citywide traffic signal control system.

Policy CM-4.3: Continue to implement Intelligent Transportation System (ITS) measures and advanced traffic management technologies where appropriate.

Implementation Action: Complete intersection capacity improvements, coordinate traffic signals utilizing Intelligent Transportation Systems (ITS), and improve striping and signage. Striping shall maximize room for bike lanes where feasible and consistent with the Bicycle Plan. Modernize traffic signal equipment as necessary, and continue to update traffic signal timing and synchronization plans to optimize traffic flow along the key arterial corridors, taking into account the needs of transit, bicyclists, and pedestrians as well. Invest in the communications infrastructure necessary to operate a Citywide traffic signal control system.

Goal CM-5: Require that new development mitigate transportation impacts and contribute to the improvement of the City's transportation system.

Policy CM-5.3: Require that new and substantially renovated office, retail, industrial, and multi-unit developments implement transit amenities, including bus turnouts, transit shelters, and other streetscape elements, as appropriate.

Implementation Action: Identify key pedestrian travel corridors citywide, and prepare a Citywide Pedestrian Circulation Study to determine pedestrian amenity needs, capital and operating funding sources, and a phased implementation program. Develop a program for gradually installing public amenities such as streetlights, benches, trash containers, art, drinking fountains, landscaping, etc. that will enhance the pedestrian environment and encourage increased use of transit. Use both the CIP process and other funding sources, including a program whereby businesses or residents may sponsor street furniture and/or landscaped areas.

Policy CM-5.4: Require that new and substantially renovated office, retail, industrial, institutional and multi-unit developments include bicycle and pedestrian amenities on site and/or in the vicinity of the development to facilitate bicycling and walking, including on-site bike paths where appropriate, secure off-street bicycle parking, sidewalk improvements, and benches. The City will encourage such developments to provide bicycle facilities including showers and changing rooms.

Implementation Action: Identify key pedestrian travel corridors citywide, and prepare a Citywide Pedestrian Circulation Study to determine pedestrian amenity needs, capital and operating funding sources, and a phased implementation program. Develop a program for gradually installing public amenities such as streetlights, benches, trash containers, art, drinking fountains, landscaping, etc. that will enhance the pedestrian environment and encourage increased use of transit. Use both the CIP process and other funding sources, including a program whereby businesses or residents may sponsor street furniture and/or landscaped areas.

Goal ED-4: Implement consistent high-quality standards for all future development.

Policy ED-4.2: Make green building and green business a priority.

Implementation Action: Same action(s) as identified for LU-7.1 to 7.4.

Goal CS-6: Provide a safe, comprehensive network of interconnecting off-road trails with amenities that connect neighborhoods, parks, schools, open space, employment areas, retail services, other activity areas, and areas outside the City.

Policy CS-6.1: Provide a comprehensive, interconnected off-road trail system that provides alternative mobility choices throughout the entire City and increases connectivity.

Implementation Action: Continue to implement the principles of the Trails Implementation Plan.

Goal RC-2: Provide adequate, reliable, and sustainable water supplies to the community.

Policy RC-2.2: Continue to consult with the Cucamonga Valley Water District and support programs that protect water quality, conserve water usage, and promote re-use of water in accordance with State guidelines.

Implementation Action: Continue to consult with the CVWD on meeting targets for water recycling and conservation.

Goal RC-3: Support the use of water that is both efficiently consumed and recycled to minimize waste and maximize supplies.

Policy RC-3.1: Require the use of cost-effective methods to conserve water in new developments, and promote appropriate water conservation and efficiency measures for existing businesses and residences.

Implementation Action: Develop educational materials detailing the City's requirements for water conservation within new development proposals and tips for end-users to employ better practices for water conservation.

Policy RC-3.2: Encourage the conversion of water-intensive turf/landscape areas to landscaping that uses climate-appropriate plants, efficient irrigation systems, and water efficient site maintenance.

Implementation Action: Continually update the Water Efficiency Ordinance to meet current State requirements as necessary.

Policy RC-3.3: Support efforts to expand the recycled water distribution system and actively promote the widespread use of recycled water in Rancho Cucamonga.

Continue to consult with the CVWD on meeting targets for water recycling and conservation.

Policy RC-3.4: Maximize water efficiency and the use of alternative sources of water in City operations, and develop water-related best practices and model programs.

Implementation Action: Continue with City efficiency programs to conserve water and lead by example.

Goal RC-4: Encourage the use of energy resources that are efficiently expended and obtained from diverse and sustainable sources, in an effort to minimize greenhouse gas and other air emissions.

Policy RC-4.1: Pursue efforts to reduce energy consumption through appropriate energy conservation and efficiency measures throughout all segments of the community.

Implementation Action: *As it becomes economically practical, identify sources and replace imported, non-renewable energy resources with domestic renewable energy sources such as solar and wind energy, recycled municipal solid waste, and green waste.*

Policy RC-4.2: Promote the use of renewable energy and alternative energy technology, and support efforts to develop small-scale, distributed energy generation (e.g. solar, wind, cogeneration, and biomass) to reduce the amount of electricity drawn from the regional power grid and reduce the use of natural gas, while providing Rancho Cucamonga with a greater degree of energy and economic self-sufficiency.

Implementation Action: *Provided that there would not be a decline in services to City residents or undue tax burden, use of energy efficiency and renewable energy resources will be employed for approving capital and operational expenditures.*

Policy RC-4.3: Encourage the use of solar energy systems in homes and commercial businesses.

Implementation Action: *Establish design criteria for active and passive solar applications within development proposals.*

Policy RC-4.4: Reduce operational energy requirements through sustainable and complementary land use and circulation planning. Support implementation of State mandates regarding energy consumption and greenhouse gas reduction, including AB32 and SB375.

Implementation Action: *Promote land use and circulation patterns that result in multi-purpose automobile trips and that facilitate the use of local and regional transit; continue to advance land use patterns that provide employment and housing opportunities for City residents in a manner that allows for practical options for mobility other than by automobile.*

Policy RC-4.5: Support the development of private sources of sustainable and environmentally friendly energy supplies, provided these are consistent with City aesthetic and public safety goals.

Implementation Action: *Continue to make the recruitment and retention of “green” industries a priority in conjunction with economic development strategies.*

Goal RC-5: Encourage the use of energy conservation strategies in City projects and operations to maximize energy efficiency and serve as a role model to the community and the region.

