5.3 GREENHOUSE GAS EMISSIONS

This section of the Monterey Park Market Place Supplemental EIR (SEIR) evaluates the potential for the Monterey Park Market Place Precise Plan (MPMP Precise Plan) to generate greenhouse gas (GHG) emissions. The analysis compares the impacts identified in the 2000 Monterey Park Town Plaza EIR (2000 MPTP EIR) to impacts of the MPMP Precise Plan. Since GHG emissions were not identified as an environmental issue at the time the 2000 MPTP EIR was prepared, the SEIR also addresses certain impacts related to GHG emissions that were not studied in the 2000 MPTP EIR. Therefore, the SEIR analyzes the impacts related to GHG emissions for both the 2000 MPTP and MPMP Precise Plan for the remaining phase of the project. The existing ambient air quality was also studied and documented to provide an accurate and complete representation of the surrounding environment.

The analysis also considers policies and mitigation suggested by the California Attorney General and the California Air Pollution Control Officer's Association (CAPCOA) to reduce climate change impacts. This section also evaluates consistency of the revised project with the strategies outlined in the California Air Resources Board's (CARB) Scoping Plan, in accordance with Assembly Bill 32 (AB 32), and strategies proposed by the Southern California Association of Governments (SCAG) to reduce vehicle miles traveled (VMT) in the region, in accordance with Senate Bill 375 (SB 375). The analysis in this section is based in part on the following report(s):

- *CEQA and Climate Change, Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act,* California Air Pollution Control Officers Association, January 2008
- *Climate Change Scoping Plan*, California Air Resources Board, December 2008
- *Compass Blueprint 2% Strategy Opportunity Areas Maps*, Southern California Association of Governments, 2008
- *The California Environmental Quality Act – Addressing Global Warming Impacts at the Local Agency Level*, Office of the California Attorney General, 2008

Operational and construction GHG emissions modeled using URBEMIS2007 are included in Appendix C.

5.3.1 Methodology

On December 30, 2009, the Natural Resources Agency adopted amendments to the CEQA Guidelines. These amendments became effective on March 18, 2010. The amendments to the CEQA Guidelines include new requirements to evaluate GHG emissions. Pursuant to the amended CEQA Guidelines, a lead agency should consider the following when assessing the significance of impacts from GHG emissions on the environment:

1. The extent to which the project may increase (or reduce) GHG 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 an adopted statewide, regional, or local plan for the reduction or mitigation of GHG emissions.[1]

Annual GHG stationary-source and mobile-source GHG emissions were calculated for construction and operation of the project using the URBEMIS2007 urban emissions model (Version 9.2.4). GHG emissions associated with solid waste disposed at the commercial land uses were calculated using the US Environmental Protection Agency's (EPA) WARM model based on an estimate of waste disposal using disposal rates obtained from CalRecycle. Embodied energy associated with water conveyance, treatment, distribution/collection, and wastewater treatment are based on emissions rates from the California Energy Commission (CEC). An estimate of purchased energy is based on energy rates from the Energy Information Administration (EIA).

5.3.2 Impacts Identified in the 2000 MPTP EIR

The 2000 MPTP EIR did not evaluate GHG emissions because prior to the SB 97 amendments (adopted December 31, 2009, effective March 18, 2010) to CEQA and the CEQA Guidelines, GHG emissions were not identified as an issue on the Appendix G initial study checklist.

5.3.3 Environmental Setting

Greenhouse Gases and Climate Change

Climate change is the variation of Earth's climate over time, whether due to natural variability or as a result of human activities. The climate system is interactive, consisting of five major components: the atmosphere, the hydrosphere (ocean, rivers, and lakes), the cryosphere (sea ice, ice sheets, and glaciers), the land surface, and the biosphere (flora and fauna). The atmosphere is the most unstable and rapidly changing part of the system. It is made up of 78.1 percent nitrogen (N_2), 20.9 percent oxygen (O_2), and 0.93 percent argon (Ar). These gases have only limited interaction with the incoming solar radiation and do not interact with infrared (long-wave) radiation emitted by the Earth. However, there are a number of trace gases, such as carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and ozone (O_3), that absorb and emit infrared radiation and therefore have an affect on climate. These are greenhouse gases (GHG), and while they comprise less than 0.1 percent of the total volume mixing ratio in dry air, they play an essential role in influencing climate (IPCC 2001).

Non-CO_2 GHG are those listed in the Kyoto Protocol[2] (CH_4, N_2O, hydrofluorocarbons [HFC], perfluorocarbons [PFC], and sulfur hexafluoride [SF_6])and those listed under the Montreal Protocol and its Amendments[3] (chlorofluorocarbons [CFC], hydrochlorofluorocarbons [HCFC], and halons). Table 5.3-1 lists a selection of some of the GHG and their relative global warming potentials (GWP) compared to CO_2. Although not included in this table, water vapor (H_2O) is the strongest GHG, but is also the most variable in

[1] OPR recommendations include a requirement that such a plan must be adopted through a public review process and include specific requirements that reduce or mitigate the project's incremental contribution of GHG 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.

[2] Kyoto Protocol: Established by the United Nations Framework Convention on Climate Change (UNFCC) and signed by more than 160 countries (including the United States, which ultimately did not ratify) stating that they commit to reduce their GHG emissions by 55 percent or engage in emissions trading.

[3] Montreal Protocol and Amendments: International Treaty signed in 1987 and subsequently amended in 1990 and 1992. Stipulates that the production and consumption of compounds that deplete ozone in the stratosphere (CFC, halons, carbon tetrachloride, and methyl chloroform) are to be phased out by 2000 (2005 for methyl chloroform).

its phases (vapor, cloud droplets, ice crystals). However, water vapor is not considered a pollutant in the atmosphere (IPCC 2001). The major GHG are briefly described below the table.

Table 5.3-1
Greenhouse Gases and Their Relative Global Warming Potential Compared to CO_2

GHG	Atmospheric Lifetime (years)	Global Warming Potential Relative to CO_2[1]
Carbon Dioxide (CO_2)	50 to 200	1
Methane (CH_4)[2]	12 (±3)	21
Nitrous Oxide (N_2O)	120	310
Hydrofluorocarbons:		
HFC-23	264	11,700
HFC-32	5.6	650
HFC-125	32.6	2,800
HFC-134a	14.6	1,300
HFC-143a	48.3	3,800
HFC-152a	1.5	140
HFC-227ea	36.5	2,900
HFC-236fa	209	6,300
HFC-4310mee	17.1	1,300
Perfluoromethane: CF_4	50,000	6,500
Perfluoroethane: C_2F_6	10,000	9,200
Perfluorobutane: C_4F_{10}	2,600	7,000
Perfluoro-2-methylpentane: C_6F_{14}	3,200	7,400
Sulfur Hexafluoride (SF_6)	3,200	23,900

Source: USEPA.
[1] Based on 100-Year Time Horizon of the Global Warming Potential (GWP) of the air pollutant relative to CO_2.
[2] The methane GWP includes the direct effects and those indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO_2 is not included.