Policy RC-5.1: Serve as a role model by adopting recognizable standards and incorporating the use of sustainable strategies for new and existing public buildings that maximize occupant health and productivity, minimize operating costs, and provide good environmental stewardship.

Implementation Action: *Collaborate and educate City departments on sustainable strategies that can be employed in new and existing public buildings.*

Policy RC-5.2: Investigate the feasibility of using solar (photovoltaic) lights for City operated parking lots instead of conventional street and pedestrian lights that are powered by electricity in an effort to conserve energy.

Implementation Action: *Establish a retrofit program as photovoltaic street lighting becomes more cost-effective than other technologies.*

Policy RC-5.3: Explore and consider the costs and benefits of alternative fuel vehicles including hybrid, electric, natural gas, and hydrogen powered vehicles when purchasing new City vehicles.

Implementation Action: *Continue to meet the objective of reducing fuel consumption when negotiating for new or replacements to the City's fleet vehicles.*

Goal RC-6: *Encourage and support green buildings in Rancho Cucamonga.*

Policy RC-6.1: Add energy efficiency standards in the Rancho Cucamonga Municipal Code based on green building principles, to reduce energy consumption (particularly for heating, cooling, and lighting) in new construction.

Implementation Action: *Adopt a formal green building program or create one based on a national model, such as LEED, GreenPoint Rated, and/or other programs into the City's codes.*

Policy RC-6.2: Encourage green practices for new and existing buildings throughout the community.

Implementation Action: *Provide developer incentives for constructing green buildings.*

Policy RC-6.3: Promote energy-efficient design features, including but not limited to appropriate site orientation, use of light-colored roofing and building materials, and use of evergreen trees and wind-break trees to reduce fuel consumption for heating and cooling beyond the minimum requirements of Title 24 State Energy Codes.

Implementation Action: *Review and update the City's design guidelines to address energy-efficient design features.*

Policy RC-6.4: Promote green practices and the use of energy saving designs and devices for new and existing buildings throughout the community. Consult with energy providers such as Southern California Edison, Southern California Gas, the Rancho Cucamonga Municipal Utility, and others to establish and coordinate energy efficiency programs that promote energy efficient design in all projects and assist residential, commercial, and industrial users.

Implementation Action: *During the development review process for larger development projects (greater than 10 units/or 10,000 square feet), coordinate with energy providers to determine if additional energy efficiency measures can be incorporated into a project design.*

Goal PF-7: Minimize the volume of solid waste that enters regional landfills and encourage recycling.

Policy PF-7.1: Continue to adopt programs and practices that minimize the amount of materials entering the waste stream. Encourage recycling and composting in all sectors of the community, including recycling of construction and demolition materials, in order to divert items from entering landfills.

Implementation Action: Continue with aggressive waste reduction programs to comply with the provisions of State law.

Policy PF-7.3: Embrace the sustainability principle that recognizes and takes advantage of the life cycle of goods and materials.

Implementation Action: Continue to maintain the Green Matrix and coordinate City personnel responsible for City purchasing and operations to choose goods and materials that are environmentally sustainable and cost effective.

Policy PF-7.4: Serve as a role model to businesses and institutions regarding practices and procedures that minimize the generation of solid waste.

Implementation Action: Provide awareness bulletins to the City residents and businesses on programs that the City is implementing in-house to reduce, recycle, and reuse.

Policy PF-7.5: Continue to educate the community regarding the benefits of solid waste diversion, recycling and composting, and maintain programs that make it easy for all people in Rancho Cucamonga to work toward and achieve City waste reduction objectives.

Implementation Action: Continue to promote local recycling of wastes and use of recycled materials by implementing provisions of AB 939 and adopting incentives, regulations, and procedures to specify local recycling requirements.

Goal PS-11: Reduce the volume of pollutants generated by motorized vehicles.

Policy PS-11-1: Implement the policies in the Community Mobility Chapter to foster a healthy and sustainable community and promote transportation choices other than the private automobile.

Implementation Action: Add the intersection improvements listed below to the Capital Improvement Program (CIP) or appropriate equivalents identified and approved by the City Engineer in the future that would offset the identified impacts; implement the improvements as funding becomes available. Prepare a report on the need for the improvements and their relationship to the impacts caused by new development in Rancho Cucamonga.

- Work with Caltrans and SANBAG to implement a new freeway interchange at 1-15 and Arrow Highway.
- Complete Wilson Avenue between Milliken Avenue and Day Creek Boulevard.
- Complete Rochester Avenue between Banyan Street and Wilson Avenue.

- Pursue Federal funds for a grade separation of the SPRR at Etiwanda Avenue.
- Complete storm drain and widening of Hellman Avenue from Foothill Boulevard to Cucamonga Creek.
- Complete Wilson Avenue from East Avenue to Wardman Bullock.
- Improve the Base Line Road at I-15 Freeway Interchange.
- Complete Youngs Canyon from Cherry Avenue to Banyan Street.
- Continue to program funding into the CIP for the improvements to deficient equestrian trails, as outlined in the Trails Implementation Plan.

Policy PS-11.2: Minimize vehicle emissions by encouraging alternative land use patterns that reduce the need for automobile trips.

Implementation Action: Provide incentives for development proposals that incorporate transit, connectivity, and a mix of land uses within the planning area.

Policy PS-11.3: Support programs that increase ridesharing, reduce pollutants generated by vehicle use, and meet the transportation control measures recommended by SCAQMD in the most recent Clean Air Plan.

Implementation Action: Coordinate with the Chamber to provide educational materials and incentives for businesses that engage in carpooling, transit, flexible work schedules, etc. to reduce the use of individual vehicles.

Policy PS-11.4: Support regional and local transportation and housing programs that reduce vehicle emissions by decreasing vehicle miles traveled (VMT).

Implementation Action: Continue to require development proposal compliance with the City's adopted TDM ordinance.

Policy PS-11.6: Pursue strategies and capital improvements that allow safe routes for children to walk or bike to school to reduce the need for automobile trips.

Implementation Action: Collaborate with local school district representatives to identify barriers to children walking or bicycling to school, particularly physical improvements that are needed, and jointly apply for funding to complete CIP projects that would resolve these barriers.

Goal PS-12: Mitigate against climate change.

Policy PS-12.1: Consult with State agencies, SCAG, and San Bernardino Associated Governments (SANBAG) to implement AB32 and SB375 by utilizing incentives to facilitate infill and transit-oriented development.

Implementation Action: Assign dedicated staff to seek grants to assist with infill projects and to monitor City compliance with the provisions of SB375.

Policy PS-12.2: Encourage renewable energy installation, and facilitate green technology and business and a reduction in community-wide energy consumption.

Implementation Action: As it becomes economically practical, identify sources and replace imported, non-renewable energy resources with domestic renewable energy sources such as solar and wind energy, recycled municipal solid waste, and green waste. Continue to make the recruitment and retention of “green” industries a priority in conjunction with economic development strategies.

Policy PS-12.3: Encourage development of transit-oriented and infill development, and encourage a mix of uses that foster walking and alternative transportation.

Implementation Action: Promote land use and circulation patterns that result in multi-purpose automobile trips and that facilitate the use of local and regional transit; continue to advance land use patterns that provide employment and housing opportunities for City residents in a manner that allows for practical options for mobility other than by automobile.

Policy PS-12.4: Provide enhanced bicycling and walking infrastructure, and support public transit, including public bus service, the Metrolink, and the potential for Bus Rapid Transit (BRT).

Implementation Action: Promote land use and circulation patterns that result in multi-purpose automobile trips and that facilitate the use of local and regional transit; continue to advance land use patterns that provide employment and housing opportunities for City residents in a manner that allows for practical options for mobility other than by automobile.

Policy PS-12.5: Provide green building incentives, assess green building techniques as a formal stage of project review, and develop a green building ordinance or program that addresses both new and existing buildings. Adaptation strategies will also include increased water efficiency in buildings.

Implementation Action: Adopt a formal green building program or create one based on a national model, such as LEED, GreenPoint Rated, and/or other programs into the City’s codes. Provide developer incentives for constructing green buildings. Review and update the City’s design guidelines to address energy-efficient design features. During the development review process for larger development projects (greater than 10 units/or 10,000 square feet), coordinate with energy providers to determine if additional energy efficiency measures can be incorporated into a project design.

Policy PS-12.6: Encourage efforts to reduce waste generation and re-use and support increased recycling and composting opportunities with a focus on large commercial and industrial waste producers.

Implementation Action: Continue with aggressive waste reduction programs to comply with the provisions of State law.

Policy PS-12.7: Support tree planting, planting more vegetation (including native and drought-resistant planting), and preservation of open space.

Implementation Action: Continue to consult with agencies and private organizations that have the land or other resources available to promote open space and habitat preservation and restoration. Pursue actions that provide appropriate long-term protection of areas within the City’s Sphere of Influence that contain sensitive habitat, and which are considered of unique value in enhancing the quality of the local

environment. Require development proposals that include riparian or water-related communities to prepare a site-specific investigation to define the extent and fragility of the riparian community, determine wetland permit requirements and propose measures to mitigate any impacts on the resources stemming from land disturbance or other site development. Continue working with the County of San Bernardino, California Department of Fish and Game, and U.S. Fish and Wildlife Service to protect sensitive biological resources within the City's Planning Area through the creation of a system of preserves and open space along the foothills of the San Gabriel Mountains. Continue with the acquisition program or the creation of conservation easements to protect the biological integrity of the alluvial fan sage scrub (AFSS) to create a preserve for use as part of a mitigation land bank. Explore the feasibility and costs/benefits of potential programs to promote the proper care of and/or preservation of large, mature trees on private property, including incentives. Consider adoption of a tree ordinance. Continue to coordinate the development review process, building permit process, and inspections with the Fire District to ensure that the greatest measures to protect from fire hazards in or adjacent to open space are employed.

Policy PS-12.8: Develop green procurement plans and ensure energy savings in City operations and maintenance.

Implementation Action: Collaborate and educate City departments on sustainable strategies that can be employed in new and existing public buildings. Establish a retrofit program as photovoltaic street lighting becomes more cost-effective than other technologies. Continue to meet the objective of reducing fuel consumption when negotiating for new or replacements to the City's fleet vehicles.

Policy PS-12.9: Develop energy- or climate change-themed publications and workshops, facilitating energy audits for residents, and establishing partnerships to reduce greenhouse gas emissions. Increase public awareness about climate change, and encourage residents and businesses to become involved in activities and lifestyle changes that help reduce greenhouse gas emissions.

Implementation Action: Collaborate and educate City departments on sustainable strategies that can be employed in new and existing public buildings.

4.5.5 STANDARD CONDITIONS OF APPROVAL

SC 4.5-1 The City of Rancho Cucamonga shall actively participate in the development of the Sustainable Communities Strategy (SCS) within San Bernardino County, being prepared by SANBAG pursuant to SB 375, and agree to comply with the requirements of the SCS, including preparation of a Climate Action Plan for the City.

SC 4.5-2 The City of Rancho Cucamonga adopted Ordinance No. 823 (Chapter 17.42 of the Municipal Code), Water Efficient Landscaping in December 2009. This ordinance, following the requirements of AB 1881, was developed to improve both water conservation and water retention. Methods include but are not limited to (1) maximizing the use of recycled water and other water conserving technology, (2) promoting the use of low water use plants, (3) designing and managing landscapes so that water demand can be decreased, and (4) promoting public education about water conservation and efficient water management.

SC 4.5-3 The City has adopted and is implementing the Green Team Sustainability Action Matrix. This program is applicable to the City's Municipal Operations and demonstrates the City's direction towards sustainability. Elements of the program that contribute to GHG emissions reduction include the following (Rancho Cucamonga 2010).

Climate Protection

- Complete and maintain tree inventory with goal of increasing amount of trees in city.
- Put City services, including permitting and class registration, online to minimize trips and paper.
- Prohibit wood-burning fireplaces in new development.

Green Buildings

- Develop a program, goals and timeline to move City operations towards net-zero and grid neutral.
- Explore LEED certification for future public buildings.
- Energy Efficient Appliances, Electrical, and Mechanical Equipment Program allows for permit fee waiver for installation of energy efficient appliances and other mechanical equipment and provides for green building certification for two inspectors. ARRA funded.
- Home Improvement Program Energy Efficiency Revolving Loan providing low-income residents with loans for energy efficient upgrades.