Carbon dioxide (CO_2) enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, respiration, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is also removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.

Methane (CH_4) is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and by the decay of organic waste in municipal solid waste landfills.

Nitrous oxide (N_2O) is emitted during agricultural and industrial activities, as well as during combustion of fossil fuels and solid waste.

Fluorinated gases are synthetic, strong greenhouse gases that are emitted from a variety of industrial processes. Fluorinated gases are sometimes used as substitutes for ozone-depleting substances. These gases are typically emitted in smaller quantities, but because they are potent greenhouse gases, they are sometimes called to as High Global Warming Potential gases.

- *Chlorofluorocarbons (CFCs)* are greenhouse gases covered under the 1987 Montreal Protocol and used for refrigeration, air conditioning, packaging, insulation, solvents, or aerosol propellants. Since

they are not destroyed in the lower atmosphere (troposphere, stratosphere), CFCs drift into the upper atmosphere where, given suitable conditions, they break down ozone. These gases are also ozone depleting gases and are therefore being replaced by other compounds that are GHGs covered under the Kyoto Protocol.

- *Perfluorocarbons (PFCs)* are a group of human-made chemicals composed of carbon and fluorine only. These chemicals (predominantly perfluoromethane [CF_4] and perfluoroethane [C_2F_6]) were introduced as alternatives, along with HFCs, to the ozone-depleting substances. In addition, PFCs are emitted as by-products of industrial processes and are also used in manufacturing. PFCs do not harm the stratospheric ozone layer, but they have a high global warming potential.

- *Sulfur Hexafluoride (SF_6)* is a colorless gas soluble in alcohol and ether, slightly soluble in water. SF_6 is a strong greenhouse gas used primarily in electrical transmission and distribution systems as an insulator.

- *Hydrochlorofluorocarbons (HCFCs)* contain hydrogen, fluorine, chlorine, and carbon atoms. Although ozone-depleting substances, they are less potent at destroying stratospheric ozone than CFCs. They have been introduced as temporary replacements for CFCs and are also greenhouse gases.

- *Hydrofluorocarbons (HFCs)* contain only hydrogen, fluorine, and carbon atoms. They were introduced as alternatives to ozone-depleting substances in serving many industrial, commercial, and personal needs. HFCs are emitted as by-products of industrial processes and are also used in manufacturing. They do not significantly deplete the stratospheric ozone layer, but they are strong greenhouse gases (USEPA 2008a).

California's GHG Sources and Relative Contribution

California is the second largest emitter of GHG in the United States, only surpassed by Texas, and the tenth largest GHG emitter in the world (CEC 2005). However, because of more stringent air emission regulations, in 2001 California ranked fourth lowest in carbon emissions per capita and fifth lowest among states in CO_2 emissions from fossil fuel consumption per unit of Gross State Product (total economic output of goods and services). In 2004, California produced 492 million metric tons (MTons) of CO_2-equivalent (CO_{2e}) GHG emissions,[4] of which 81 percent were CO_2 from the combustion of fossil fuels, 2.8 percent were from other sources of CO_2, 5.7 percent were from methane, and 6.8 percent were from N_2O. The remaining 2.9 percent of GHG emissions were from High Global Warming Potential gases, which include hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (CEC 2006a).

CO_2 emissions from human activities make up 84 percent of the total GHG emissions. California's transportation sector is the single largest generator of GHG emissions, producing 40.7 percent of the state's total emissions. Electricity consumption is the second largest source, comprising 22.2 percent. While out-of-state electricity generation comprises 22 to 32 percent of California's total electricity supply, it contributes 39 to 57 percent of the GHG emissions associated with electricity consumption in the state. Industrial activities are California's third largest source of GHG emissions, comprising 20.5 percent of state's total emissions. Other major sources of GHG emissions include mineral production, waste combustion and land use, and forestry

[4] CO_2-equivalence is used to show the relative potential that different GHG have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. The global warming potential of a GHG, is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere.

changes. Agriculture, forestry, commercial, and residential activities comprise the balance of California's greenhouse gas emissions (CEC 2006a).

Human Influence on Climate Change

For approximately 1,000 years before the Industrial Revolution, the amount of GHG in the atmosphere remained relatively constant. During the 20th century, however, scientists observed a rapid change in the climate and climate change pollutants that are attributable to human activities. The amount of CO_2 has increased by more than 35 percent since preindustrial times, and has increased at an average rate of 1.4 parts per million (ppm) per year since 1960, mainly due to combustion of fossil fuels and deforestation (IPCC 2007). These recent changes in climate change pollutants far exceed the extremes of the ice ages, and the global mean temperature is warming at a rate that cannot be explained by natural causes alone. Human activities are directly altering the chemical composition of the atmosphere through the buildup of climate change pollutants (CAT 2006).

Climate-change scenarios are affected by varying degrees of uncertainty (IPCC 2007). The Intergovernmental Panel on Climate Change's (IPCC) *2007 IPCC Fourth Assessment Report* projects that the range of global mean temperature increase from 1990 to 2100, under different climate-change scenarios, will range from 1.4 to 5.8 °C (2.5 to 10.4°F). In the past, gradual changes in the earth's temperature changed the distribution of species, availability of water, etc. However, human activities are accelerating this process so that environmental impacts associated with climate change no longer occur in a geologic timeframe but within a human lifetime.

Potential Climate Change Impacts for California

Climate change is not a local environmental impact; it is a global impact. Unlike criteria pollutants, CO_2 emissions cannot be attributed to a direct health effect. However, human-caused increases in GHG have been shown to be highly correlated with increases in the surface and ocean temperatures on Earth (IPCC 2007). What is not clear is the extent of the impact on environmental systems.

Like the variability in the projections of the expected increase in global surface temperatures, the environmental consequences of gradual changes in the Earth's temperature are also hard to predict. Likewise, there are varying degrees of uncertainty in environmental impact scenarios. Because of this uncertainty, the IPCC uses five different confidence levels to quantify climate change impacts on the environment: Very High Confidence (95 percent or greater), High Confidence (67 to 95 percent), Medium Confidence (33 to 67 percent), Low Confidence (5 to 33 percent), and Very Low Confidence (5 percent or less).

In California and western North America, 1) observations in the climate have showed a trend toward warmer winter and spring temperatures, 2) a smaller fraction of precipitation is falling as snow, 3) there is a decrease in the amount of spring snow accumulation in the lower and middle elevation mountain zones, 4) there is an advance snowmelt of 5 to 30 days earlier in the springs, and 5) there is a similar shift (5 to 30 days earlier) in the timing of spring flower blooms (CAT 2006). According to the California Climate Action Team (CAT), even if actions could be taken to immediately curtail climate change emissions, the potency of emissions that have already built up, their long atmospheric lifetimes (see Table 5.3-1), and the inertia of the Earth's climate system could produce as much as 0.6°C (1.1°F) of additional warming. Consequently, some impacts from climate change are now unavoidable.