Energy

- Adopt a resolution requiring at least 20% of City energy electricity purchases to be renewable by 2010 and 33% by 2020.
- Retrofit city red traffic signal lights with LEDs.
- Retrofit green and yellow city traffic signal lights with LEDs as replacements are needed.
- Design all new City buildings to maximize cost-effective energy efficiency.
- Retrofit all City facilities with energy-efficient lighting and lighting controls.
- Complete an HVAC Comprehensive Study to ensure facilities' HVAC systems run at maximum efficiency. As part of this effort, replace large City building pumps and electric motors with "variable speed drives" which respond to demand, and modernize the Civic Center's system to replace the old and inefficient compressors.
- Offer RCMU customers energy audits of their facilities.
- Offer RCMU customers rebates for lighting retrofits, HVAC tune-up, and solar installations.
- Replace gas-powered grounds maintenance mowers with electric whenever possible.

- Retrofit park lighting with efficient fixtures.
- Generate a baseline of City energy usage and cost; develop a plan, including goals and a timeline, to maximize energy efficiency and the use of cost-effective alternate sources of energy.
- Explore additional opportunities for the use of renewable energy sources, including solar electricity, solar hot water and wind, especially near the Cajon Pass.
- Research energy efficiency of City street lights (solar and LED).
- Monitor developing energy efficiency technologies, including LEDs for lighting and new solar systems.

Water

- Install a computerized irrigation control system to manage irrigation on over 400 individual parks and landscaped parkways.
- Amend code to allow use of artificial turf and encourage use at city facilities where appropriate.
- Test high efficiency urinals, toilets and other fixtures and install those that are viable in all City facilities

Waste Management

- Reduce amount of paper waste. Reduce number of agenda packets produced. Post financial documents online. Transition to electronic format for City Manager's Weekly.
- Enact an ordinance requiring construction and demolition projects to divert 50% of waste. Require permittees to pay a diversion deposit.
- Provide residents with three collection containers (recyclables, green waste, and trash). Provide programs for businesses, multi-unit residences, and school programs to meet the needs of the facilities.

Transportation

- Implement 4/10 work schedule to reduce employee driving.
- Install electric vehicle charging stations (The City installed 21 electric vehicle charging stations in high traffic City facilities and parks, including the Civic Center and the Metrolink Train Station.)
- Replace gas-powered utility carts with electric carts (15 replaced so far).
- Replace City vehicles with new energy and/or fuel efficient models such as hybrid electric vehicles when replacing vehicles or increasing the City's fleet (City has 6 hybrids, and plans to acquire 22 more).
- Replace diesel-powered vehicles with Compressed Natural Gas (CNG) vehicles, including street sweepers, dump trucks, heavy trucks, fire equipment, and tractors. (Anticipates all to be replaced by 2020).
- Build a CNG fueling station to serve the new Green fleet. Explore options of extending access to other public agencies and public.

- Utilize automatic vehicle locator (AVL) technology to optimize City vehicle routing.
- Expand the partnerships with all local and regional transit and transportation agencies and other organizations to maintain and enhance local transportation options.
- Partner with local transit agencies to promote use of public transportation.
- Explore employee bicycling programs.
- Explore providing shuttle linking hotels, commercial centers and civic center.
- Provide carpool and explore vanpool opportunities for City employees.

Procurement

- Use of online/electronic procurement
- Fleet optimization: assisting Fleet to procure vehicles that includes providing gas efficient vehicles, replacing vehicles when needed, etc.
- When opportunities arise, reconfigure office space to create better working environments, i.e., views and natural light.
- Electronic bidding to reduce paper.
- Develop a policy to only purchase Energy Star-rated or higher energy-efficient equipment.

Education

- Educate all City Employees on current and future sustainability policies.
- Promote the City's green efforts to the community and other stakeholders.
- Facilitate partnerships with the city's businesses to encourage the implementation of green practices.
- Explore all appropriate partnerships with public agencies, school districts, utility companies, and other organizations in order to maximize sustainability education initiatives (essential partners).
- Report annually on the status of the Sustainability Action Plan.
- Develop a Recognition Program to honor local businesses and others who practice sustainability initiatives.
- Take advantage of City events to promote sustainability.

4.5.6 ENVIRONMENTAL IMPACTS

Greenhouse Gas Emissions

Threshold 4.5a: Would implementation of the proposed General Plan Update Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? Specifically, would implementation of the proposed General Plan Update result in

a net increase of GHG emissions of 100,000 MTCO₂e per year or more?

Construction (Short-term) GHG Emissions

The proposed 2010 General Plan Update does not directly involve construction activity. However, GHG emissions would result from construction activities associated with long-term implementation of land use policies in the proposed 2010 General Plan Update. The primary source of GHG emissions generated by construction activities is from use of diesel-powered construction equipment and other combustion sources (i.e., generators, worker vehicles, materials delivery, etc.). The GHG emitted by construction equipment is primarily carbon dioxide (CO₂). In general, site preparation including demolition, grading and excavation represent the construction activities that would result in the highest levels of GHG emissions. GHGs would not only be emitted by on-site construction equipment but also from off-site haul trucks and construction workers traveling to and from the site.

Typical emission rates for construction equipment, including CO₂, can be obtained from the Urban Emissions Model Version (URBEMIS), released by CARB. URBEMIS is a computer program that can be used to estimate emissions including operation (vehicle and area) sources and construction activities associated with land development projects in California.

At this programmatic level of analysis, project-specific construction information is not known because specific projects are not proposed as part of the 2010 General Plan Update. Therefore, total construction emissions related with implementation of the 2010 General Plan Update cannot be quantified. Construction GHG emissions would be evaluated on a project-by-project basis during application review and evaluation for those projects subject to CEQA.

Long-term GHG Emissions

Methodology

The GHG emissions associated with the proposed 2010 General Plan Update were calculated using the URBEMIS program described above. URBEMIS was set to calculate vehicle, natural gas, hearth, and emissions for the entire proposed 2010 General Plan Update under the Target Density scenario, as detailed in Section 3.0, Project Description. Default URBEMIS variables were used for the calculations, including trip generation rates. URBEMIS calculates annual average emissions in tons per year, which are then converted to metric tons per year. The land uses, in terms of dwelling units and square footages, as well as default emission factors utilized in calculating the emissions are provided in the appendix of the GHG Assessment (Appendix D of this PIER).