CAT and the California Environmental Protection Agency (Cal/EPA) use the results from the recent analysis of global climate change impacts for California under three IPCC scenarios: lower emissions (B1), medium-high emissions (A2), and high emissions (A1F1); each is associated with an increasing rise in average global

surface temperatures. According to the CEC in their 2006 report, *Our Changing Climate, Assessing the Risks to California*, global climate change risks to California include public health impacts (poor air quality made worse and more severe heat), water resources impacts (decreasing Sierra Nevada snow pack, challenges in securing adequate water supply, potential reduction in hydropower, and loss of winter recreation), agricultural impacts (increasing temperatures, increasing threats from pests and pathogens, expanded ranges of agricultural weeds, and declining productivity), coast sea level impacts (rising coastal sea levels, increasing coastal floods, and shrinking beaches), forest and biological resource impacts (increasing wildfires, increasing threats from pest and pathogens, declining forest productivity, and shifting vegetation and species distribution), and electricity impacts (increased energy demand).

Regulatory Setting

Regulation of GHG Emissions on a National Level

Currently there are no adopted regulations to combat global climate change on a national level. However, recent statutory authority has been granted to the EPA that may change the voluntary approach taken under our current administration to address this issue. On April 2, 2007, the United States Supreme Court ruled that the EPA has the authority to regulate CO_2 emissions under the Federal Clean Air Act. Consequently, the regulation of GHG emissions by the EPA with regard to global climate change on a national level is forthcoming.

After a thorough examination of the scientific evidence and careful consideration of public comments, the EPA announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people. EPA also found that GHG emissions from on-road vehicles contribute to that threat. EPA's final findings respond to the 2007 US Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings do not in and of themselves impose any emission reduction requirements but rather allow EPA to finalize the GHG standards proposed earlier this year for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation.

The EPA's endangerment finding covers emissions of six key greenhouse gases—carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride—that have been the subject of scrutiny and intense analysis for decades by scientists in the United States and around the world.

Regulation of GHG Emissions on a State Level

AB 32, the Global Warming Solutions Act, was passed by the California state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG. AB 32 follows the first tier of emissions reduction targets established in Executive Order S-3-05, signed on June 1, 2005. Executive Order S-3-05 requires the state's global warming emissions to be reduced to 1990 levels by the year 2020 and by 80 percent of 1990 levels by year 2050. AB 32 sets a 2020 target at the emissions levels that were generated in the state in year 1990. Projected GHG emissions in California are estimated at 596 million MTons of CO_{2e} by 2020. In December 2007, CARB approved a 2020 emissions limit of 427 million MTons (471 million tons) of CO_{2e} for the state. The 2020 target requires emissions reductions of 169 million MTons, approximately 30 percent of the projected emissions compared to business-as-usual (BAU) in year 2020 (i.e., 30 percent of 596 MTons). CARB defines BAU in their Scoping Plan as emissions levels that would occur if California continued to grow and add new GHG emissions but did not adopt any measures to reduce emissions. Projections for each emission-generating sector were compiled and used to estimate emissions for 2020 based on 2002–2004 emissions intensities. Under CARB's definition of BAU, new growth is assumed to have the same carbon intensities as is typical practice in 2002–2004.

In order to effectively implement the cap, AB 32 directed CARB to establish a mandatory reporting system to track and monitor global warming emissions levels for large stationary sources that generate more than 25,000 MTons per year, prepare a plan demonstrating how the 2020 deadline can be met, and develop appropriate regulations and programs to implement the plan by 2012. The Climate Action Registry Reporting Online Tool was established through the Climate Action Registry to track GHG emissions. In June 2008, CARB released a draft of the *Climate Change Scoping Plan,* which was revised in October 2008. The final Scoping Plan was adopted by CARB on December 11, 2008. Key elements of CARB's GHG reduction plan are:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a mix of 33 percent for energy generation from renewable sources;
- Developing a California cap-and-trade program that links with other Western Climate Initiate partner programs to create a regional market system for large stationary sources;
- Establishing targets for transportation-related GHG emissions for regions throughout California, and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to state laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating target 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.

Table 5.3-2 shows the proposed reductions from regulations and programs outlined in the Scoping Plan. While local government operations were not accounted for in achieving the 2020 emissions reduction, CARB estimates that land use changes implemented by local governments that integrate jobs, housing, and services would to result in a reduction of 5 million metric tons of CO_{2e}, which is approximately 3 percent of the 2020 GHG emissions reduction goal. In recognition of the critical role local governments will play in successful implementation of AB 32, CARB is recommending GHG reduction goals of 15 percent of today's levels by 2020 to ensure that municipal and community-wide emissions match the state's reduction target. Measures that local governments take to support shifts in land use patterns are anticipated to emphasize compact, low-impact growth over development in greenfields, resulting in fewer vehicle miles traveled. According to the supplement to "Measure Documentation Supplement to the Scoping Plan," local government actions and targets are anticipated to reduce vehicle miles by approximately 2 percent through land use planning, resulting in a potential GHG reduction of 2 million metric tons of CO_{2e} (or approximately 1.2 percent of the GHG reduction target).

Table 5.3-2
Scoping Plan Greenhouse Gas Reduction Measures and Reductions toward 2020 Target

Recommended Reduction Measures	*Reductions Counted toward 2020 Target of 169 MMT CO_{2e}*	*Percentage of Statewide 2020 Target*
Cap and Trade Program and Associated Measures		
California Light-Duty Vehicle GHG Standards	31.7	19%
Energy Efficiency	26.3	16%
Renewable Portfolio Standard (33 percent by 2020)	21.3	13%
Low Carbon Fuel Standard	15	9%
Regional Transportation-Related GHG Targets[1]	5	3%
Vehicle Efficiency Measures	4.5	3%
Goods Movement	3.7	2%
Million Solar Roofs	2.1	1%
Medium/Heavy Duty Vehicles	1.4	1%
High Speed Rail	1.0	1%
Industrial Measures	0.3	0%
Additional Reduction Necessary to Achieve Cap	34.4	20%
Total Cap and Trade Program Reductions	**146.7**	**87%**
Uncapped Sources/Sectors Measures		
High Global Warming Potential Gas Measures	20.2	12%
Sustainable Forests	5	3%
Industrial Measures (for sources not covered under cap and trade program)	1.1	1%
Recycling and Waste (landfill methane capture)	1	1%
Total Uncapped Sources/Sectors Reductions	**27.3**	**16%**
Total Reductions Counted Towards 2020 Target	**174**	**100%**
Other Recommended Measures – Not Counted toward 2020 Target		
State Government Operations	1.0 to 2.0	1%
Local Government Operations	To Be Determined	NA
Green Buildings	26	15%
Recycling and Waste	9	5%
Water Sector Measures	4.8	3%
Methane Capture at Large Dairies	1	1%
Total Other Recommended Measures – Not Counted toward 2020 Target	**42.8**	**NA**

Source: CARB 2008.
$MMTCO_{2e}$: million metric tons of CO_{2e}
Note: the percentages in the right-hand column add up to more than 100 percent because the emissions reduction goal is 169 MMTons and the Scoping Plan identifies 174 MMTons of emissions reductions strategies.
[1] Reductions represent an estimate of what may be achieved from local land use changes. It is not the SB 375 regional target.
[2] According to the Measure Documentation Supplement to the Scoping Plan, local government actions and targets are anticipated to reduce vehicle miles by approximately 2 percent through land use planning, resulting in a potential GHG reduction of 2 million metric tons of CO_{2e} (or approximately 1.2 percent of the GHG reduction target). However, these reductions were not included in the Scoping Plan reductions to achieve the 2020 target.

In summary, current State of California guidance and goals for reductions in GHG emissions are generally embodied in AB-32 and Executive Order S-03-05. AB 32 establishes a goal of reaching 1990 levels by 2020 and describes a process for achieving that goal. Executive Order S- 03-05 sets a goal for the following for reduction of GHG emissions:

- 2000 levels by 2010
- 1990 levels by 2020

- 80 percent below 1990 levels by 2050

Regulation of GHG Emissions on a Regional Level

In 2008, SB 375 was adopted to connect the GHG emissions reductions targets established in the Scoping Plan for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce vehicle miles traveled and vehicle trips. Specifically, SB 375 requires CARB to establish GHG emissions reduction targets for each of the 18 regions in California managed by a metropolitan planning organization (MPO). SCAG is the MPO for the southern California region, which includes the counties of Los Angeles, Orange, San Bernardino County, Riverside, Ventura, and Imperial.

The GHG emissions reduction targets for each region are required to be established no later than September 30, 2010, after which, SB 375 requires the MPOs to prepare a Sustainable Communities Strategy (SCS) in their Regional Transportation Plan. While there is no deadline for adoption of the SCS, it is anticipated that SCAG would complete their SCS in 2012. The SCS sets forth a development pattern for the region, which, when integrated with the transportation network and other transportation measures and policies, would reduce GHG emissions from transportation (excluding goods movement). The SCS is meant to provide individual jurisdictions with growth strategies that, when taken together, achieve the regional GHG emissions reduction targets. However, the SCS does not require that local general plans, specific plans, or zoning be consistent with the SCS but provides incentives for consistency for governments and developers. If the SCS is unable to achieve the regional GHG emissions reduction targets, the MPO is required to prepare an alternative planning strategy that shows how the GHG emissions reduction target could be achieved through alternative development patterns, infrastructure, and/or transportation measures.

5.3.4 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

GHG-1 Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

GHG-2 Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

California Air Pollution Control Officers Association

In their January 2008 CEQA and Climate Change white paper, CAPCOA identified a number of potential approaches for determining the significance of GHG emissions in CEQA documents. In this white paper, CAPCOA suggests making significance determinations on a case-by-case basis when no significance thresholds have been adopted.

South Coast Air Quality Management District

The issue of global climate change is, by definition, a cumulative environmental impact. In accordance with the South Coast Air Quality Management District (SCAQMD) methodology, any project that produces a significant regional air quality impact in an area adds to the cumulative impact. The SCAQMD is the local air district responsible for establishing thresholds for air quality in the South Coast Air Basin. To provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents,

the SCAQMD has convened a GHG CEQA Significance Threshold Working Group. Currently the SCAQMD is in the process of establishing a threshold for GHG emissions to determine the project's regional contribution toward global climate change impacts for California. On December 5, 2008, the SCAQMD adopted a threshold of 10,000 MTons of CO_{2e} for industrial projects for which they are designated the lead agency under CEQA.

5.3.5 Environmental Impacts

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

IMPACT 5.3-1: PROJECT-RELATED GREENHOUSE GAS EMISSIONS ARE CUMULATIVELY CONSIDERABLE AND ARE A NEW SIGNIFICANT IMPACT NOT IDENTIFIED IN THE 2000 MPTP EIR. [THRESHOLD GHG-1]

Impact Analysis: Global climate change is not confined to a particular project area and is generally accepted as the consequence of global industrialization over the last 200 years. A typical project, even a very large one, does not generate enough greenhouse gas emissions on its own to influence global climate change significantly; hence, the issue of global climate change is, by definition, a cumulative environmental impact. The analysis below provides the conclusions on the project-specific impact toward the cumulative impact of global climate change. The State of California, through its governor and its legislature, has established a comprehensive framework for the substantial reduction of GHG emissions over the next 10+ years. This will occur primarily through the implementation of AB 32 and SB 375, which will address GHG emissions on a statewide cumulative basis.

The proposed project is a regionally significant project pursuant to SCAG Intergovernmental Review criteria and the CEQA Guidelines. The development contemplated by the proposed project would contribute to global climate change through direct emissions of GHG from onsite area sources, offsite energy production required for onsite activities and water use, and vehicle trips generated by the project. Annual GHG emissions were calculated for construction and operation of the project. Life cycle emissions are not included in this analysis because not enough information is available for the proposed project and therefore life cycle GHG emissions would be speculative.[5]

GHG emissions generated by the proposed project would include emissions from transportation, energy, waste disposal, and area sources. In addition, annual average construction emissions were amortized over 30 years and included in the emissions inventory to account for GHG emissions from the construction phase of the project. GHG emissions from project-related operational activities are included in Table 5.3-3. For operation, the project's GHG emissions are separated into emission sources for the applicable GHG emissions sectors established by CARB. Transportation sector emissions are produced from vehicular travel to and from the project site. Electricity sector sources are indirect GHG emissions from energy (purchased energy and energy from water use) generated offsite. Recycling and Waste sector are emissions associated with waste disposal generated by the project. Commercial and Residential sector emissions sources are owned or controlled by the project (e.g., natural gas combustion, boilers, furnaces) and produced onsite. In general, Transportation sector emissions make up the largest proportion of emissions associated with a project.

[5] Life cycle emissions include indirect emissions associated with materials manufacture. However, these indirect emissions involve numerous parties, each of which is responsible for GHG emissions of their particular activity. Because the amount of materials consumed during the operation or construction of the proposed project is not known, the origin of the raw materials purchased is not known, and manufacturing information for those raw materials are also not known, calculation of life cycle emissions would be speculative.

Table 5.3-3
Annual Operational Phase GHG Emissions

Source	GHG Emissions MTons/Year		
	2000 MPTP	MPMP Precise Plan	Percent of Total
Transportation Sector[1]	27,570	32,065	88%
Electricity Sector			
Purchased Energy[2]	2,157	2,767	8%
Water Demand and Treatment[3]	104	148	<1%
Total Energy Emissions	2,262	2,915	8%
Recycling and Waste[4]	88	116	<1%
Commercial and Residential Sectors [5]	993	1,159	3%
Amortized Construction Emissions[6]	254	254	1%
Total All Sectors	**31,167**	**36,509**	**100%**
Per Service Population (SP)[7]	**39 MTons/SP**	**43.3–47.7 MTon/SP**	**NA**

Notes: MTons: metric tons

[1] URBEMIS2007, Version 9.2.4. Assumes CO_2 represents 99.6 percent of total CO_{2e} emissions from gasoline while CH_4, N_2O, and fluorinated gases comprise the remaining percentage (BAAQMD 2008).