GHG emissions resulting from residential electrical energy use were calculated by using the energy intensity data, 7,300 kilowatt hours per year (kWh/yr) per residential household, from the July 29, 2009, SCAQMD Working Group presentation (SCAQMD 2009). Non-residential energy intensity data were taken from a study published by the California Energy Commission, with data specific to Southern California Edison use (CEC 2006a). GHG emissions are associated with energy embodied in water demand. Water is embodied with energy by virtue of the amount of energy consumed in collecting, extracting, conveying, treating, and distributing water to end users, and in treating and disposing of wastewater. Water use data of 110,000 gallons of water per year per household and 123 gallons per year per square foot for non-residential uses were taken from the July 29, 2009, SCAQMD Working Group presentation (SCAQMD 2009). Data from the California Energy Commission (CEC) indicates that potable water delivered to Southern California has an embodied energy of 13,022 kilowatt-hours per million gallons (kWh/MG) when used indoors, (i.e., subsequently treated as wastewater) and 11,111 kWh/MG

when used outdoors (CEC 2006b). Electrical energy data were converted to GHG using emissions data from the CCAR General Reporting Protocol for CO₂ electricity use in California (CCAR 2009). GHG emissions attributed to solid waste transport, disposal were estimated using the USEPA Waste Reduction Model (WARM), version 10 (USEPA 2009) for mixed municipal solid waste. Calculations are shown in Appendix D.

GHG emissions estimates for all scenarios are based on existing or projected land uses and do not include emissions reductions attributable to the General Plan Goals and Policies or the Standard Conditions of Approval. Thus, the calculations reflect a “business-as-usual” (BAU) scenario, Emission reductions from BAU are addressed following the quantification of GHG emissions.

Analysis

The primary source of GHG emissions generated by the proposed project (i.e. proposed land uses with implementation of the 2010 General Plan Update) would be from motor vehicles. Other emissions would be generated from the combustion of natural gas for space and water heating, as well as off-site GHG emissions from the generation of electricity consumed by the proposed land use development over the long term.

Quantification of GHG Emissions

As noted above, the proposed project emissions were analyzed for the Target Density scenario, for buildout year 2030. For the purpose of comparison, the Existing Conditions/Baseline (2009) and Existing General Plan (2030) were both calculated, although the baseline emissions based on the existing conditions in the City are the basis of the CEQA analysis. These emissions estimates are presented in Table 4.5-2.

**TABLE 4.5-2
ESTIMATED GHG EMISSIONS**

Source	Annual CO2 Emissions					
	Existing 2009		Existing General Plan 2030		Proposed General Plan 2030	
	MTCO ₂ e	Percent	MTCO ₂ e	Percent	MTCO ₂ e	Percent
Residential Electricity	133,457	3.7%	132,922	3.4%	151,096	3.6%
Retail Electricity	58,153	1.6%	51,618	1.3%	63,263	1.5%
Office Electricity	83,767	2.3%	36,497	0.9%	77,511	1.9%
Industrial Electricity	266,330	7.4%	318,300	8.1%	307,383	7.4%
School Electricity	6,638	0.2%	7,406	0.2%	6,783	0.2%
Residential Water Consumption	24,266	0.7%	24,168	0.6%	27,473	0.7%
Commercial Water Consumption	47,667	1.3%	48,644	1.2%	52,493	1.3%
Residential Solid Waste Disposal	187,190	5.2%	186,440	4.7%	211,931	5.1%
Commercial Solid Waste Disposal	174,409	4.8%	177,983	4.5%	192,069	4.6%
Natural Gas, Hearth, and Landscape Maintenance	201,563	5.6%	213,457	5.4%	238,092	5.7%
Vehicle Trips	2,413,872	67.1%	2,749,625	69.7%	2,825,220	68.0%
TOTAL	3,597,312	100.0%	3,947,059	100.0%	4,153,315	100.0%
Increase over Existing 2009			349,748	9.7%	556,003	15.5%
Increase over Existing GP 2030					206,256	5.2%
MTCO ₂ e – Metric tons of carbon dioxide equivalent						
Source: MGA 2010; BonTerra Consulting 2010.						

As shown in Table 4.5-2, total GHG emissions are projected to be 3,597,312 MTCO₂e per year for the Existing Conditions/Baseline (2009), 3,957,059 MTCO₂e per year for the 2001 General Plan (2030), and 4,153,315 MTCO₂e per year for the proposed 2010 General Plan Update (2030). Implementation of the proposed 2010 General Plan Update would result in a net emission increase of 556,003 MTCO₂e per year when compared to the Existing Conditions/Baseline (2009), and 206,256 MTCO₂e per year when compared to the Existing General Plan (2030). Approximately 68 percent of the estimated GHG emissions associated with the proposed 2010 General Plan Update are projected to be from motor vehicles. Electricity consumption would account for approximately 15 percent of the GHG emissions. As shown, the proposed 2010 General Plan Update's total net increase in GHG emissions would exceed the 100,000 MT per year de minimis threshold that CARB has set for transportation projects and that has been applied to the proposed project.

The comment letter issued by the California Attorney General, on the Coyote Valley Specific Plan, identified the benchmark for causing a significant impact as follows: "Where a project's direct and indirect GHG-related effects, considered in the context of the existing and projected cumulative effects, may interfere with California's ability to achieve its GHG reduction requirements [as required by AB 32], the project's global warming-related impacts must be considered cumulatively significant." The estimated increase in emissions (556,003 MTCO₂e per year) in comparison to the applied threshold (100,000 MTCO₂e per year) available at this time indicates that GHG emissions related to buildout of the proposed 2010 General Plan Update would be considered significant.