[2] CO_{2e} emissions calculated using Regional-Level Greenhouse Gas Emission Factors for Electricity, May 2002.

[3] CO_{2e} emissions from the energy intensity of water are based on the CEC's California's Water Energy Relationship (2005) of 12,700 Kwh/MG for Southern California.

[4] CO_{2e} emissions from waste generation are based on the Waste Reduction Model (WARM) created by the EPA and the waste stream for commercial from the California 2008 Statewide Waste Characterization Study.

[5] Assumes CO_2 represents 99.6 percent of total GHG emissions from gasoline while CH_4, N_2O, and fluorinated gases comprise the remaining percentage (BAAQMD 2008).

[6] Assumes the difference in annual average construction emissions between the 2000 MPTP and the MPMP Precise Plan is nominal. Construction emissions are amortized over 30 years.

[7] Based on range of 766 to 844 employees at buildout of the MPMP Precise Plan.

Table 5.3-3 shows the GHG emissions that would be generated from the operation phase of the project. As shown, the project would generate approximately 36,509 MTons of GHG per year, or 43 to 48 MTons per service population. The total increase in GHG emissions onsite from the project would be substantial. In addition, because the project would exceed the regional emissions thresholds for criteria pollutants established by SCAQMD, GHG emissions are considered to be substantial enough to result in a significant cumulative impact relative to GHG emissions and climate change impacts. Therefore the project's cumulative contribution to GHG emissions would be significant.

The 2000 MPTP EIR did not identify significant impacts related to GHG emissions because GHG emissions were not incorporated into the CEQA Guidelines until March 18, 2010. As shown in the Table 5.3-3, both the 2000 MPTP and the MPMP Precise Plan would generate a substantial increase in GHG emissions. GHG emissions are 17 percent higher for the MPMP Precise Plan as a result of a 16 percent increase in building square footage (600,000 square feet compared to 515,382 square feet) and 6 percent increase in average daily vehicle trips (19,719 compared to 18,674 weekday average daily trips). Since GHG emissions were not previously identified this is a considered a new significant impact.

IMPACT 5.5-2: THE PROPOSED PROJECT WOULD NOT CONFLICT WITH THE CALIFORNIA AIR RESOURCES BOARD'S SCOPING PLAN. [THRESHOLD GHG-2]

Impact Analysis: While California alone cannot stabilize the climate, the state's actions set an example and drive global progress toward reduction of GHG. If the industrialized world were to follow the emission reduction targets established by California, and industrializing nations reduced emissions according to the lower emissions path (lower emissions IPPC scenario B1), medium or higher warming ranges of global

temperature increases might be avoided, along with the most severe consequences of global warming. In 2007 the CEC published *The Role of Land Use in Meeting California's Energy and Climate Change Goals.* In this publication, the CEC acknowledged that California's land use patterns shape energy use and the production of GHG. Transportation contributes a large percentage of the state's GHG emissions and research shows that increasing a community or development's density and accessibility to job centers are the two most significant factors for reducing vehicle miles traveled through design (CEC 2007).

In accordance with AB 32, CARB developed the Scoping Plan to outline the state's strategy to achieve 1990 level emissions by year 2020. To estimate the reductions necessary, CARB projected statewide year 2020 BAU GHG emissions (i.e., GHG emissions in the absence of statewide emission reduction measures). CARB identified that the state as a whole would be required to reduce GHG emissions by 30 percent from year 2020 BAU. Therefore, the Scoping Plan defines the future baseline BAU emissions scenario to mean in the absence of the statewide emissions reduction strategy. The Scoping Plan identified several early action measures to reduce GHG emissions in California. These early action measures included:

- Green Building: Implementation of newer, more energy-efficient California Building Standards in the California Building Code (CBC). The new 2008 Building and Energy Efficiency Standards are 15 percent more energy efficient than the 2005 standards.

- Renewable Energy Portfolio: Requiring that California use renewable energy to represent 33 percent of California's energy portfolio. Renewable energy currently comprises 12 percent of the state's energy portfolio.

- Per Capita Water Reduction: Reducing per capita water use by approximately 20 percent. The draft 20X2020 water conservation plan identifies strategies to reduce water use in the state. In addition, plumbing and landscaping codes amended with the new CBC result in a 50 percent reduction of water use for new commercial and residential plumbing fixtures.

- Low Carbon Fuel Standard: Adoption of a new Low Carbon Fuel Standard (LCFS). The LCFS requires the carbon content of fuels sold in California to be reduced by 10 percent by year 2020.

- Pavley Fuel Efficiency Standards: Adoption of higher fuel efficiency standards (Pavley Fuel Efficiency Standards). The EPA granted the waiver to California to implement higher fuel efficiency standards on July 1, 2009. The adopted fuel efficiency standards require that the average California fleet fuel economy of cars to be 36.6 miles per gallon (mpg) by year 2016 under Pavley I. The Scoping Plan also establishes additional reductions for model years 2016 through 2020 under Pavley II of 43.9 mpg by year 2020. Pavley II would result in a decrease in CO_2 emissions of 42.8 percent from the 2009 model year cars. (CARB 2008)

Table 5.3-4 shows the GHG emissions inventory at post-2020 buildout of the MPMP Precise Plan with the associated GHG emissions reductions and the percentage reduction from BAU. As shown in this table, the statewide GHG emissions reduction measures that are being implemented over the next 10 years would reduce the project's GHG emissions by 4,355 MTons, or 12 percent, from the BAU scenario. The project would be consistent with the GHG reduction goals of AB 32, as described in the statewide GHG emissions reduction strategy outlined in the Scoping Plan.

Table 5.3-4
Post-2020 GHG Emissions Inventory

Source	GHG Emissions MTons/Year		
	Post-2020 Buildout BAU Scenario	Post-2020 Building with Scoping Plan Reductions Scenario	
Transportation Sector[1]	32,065	28,494	88%
Electricity Sector			
Purchased Energy[2]	2,767	2,159	7%
Water Demand and Treatment[2]	148	118	<1%
Total Energy Emissions	2,915	2,304	8%
Recycling and Waste	116	116	<1%
Commercial and Residential Sectors [3]	1,159	986	3%
Amortized Construction Emissions	254	254	1%
Total	**36,509**	**32,154**	**100%**
Per Service Population (SP)[6]	**43–48 MTons/SP**	**38–42 MTons/SP**	

Source: URBEMIS2007, Version 9.2.4.
MTons = metric tons
[1] Assumes a 42.8 percent increase in fuel efficiency in passenger vehicles from 2009 to 2020 in the CARB 2008 Technical Advisory. Pavley 2 would require an average fleet fuel economy of new cars of 43 mpg by 2020 compared to an existing average of 24.4 mpg. Based on EMFAC fleet mix 1976 through 2020 and an average fuel efficiency across all model years of 24.0 mpg compared to 21.6 mpg without Pavley (or 11.1% increase in fuel efficiency)
[2] Assumes a 20 percent decrease in per capita water use in accordance with the statewide Draft 20X2020 Water Conservation Plan. Assumes an increase in renewable energy production of 21 percent. Existing renewable energy production is currently 12 percent of the statewide energy supply and the CARB Scoping Plan goal is 33 percent.
[3] Assumes an increase in 15 percent energy efficiency from the 2005 to 2008 Building and Energy Efficiency Standards (Title 24, California Building Code). Assumes an increase in renewable energy production of 21 percent. Existing renewable energy production is currently 12 percent of the statewide energy supply and the CARB Scoping Plan goal is 33 percent.

5.3.6 Cumulative Impacts

As described under Impact 5.3-1, project-related GHG emissions are not confined to a particular air basin but are dispersed worldwide. Therefore, impacts are not project-specific impacts to global warming but the project's contribution to this cumulative impact. Because the project's GHG emissions were considered significant, the project's GHG emissions and contribution to global climate change impacts are considered cumulatively considerable and therefore significant. Cumulative GHG emissions are a new significant impact not identified in the 2000 MPTP EIR.

5.3.7 Existing Regulations and Standard Conditions

- Global Warming Solutions Act (AB 32)
- Regional GHG Emissions Reduction Targets/Sustainable Communities Strategies (SB 375)
- Pavley Fuel Efficiency Standards (AB1493) . Establishes fuel efficiency ratings for new cars.
- Title 24 California Code of Regulations (California Building Code). Establishes energy efficiency requirements for new construction.
- Title 20 California Code of Regulations (Appliance Energy Efficiency Standards). Establishes energy efficiency requirements for appliances.

- Title 17 California Code of Regulations (Low Carbon Fuel Standard). Requires the carbon content of fuel sold in California to be 10 percent less by 2020.

- California Water Conservation in Landscaping Act of 2006 (AB 1881). Requires local agencies to adopt the Department of Water Resources updated Water Efficient Landscape Ordinance or equivalent by January 1, 2010 to ensure efficient landscapes in new development and reduced water waste in existing landscapes.

- Statewide Retail Provider Emissions Performance Standards (SB 1368). Requires energy generators to achieve performance standards for GHG emissions.

- Renewables Portfolio Standards (SB 1078). Requires electric corporations to increase the amount of energy obtained from eligible renewable energy resources to 20 percent by 2010 and 33 percent by 2020.

Development Guidelines and Standards (from March 2010 Precise Plan)

PDF-3-1 The landscape concept for the project is urban in nature and has elements associated both with the "Prairie Style" design and Southern California décor. Landscape selections shall be made to accentuate the design style, but issues such as long-term life span of the trees, drought tolerance, colors, and maintenance requirements shall also be incorporated into the overall design. Landscape plans are subject to the approval of the Planning Division and Design Review process.

1. Plant Materials – All plant materials shall be drawn from the list of suitable plant materials provided in the following table and as stipulated in the Conditions of Approval. Exceptions for the use of other plant materials shall be allowed. Interior trees shall have minimum height of approximately 8-feet during installation, measured to the top of branches from ground service at tree trunk, with maximum growth height of approximately 30-feet. Exterior trees located along the entryways of the Market Place shall have minimum height of approximately 10-feet installation, and a maximum growth height of approximately 50-feet. SCE has a 15-foot height limit for any plant material under the overhead power lines.

2. Planting Design – Landscaping would be provided along project roadways to accent the entrance and create a framework for the entry that would follow through the entire project site. Various trees would be planted for aesthetic value, as well as for shade in the parking areas. Additional landscaping would be placed near proposed buildings to accentuate its architecture style. Landscaping and irrigation plans signed by a landscape architect and/or landscape contractor shall be submitted, subject to the review and approval of the Planning Division of the City. The design patterns of the project's landscaping will provide both formal and informal groupings of deciduous and evergreen shade trees, flowering shrubbery, and ground cover. The following measures incorporate the landscape design character and visual qualities for development with the project.

    a. Landscaping in the interior of the parking area shall be required equal to at least ten percent (10 percent) of the total area of the parking area. A minimum of three-foot-wide landscaped planter and/or grass area shall be located adjacent to all rights-of-way, and continuously maintained.

b. Landscape plans shall include plans for the Landfill Cap area, where no water percolation is permitted. Raised planters and pots shall be used to introduce trees, shrubs and floral materials in this area. Raised planters shall be designed to drain into the storm water drainage system.

c. The plans shall show the location of turf, trees, shrubs, walks, fences, and any ponds, fountains or other decorative landscaping features:

i. Indicate soils preparation where necessary;

ii. Provide a typical planting detail for trees and shrubs;

iii. List the botanical and common names of all plants with the quantity of each and their container size;

iv. Clearly portray the location, coverage and specifications of the permanent automatic irrigation system.

d. Landscaping and irrigation systems shown on approved plans shall be installed as required by the Planning Division.

e. An automatic irrigation system shall be installed in all landscaped areas to insure proper maintenance year round. The developer will provide all irrigation systems. These will be segregated into metering zones with individual meters and timers that will provide appropriate irrigation for landscaping throughout the site. These systems will also have rain and moisture detectors in order to prevent over irrigation. All systems will be standard in design with typical pop-up heads and flexible raisers.



PDF-3-2 For proper waste management practices, trash enclosures and/or equipment will be strategically located in the rear of each building as feasible. Solid steel gates shall be utilized as well. Most major tenants will have their own waste management areas within their building footprints in order to maintain the proper visual aesthetics of the center. Public waste management will be accomplished by placing on-site furniture, such as waste receptacles and ash urns, throughout the center. To minimize solid waste generated by the project, the following measures are to be implemented:

1. Construction Phase – During project construction, the following practices should be implemented by the project applicant:

a. Off-site locations for construction waste exported from the project and options for disposal of excess material should be identified. These options may include recycling of materials on-site, sale to a broker or contractor, sale to a project in the vicinity, or transport to an environmentally-cleared landfill.

b. The project applicant should offer recyclable building materials, such as asphalt or concrete for sale or removal by private firms or public agencies for use in construction of other project if all can not be reused on the project site.

2. Operation Phase – During project operations, the following practices should be implemented by the project tenants within their buildings and will be specified in lease agreements with the project application:

   a. Recovery of materials such as aluminum and cardboard;

   b. Collection of office paper for recycling;

   c. Collection of polystyrene (foam) cups for recycling;

   d. Collection of glass, plastics, kitchen grease, laser printer toner cartridges, oil, batteries, and scrap metal for recycling or recovery.

3. Design Features – The project applicant, tenants, and/or property owner are strongly encouraged but not required, implement design features to support solid waste reduction programs, suggestions include:

   a. Detailing the location and design of on-site recycling facilities;

   b. Providing on-site recycling receptacles to encourage recycling;

   c. Facilitating cardboard recycling (especially in retail areas) by providing adequate space and centralized locations for collection and bailing;

   d. Providing trash compactors for non-recycling materials to reduce the total volume of solid waste and the number of trips required for collection;

   e. Providing on-site recycling receptacles in feasible locations accessible to the public to encourage recycling for all business, employees, and patrons.