GHG Emission Reductions

The 2010 General Plan Update goals, policies, and implementation plans (IP), and the Standard Conditions of Approval (SC) described above would and will result in reducing GHG emissions now and in future years. Because this analysis is at the citywide level, and the extent of the application of the IPs and SCs cannot be reasonably defined at this time, the quantity of GHG emission reductions cannot be quantified. However, the following examples provide indications of the potential reductions from the BAU GHG emissions shown in Table 4.5-2:

The proposed 2010 General Plan Update Goal LU-2 and Policies LU-2.1, LU-2.4, and CM-2.2 describe measures to increase densities, develop infill sites and encourage compact development. A 1999 simulation study conducted for the USEPA compared infill to "greenfield" development in three urban areas. The results predicted infill development would reduce daily VMT by 48 to 61 percent and CO₂ emissions by 45 to 50 percent (Allen et al 1999). A 2009 study of 85 scenarios in 23 planning studies from 18 metropolitan areas suggests that a typical compact land use-transportation scenario could, by 2050, produce 17 percent fewer VMT than trend conditions at the same population and employment levels, and that the estimate is probably conservative (Bartholomew and Ewing 2009)

An approach to quantifying GHG emission reduction measures has been developed by the Sacramento Metropolitan Air Quality Management District (SMAQMD) and further refined by the San Joaquin Valley APCD (SJVAPCD). Both of these districts adopted their methodologies in December 2009.⁴ The methodology assigns a percent reduction to GHGs for specific measures in the following categories (SJVAPCD 2009):

- Bicycle/Pedestrian/Transit
- Parking

⁴ The South Coast AQMD has neither drafted nor adopted GHG emission reduction methodologies for residential and commercial projects.

- Site Design
- Building Component
- TDM and Miscellaneous

Both districts recognize that there are additional measures that need more research before determining a quantified reduction to add to the measures that have been adopted.

Table 4.5-3 shows a small sampling of the SJVAPCD GHG reduction measures that correspond to proposed 2010 General Plan Update Goals and Policies, and the percent GHG emission reduction that is credited to an analyzed project. On each project, these credits are summed, and the goal is to achieve a 15 percent reduction. The SJVAPCD measures are summarized for brevity in this PEIR; most measures have considerably more detail than shown in the table.

The proposed 2010 General Plan Update would result in a net increase of GHG emissions that would be considered cumulatively considerable and a significant and unavoidable impact, Adherence to identified SCs, 2010 General Plan Update goals and policies and MM 4.5-1 would further reduce GHG emissions; however, the reductions would not be sufficient to reduce emissions to below the 100,000 MTCO₂e threshold, and the impact would remain significant and unavoidable.

Implementation of MMs 4.5-2 and 4.5-3 have the potential to reduce the GHG emissions impacts of the proposed 2010 General Plan Update to a less than significant level by substituting the targets and actions of a CAP for the thresholds used in this analysis as well as encouraging additional energy efficiencies. However, completion and adoption of a CAP by the City or a higher level agency is somewhat speculative. Therefore, the GHG emissions impact of the proposed 2010 General Plan Update is considered significant and unavoidable.

Impact 4.5a: The proposed 2010 General Plan Update would result in an estimated gross increase of GHG emissions of 556,003 MTCO₂e per year. Implementation of SCs, the 2010 General Plan Update goals and policies, and MMs 4.5-1 through 4.5-3 would reduce the GHG emissions; however, emissions would not be reduced to less than the 100,000 MTCO₂e per year threshold. The impact would be significant and unavoidable.

**TABLE 4.5-3
EXAMPLE PROJECT-LEVEL GREENHOUSE GAS REDUCTION MEASURES**

Sample 2010 General Plan Update Policies	SJVAPCD Measure Description	GHG Emission Reduction (percent)
Bicycle/Pedestrian/Transit Measures		
CM-2.1, CM-3.4, CM-3.7, CM-3.8, CM-3.9, and CM-3.13 would develop and improve bicycle travel and bicycle facilities	Entire project is located adjacent to an existing Class I or Class II bike lane and project design includes a comparable network that connects the project uses to the existing offsite facility.	0.625
	Non-residential projects provide plentiful short-term and long-term bicycle parking facilities to meet peak season maximum demand.	0.625
	Non-residential projects provide "end-of-trip" facilities including showers, lockers, and changing space.	0.625
	Long-term bicycle parking is provided at apartment complexes or condominiums without garages.	0.625
LU-5.4, LU-5.5 Pedestrian networks; LU-12.3 Projects with convenient access	The project provides a pedestrian access network that internally links all uses and connects to existing external streets and pedestrian facilities.	1
LU-2.3, CM-2.1 Direct pedestrian connections	Site design and building placement minimize barriers to pedestrian access and interconnectivity. Physical barriers such as walls, berms, landscaping, and slopes between residential and nonresidential uses that impede bicycle or pedestrian circulation are eliminated.	1
CM-3.6 Bus shelters	Bus or Streetcar service provides headways of one hour or less for stops within 1/4 mile; project provides safe and convenient bicycle/pedestrian access to transit stop(s) and provides essential transit stop improvements (i.e., shelters, route information, benches, and lighting)	0.5
Site Design Measures		
LU-2.1, LU-3.8 High density along transit routes; CM-1.5, CM-3.2 develop BRT	Residential Density with Existing Bus Rapid Transit; 31-40 du/acre Project provides high-density residential development. Mitigation value is based on project density and proximity to existing bus rapid transit. Existing transit facilities must be within 1/4 mile of project border. Project provides safe and convenient bicycle/pedestrian access to all transit stop(s) within 1/4 mile of project border.	7
	Project is oriented towards existing transit, bicycle, or pedestrian corridor. Setback distance is minimized.	0.5
LU-3.2, LU-4.1, LU-4.2, LU-9.5 Enable Urban Mixed Use	Development of projects predominantly characterized by properties on which various uses, such as office, commercial, institutional, and residential are combined in a single building or on a single site in an integrated development project with functional inter-relationships and a coherent physical design.	From 3 to 9 dependent on job to housing ratio.
Building Component Measures		
RCs-4.1 through 4.4 promote renewable energy design	Project provides onsite renewable energy system(s).	1
RCs-6.1 through 6.4 promote energy efficient building design	Project Exceeds title 24 requirements by 20%	1
Measures not yet Quantified by SJVAPCD		
Measures related to indoor and outdoor water conservation have not been quantified by SJVAPCD. However, GHG emissions reductions may be estimated on the project level by consideration of the flow ratings and efficiency ratings of the systems. Similarly, solid waste reduction GHG emissions estimates may be made by estimating reductions in generation of solid waste.		
Measure descriptions and GHG emission reductions are taken from <i>Final Staff Report -Climate Change Action Plan: Addressing GHG Emissions Impacts under CEQA</i> (SJVAPCD December 17, 2009).		

Compatibility with Plans, Policies, and Regulations

Threshold 4.5b: Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Table 4.5-4 lists many of CAPCOA’s model policies for GHGs in General Plans, as described above in Section 4.5-1. While not formal policies of a regulatory agency, these policies provide important and appropriate guidance on project compliance with State policies. For each policy, the right-hand column of the table shows the proposed 2010 General Plan Update policy or Standard Condition that responds to the measure.