PDF-3-3 Reduction of trip and travel demand measures are provided in accordance with State Government Code Sections 65089 and 65089.3 (Ord.1852 § 3 (2), 1993). Prior to approval of any development project, the project applicant shall make provision for all of the following applicable transportation demand management and trip reduction measures to promote better air quality. Development Standards for Nonresidential Development of one hundred thousand square feet or more shall comply with this section, and shall additionally provide all of the following measures to the satisfaction of the Planning and Engineering Divisions.

1. Displayed Information – A bulletin board, display case, or kiosk displaying transportation information located where the greatest number of employees are likely to see it. Information shall include, but is not limited to, the following:

   a. Current maps, routes and schedules for public transit routers serving the site;

   b. Telephone numbers for referrals on transportation information, including numbers for regional ridesharing agency and local transit operators;

   c. Ridesharing promotional materials supplied by commuter-oriented organizations;

d. Bicycle route and facility information, including regional/local bicycle maps and bicycle information;

e. A listing of facilities available for car-poolers, vanpoolers, bicyclists, transit riders and pedestrians at the site.

2. Van Pool – Not less than 10 percent of employee parking area shall be located as close as is practical to the employee entrance(s), and shall be reserved for use by potential carpool/vanpool vehicles, without displacing handicapped and customer parking needs. A statement that preferential carpool/vanpool spaces for employees are available and a description of the method for obtaining such spaces must be included on the required transportation information board. This occurs primarily at the rear of the major retail tenants.

   a. Spaces will be signed / striped as demand warrants;

   b. At all times at least one space for projects of fifty thousand square feet to one hundred thousand square feet shall be provided;

   c. Two (2) spaces for projects over one hundred thousand square feet will be signed/striped for carpool/vanpool vehicles;

   d. Adequate turning radii and parking space dimensions shall also be included in van pool parking areas.

3. Bicycles – Bicycle racks or other secure bicycle parking shall be provided to accommodate four bicycles per the first fifty thousand square feet of nonresidential development:

   a. Bicycle racks shall accommodate one additional_bicycle per each additional fifty thousand square feet of nonresidential development. Calculations, which result in a fraction of 0.5 or higher, shall be rounded up to the nearest whole number;

   b. A bicycle parking facility may also be fully enclosed pace or locker accessible only to the owner or operator of the bicycle, which protects the bike from inclement weather;

   c. Specific facilities and location (e.g. provision of racks, lockers, or locked room) shall be to the satisfaction of the Director of Community Development.

4. Safety – A safe and convenient zone in which vanpool and carpool vehicles may deliver or board their passenger.

5. Sidewalks – Sidewalks or other designated pathways following direct and safe routes from the external pedestrian circulation system to each building in the development.

6. Bus Stop –The City will consult with the local bus service providers in determining appropriate improvements. When locating bus stops and /or planning building entrances, entrances must be designed to provide safe efficient access to nearby transit stations/stops.

7. Circulation – Safe and convenient access from the external circulation system to bicycle parking facilities on site.

8. Employee Parking - Employee parking shall be adequately provided within the total number of parking spaces planned for this center. This primarily is located to the rear of the Major retail tenants. During peak shopping periods, off-site parking for employees may be instituted.

5.3.8 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, the following impacts would be less than significant: 5.3-2.

Without mitigation, the following impacts would be **potentially significant**:

- Impact 5.3-1 Project-related greenhouse gas emissions are cumulatively considerable and are a new significant impact not identified in the 2000 MPTP EIR.

5.3.9 Mitigation Measures

Impact 5.3-1

Mitigation Measures from the 2000 MPTP EIR

The following mitigation measures are air quality measures that also contribute toward GHG reductions. These measures have been carried through from the 2000 MPTP EIR and have been renumbered for the purposes of this SEIR. Modifications to the original mitigation measures are identified in ~~strikeout text~~ to indicate deletions and underlined to signify additions.

2-5 The construction contractor shall utilize ~~Utilize~~ electrical line power instead of portable construction equipment, where feasible.

2-6 ~~Requiring on-site contractors to operate~~ The construction contractor shall implement a congestion relief program. ~~Including~~ The congestion relief program shall require the construction contractor to implement the following:

1. Rideshare incentives, such as bus passes, shall be provided for construction personnel by Operating Industries Incorporated or the Construction Contractor.

2. Off-street parking for construction contractors and employees shall be provided.

3. Lane closures shall be limited to non-peak traffic hours

4. Receipt of construction materials shall be scheduled for non-peak traffic periods where possible. In addition, receipt of construction materials shall be limited to hours of 7 AM and 7PM on weekdays, ~~and~~ the hours of 9 AM and 6 PM on Saturdays, and Sundays and holidays in accordance with the Monterey Park Municipal Code.

2-7 The construction contractor shall utilize off-road construction equipment that conforms to Tier 3 of the United States Environmental Protection Agency, or higher emissions standards for construction equipment over 50 horsepower that are commercially available during site preparation (i.e., grading, trenching). The construction contractor shall be made aware of this

requirement prior to the start of construction activities, and shall use commercially available Tier 3 or higher off-road equipment or:

- ~~of~~ Year 2006 or newer construction equipment for engines rated equal to 175 horsepower (hp) and greater;
- Year 2007 and newer construction equipment for engines rated equal to 100 hp but less than 175 hp; and
- 2008 and newer construction equipment for engines rated equal to or greater than ~~over~~ 50 hp.

The use of such equipment shall be stated on all grading plans. The construction contractor shall maintain a list of all operating equipment in use on the project site during site preparation (e.g., grading, trenching). The construction equipment list shall state the makes, models, and numbers of construction equipment onsite.

2-8 ~~Provide preferential~~ Preferential parking spaces for employee carpools and vanpools shall be provided onsite. The location of preferential parking for employees carpool/vanpools shall be shown on the parking plans/Precise Plan for the project to the satisfaction of the Development Services Department.

2-9 ~~Design an~~ The applicant shall submit an onsite circulation plan, ~~in~~ including parking lots, that shows the flow of internal traffic to minimize vehicle queuing blocking parking aisles or public streets. The circulation plan shall be designed to the satisfaction of the Development Services Department.

2-10 The applicant shall construct an ~~Construction~~ on-street bus shelter(s) subject to the approval of transit agency staff. A pedestrian pathway from the bus shelter(s) to the project site shall be illuminated to ensure a safe path of travel ~~and provide a well-lighted, safe path to the center~~. The location of the bus shelter, pedestrian pathways, and lighting shall be submitted to the City on the circulation plan and/or lighting plans to the satisfaction of the Development Services Department.

2-11 The applicant shall connect onsite bicycle lanes with offsite bicycle lanes ~~Construction off-site bicycle facility improvements~~ that will link the facility to designated bicycle paths in Monterey Park. Bicycle circulation shall be shown on circulation plans for the project to the satisfaction of the Development Services Department.

2-12 ~~Include bicycle~~ Bicycle parking facilities, such as bicycle lockers and racks for shoppers and employees, shall be provided onsite to the satisfaction of the Development Services Department. The location of bicycle facilities (e.g., lockers and racks) shall be shown on the Precise Plan for the project.