As shown in Table 4.5-4, many of the proposed 2010 General Plan Update policies would be consistent with measures recommended by the CAPCOA to reduce GHG emissions, indicating that the proposed 2010 General Plan Update would not conflict with existing plans, policies and regulations adopted for the purpose of reducing GHG emissions.

Impact 4.5b: The proposed 2010 General Plan Update would not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases. The impact would be less than significant.

**TABLE 4.5-4
CAPCOA MODEL POLICIES AND PROPOSED 2010 GENERAL PLAN
UPDATE POLICIES**

CAPCOA Model Policy	Rancho Cucamonga General Plan Policy (see Section 4.5.4)
<i>Land Use and Urban Design</i>	
LU-1.3 Infill	LU-2.1, LU-2.4, CM-2.2, PS-11.2, PS-12.1, PS-12.3
LU-1.5 Density	LU-2.1, LU-3.8, CM-2.2, PS-11.2
LU-1.8 Bicycle Facilities	CM-1.5, CM-2.1, CM-3.7, CM-3.8, PS-11.6, PS-12.4
LU-2.1 Mixed-Use Development	LU-2.1, LU-3.2, LU-3.8, LU-4.1, LU-4.2, LU-9.5, RC-4.4, PS-11.2, PS-12.3
LU-3.1 Transit-Supportive Density	LU-2.1, LU-2.2, LU-3.8, LU-4.1, LU-9.5, CM-2.2, RC-4.4, PS-11.2, PS-12.1, PS-12.3
LU-3.2 Transit-Oriented Development	LU-2.1, LU-2.2, LU-3.8, LU-4.1, LU-5.6, LU-9.5, LU-12.3, CM-2.2, CM-3.5, CM-3.12, CM-5.3, RC-4.4, PS-11.2, PS-12.1, PS-12.3
LU-3.4 Public Transit Development Focus	LU-2.1, LU-2.2, LU-3.8, LU-4.1, LU-5.6, LU-9.5, LU-12.3, CM-2.2, CM-3.5, CM-3.12, CM-5.3, RC-4.4, PS-11.2, PS-12.3
LU-3.5 City-centered Corridors	LU-3.8, LU-4.1, LU-4.2, CM-2.2, CM-3.5
LU-3.6 Transit-oriented Development Design Standards	LU-9.5, CM-3.12
LU-3.7 Affordable Housing	PS-11.4
LU-4.1 Pedestrian-oriented Character	LU-2.2, LU-2.3, LU-3.6, LU-3.8, LU-12.3, CM-1.5, CM-2.1, CM-3.10, CM-3.11, CM-3.12, CM-5.4, PS-11.1, PS-11.2, PS-12.3, PS-12.4
LU-4.2 Pedestrian Access	LU-2.2, LU-2.3, LU-3.8, LU-5.4, LU-5.5, LU-12.3, CM-1.5, CM-2.1, CM-3.10, CM-3.11, CM-3.12, CM-5.4, PS-11.1, PS-12.3, PS-12.4

**TABLE 4.5-4
CAPCOA MODEL POLICIES AND PROPOSED 2010 GENERAL PLAN
UPDATE POLICIES**

CAPCOA Model Policy	Rancho Cucamonga General Plan Policy (see Section 4.5.4)
Transportation	
TR-1.1 Transportation Planning	LU-12.3, CM-2.2, CM-3.12
TR-1.2 System Interconnectivity	LU-12.3, CM-1.5, CM-2.2, CM-3.4, CM-3.5, CM-3.10, CM-3.13, CM-3.14, PS-11.1, PS-12.4
TR-1.3 Transit System Infrastructure	CM-3.1, CM-3.2, CM-3.3, CM-3.4, CM-3.5, CM-3.6, PS-12.4
TR-1.4 Customer Service	CM-3.1, CM-3.4, CM-3.6
TR-1.5 Transit Funding	PS-12.4
TR-2.2 Arterial Traffic Management	CM-1.5, CM-3.2, CM-4.1, CM-4.2
TR-2.3 Signal Synchronization	CM-4.1, CM-4.2, CM-4.3
TR-3.1 Ride-Share Program	PS-11.3
TR-3.2 Employer-based Trip Reduction	CM-2.7, PS-11.3
TR-3.4 Local Area Shuttles	CM-3.3, CM-3.16
TR-3.5 Low- and No-Travel Employment Opportunities	CM-2.8, PS-11.3
TR-4.1 Development Standards for Bicycles	LU-12.3, CM-1.5, CM-2.1, CM-2.2, CM-3.7, CM-3.8, CM-3.12, CM-5.4, PS-11.6
TR-4.2 Bicycle and Pedestrian Trails	CM-2.1, CM-3.7, CS-6.1, PS-12.4
TR-4.4 Bicycle and Pedestrian Project Funding	CM-3.9, PS-12.4
TR-4.5 Bicycle Parking	CM-3.8, CM-5.4
TR-5.4 Electric/Alternative Fuel Vehicle Parking	CM-2.5, CM-2.6
TR-6.1 Low and Zero Emission Vehicles	CM-2.3, CM-2.4, CM-2.6
Energy Efficiency	
EE-1.1 Green Building Ordinance	RC-6.1, RC-6.3, PS-12.5
EE-1.2 Green Building Flexibility	RC-6.3, PS-12.5
EE-1.3 Green Building Barriers	LU-3.4, ED-4.2, RC-6.3, PS-12.5
EE-1.4 Green Building Incentives	LU-3.4, ED-4.2, RC-6.2, PS-12.5
EE-2.1 Improved Building Standards	CM-2.3, RC-6.1, RC-6.3
EE-3.1 Exterior Heat Gain	RC-6.3
EE-3.2 Heat Island Mitigation	RC-6.3
EE-4.1 Energy Audits	PS-12.9
EE-4.3 Community Energy Program	PS-12.9
Alternative Energy	
AE-1.1 Site Designation	RC-4.2, RC-4.5, PS-12.2
AE-1.2 Removing Barriers	PS-12.2
AE-1.3 Zoning Flexibility	PS-12.2
AE-2.2 Co-generation Projects	RC-4.2, RC-4.5, PS-12.2
AE-2.3 Green Utilities	RC-4.2, RC-4.5, PS-12.2
AE-4.1 Renewable Energy Incentives	RC-4.2, RC-4.5, PS-12.2
AE-4.3 Partnerships	RC-4.5
Municipal Operations	
MO-1.1 Energy Efficiency Plan	RC-5.1, RC-5.2, PS-12.8
MO-1.2 Efficiency Requirement for New Facilities	RC-5.1, PS-12.8

**TABLE 4.5-4
CAPCOA MODEL POLICIES AND PROPOSED 2010 GENERAL PLAN
UPDATE POLICIES**

CAPCOA Model Policy	Rancho Cucamonga General Plan Policy (see Section 4.5.4)
MO-2.1 Wastewater System Efficiency	RC-3.4
MO-2.2 Drinking Water System Efficiency	RC-3.4
MO-2.3 Fleet Replacement	CM-2.3, CM-2.4
MO-4.2 Renewable Energy Installation	RC-5.2
MO-6.1 Purchasing Practices	ED-4.2, PF-7.3, PS-12.8
MO-6.2 Contracting Practices	ED-4.2, PF-7.3, PS-12.8
Waste Reduction and Diversion	
WRD-2.2 Diversion Services	PF-7.1, PS-12.6
WRD-2.5 Program Promotion	PF-7.1, PF-7.3, PF-7.4, PF-7.5, PS-12.6
Conservation and Open Space	
COS-1.2 Water Conservation Plan	LU-10.1
COS-1.3 Recycled Water Use	LU-10.1, RC-2.2, RC-3.3
COS-2.1 Water-Efficient Design	RC-3.1
COS-2.2 Water-Efficient Infrastructure and Technology	RC-3.1
COS-2.3 Gray Water System Standards	RC-3.3
COS-3.1 Water-Efficient Landscapes	RC-3.2
COS-3.2 Shade Tree Planting	PS-12.7
COS-3.3 Urban Forestry Management	PS-12.7
COS-4.2 Conservation Area Preservation	PS-12.7
Education and Outreach	
EO-1.1 Outreach Methods	PS-12.9
EO-1.2 Outreach Topics	PS-12.9
EO-2.1 Energy Efficiency Campaigns	PS-12.9
EO-2.2 Pedestrian and Bicycle Promotion	PS-12.9
EO-3.1 Waste Reduction	PS-12.9
EO-3.2 Water Conservation	PS-12.9
EO-3.3 Energy Efficiency	PS-12.9
EO-3.4 Climate Protection Summit/Fair	PS-12.9
EO-3.5 Schools Program	PS-12.9

4.5.7 CUMULATIVE IMPACTS

According to the comment letter issued by the California Attorney General on the Coyote Valley Specific Plan, cumulative impacts should be considered. The letter states, “Global warming is a quintessentially cumulative impact, caused by the added effects of countless individual projects at the local, regional, state, national, and international level.” As noted previously, very few, if any individual projects, including General Plans, have the magnitude to have a direct impact on global GHG emissions. For the proposed 2010 General Plan Update, new GHG emissions in comparison to the 2009 Existing Conditions/Baseline emissions would be generated on the order of 550,000 MTCO₂e per year. This is above the CARB de minimis thresholds for transportation sources that has been applied to the 2010 General Plan Update. Consequently, the GHG emissions from the proposed 2010 General Plan Update would be cumulatively considerable, which would be a significant and unavoidable cumulative impact.

4.5.8 MITIGATION MEASURES

As described above, implementation of the proposed 2010 General Plan Update policies listed in Section 4.5.4 and the SCs listed in Section 4.5.5 would be effective in reducing GHGs and are, in effect, mitigation measures. However, some of the 2010 General Plan Update Implementation Actions are to “encourage” or “support” actions, rather than to “require” actions. In the opinion of the Attorney General, “Mitigation measures must be ‘fully enforceable.’ Adequate mitigation does not, for example, merely “encourage” or “support” carpools and transit options, green building practices, and development in urban centers. While a menu of hortatory GHG policies is positive, it does not count as adequate mitigation because there is no certainty that the policies will be implemented.” (DOJ 2009) Therefore, MM 4.5-1 will be incorporated into the 2010 General Plan Update.

MM 4.5-1 The City of Rancho Cucamonga will review the proposed 2010 General Plan Update policies included in Section 4.5.4 with a goal of developing enforceable actions for reducing GHG emissions consistent with City practice and philosophy.

The Attorney General states that a Climate Action Plan is reasonable mitigation.

“To allow for streamlined review of subsequent individual projects, we recommend that the Climate Action Plan include the following elements: an emissions inventory (to assist in developing appropriate emission targets and mitigation measures); emission targets that apply at reasonable intervals through the life of the plan; enforceable GHG control measures; monitoring and reporting (to ensure that targets are met); and mechanisms to allow for the revision of the plan, if necessary, to stay on target.(Attorney General 2009)”

Therefore, MM 4.5-2 will be incorporated into the 2010 General Plan Update.

MM 4.5-2 The City of Rancho Cucamonga will develop, adopt, and implement a Climate Action Plan (CAP) that incorporates and is consistent with the GHG emissions reductions goals of the State, San Bernardino County, and the SCAQMD or alternatively, the City will adopt and implement the applicable portions of a higher level CAP, such as that of San Bernardino County or SANBAG. An acceptable CAP shall include an emissions inventory; emission targets that apply at reasonable intervals through the life of the plan; enforceable GHG control measures; monitoring and reporting; and mechanisms to allow for the revision of the plan, if necessary, to stay on target, and must be adopted in a public process following environmental review, as described in CEQA Guidelines Section 15183.5.

MM 4.5-3 The City of Rancho Cucamonga shall join the proposed Joint Powers Authority (JPA) to be called the San Bernardino Valley Clean Energy District. This JPA is being formed in response to California AB 811, and would allow property owners to finance renewable generation and energy efficiency improvements that are permanently fixed to the property owner's residential, commercial, industrial, or other real property through low-interest loans that would be repaid as an item on the property owner's property tax bill. The loans could not be used to finance the purchase or installation of appliances that are not permanently fixed to the real property.

4.5.9 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Greenhouse Gas Emissions

Significant and Unavoidable.

Compatibility with Plans, Policies, and Regulations

Less Than Significant.

Cumulative Impacts

Significant and Unavoidable.