2-13 The applicant shall construct ~~Construct~~ onsite pedestrian facilities improvements, such as building access that is physically separated from street and parking lot traffic and walk paths. The circulation plan shall include pedestrian connectivity onsite and the plan shall be prepared to the satisfaction of the Development Services Department.

2-14 The applicant shall synchronize ~~Synchronize~~ traffic signals on intersections abutting the development prior to approval of the first occupancy permit.

2-17 The applicant shall work ~~Work~~ with the City to implement or contribute to public outreach programs, which promote alternative methods of transportation such as information kiosks.

Additional Mitigation

The following mitigation measures have been incorporated to reduce the project's cumulative contribution of GHG emissions. The following measures are based on the California Air Pollution Control Officer's (CAPCOA) *CEQA and Climate Change*, Appendix B, *Mitigation Measure Summary*.

3-1 End-of-trip facilities, such as showers, lockers, and changing spaces, shall be provided for every 80 employee parking spaces, and separate facilities for each gender shall be provided for projects with 160 or more parking spaces. Such facilities shall be incorporated into the site plan prior to issuance of a building permit to the satisfaction of the Development Services Department.

3-2 Preferential parking spaces for alternative-fueled vehicles, including electric vehicles and/or compressed natural gas, shall be incorporated into the site plan prior to issuance of a building permit to the satisfaction of the Development Services Department. The spaces shall be equipped with vehicle recharging stations with both conductive and inductive charging capabilities.

3-3 Applicants for new developments shall coordinate with construction contractors to integrate locally made building materials for construction of the proposed project, where feasible.

3-4 Prior to the issuance of a building permit, development plans for these structures shall be required to demonstrate that the project achieves a minimum energy efficiency 5 percent above the 2008 Title 24, Part 6, Energy Efficiency Standards for Residential and Nonresidential Buildings, of the California Building Code requirements. Design strategies to meet this standard may include maximizing solar orientation for daylighting and passive heating/cooling, installing appropriate shading devices and landscaping, utilizing natural ventilation, and installing cool roofs. Other techniques include installing insulation (high reflectivity value) and radiant heat barriers, compact fluorescent and/or light-emitting diode light bulbs, and low-emissivity window glazing or double-paned windows. Use of photovoltaics or other onsite generation of technologies that have equivalent energy reductions may be substituted for an increase in energy efficiency.

3-5 Prior to issuance of a building permit, plans shall show the use of materials that minimize the absorption of solar heat and subsequent transfer of heat to it surrounding environment. Cool pavement materials should be used for any roadway or walkway that is not within the public right-of-way. Examples of materials that could be used include lighter-colored pavement materials, porous materials, or permeable or porous pavement, for all roadways and walkways not within the public right-of-way, to minimize the absorption of solar heat and subsequent transfer of heat to its surrounding environment. Additional examples of cool pavement materials are available at:
http://www.epa.gov/heatisld/images/extra/level3_pavingproducts.html or similar websites.

5.3.10 Level of Significance After Mitigation

Impact 5.3-1

In addition to the GHG reductions from the Scoping Plan, CAPCOA has estimated additional GHG reductions from mitigation measures and project design features that can be incorporated into the project design (see Table 5.3-5). Based on the reductions assumed in the CAPCOA document based on the PDFs and mitigation measures incorporated into the project, an additional 1,690 MTons of GHG emissions reductions have been incorporated into the project GHG inventory. With these additional reductions, the project would generate 30,494 MTons of GHG emissions. While all feasible mitigation measures have been incorporated into the project, the total increase in GHG emissions onsite from the project would still be substantial. The 2000 MPTP EIR did not identify significant impacts related to GHG emissions since GHG emissions were not incorporated into the CEQA Guidelines until March 18, 2010. GHG emissions are 17 percent higher for the MPMP Precise Plan as a result of a 16 percent increase in building square footage (600,000 square feet compared to 515,382 square feet) and 6 percent increase in average daily vehicle trips (19,719 compared to 18,674 weekday average daily trips). Since GHG emissions were not identified, this is a considered a new significant and unavoidable impact.

Table 5.3-5
Consistency Analysis with CAPCOA GHG Mitigation Measures

Applicable CAPCOA GHG Reduction Measures	*Project Design Feature/ Mitigation Measure Reference*	*CAPCOA Percent Reduction*	
		Percent	*Total*
Alternative Modes of Transportation - Bicycles Bike Parking End of Trip Facilities Proximity to Bike Paths/Bike Lanes	PDF 3 (3 & 8) MM 2-12 MM 3-1 MM 2-11	1.87%[1]	285 MTons
Alternative Modes of Transportation - Walking Pedestrian Network Pedestrian Barriers Minimized Pedestrian Pathway Through Parking	PDF 3 (5) MM 2-13	1%	533 MTons
Alternative Modes of Transportation - Transit Bus Shelter for Existing/Planned Transit Service	PDF 3 (6) MM 2-10	1%	285 MTons
Traffic TMA Membership Services Operational EV Charging Facilities Neighborhood Electric Vehicle Access[2]	PDF-3 MPMP Precise Plan MM 3-2	NA 0.5% NA	142 MTons
Parking Paid Parking (Parking Cash Out)[2] Minimum Parking Parking Reduction Beyond Code/Shared Parking[3] Parking Area Tree Cover Preferential Parking for EVs/CNG Vehicles	PDF-3 (1 & 2) MM 3-2	3.1 kg/m^{2} [2, 4] NA	301 MTons
Water Use Landscaping Low Water Use Appliances	Water Efficient Landscape Ordinance PDF-1 (1 & 2)	NA NA	NA
Energy Consumption High-Efficiency Pumps[5] Low-Energy Cooling[5] Programmable Thermostats [5, 6] Energy Star Roof[6]	2009 Appliance Efficiency Regulations	5% of Purchased Energy	143 MTons

Table 5.3-5
Consistency Analysis with CAPCOA GHG Mitigation Measures

Applicable CAPCOA GHG Reduction Measures	Project Design Feature/ Mitigation Measure Reference	CAPCOA Percent Reduction	
		Percent	Total
Cool Roof[6]	2008 Building and Energy Efficiency Standards		
Solar Orientation[6]			
Non-Roof Surfaces[6]			
Green Roof[6]			
Shading Mechanisms[6]			
Day Lighting Systems[6]			
Passive Heating and Cooling Systems[6]			
Light-Colored Paving	MM 3-5		
Exceed Title 24[7]	MM 3-4		
On-Site Renewable Energy System			
LEED Certification[8]			
Education			
GHG Emission Reduction Education	MM 2-17, PDF-3	NA	NA
Enhanced Recycling/Waste Reduction, Reuse, Composting	PDF 2 (2 & 3)	NA	
Construction			
CARB Certified Diesel Equipment	MM 2-7	NA	NA
Alternative Fuel Equipment	MM 2-5		
Salvage/Recycling of C&D Debris	PDF-2 (1)		
Local or Green Building Materials	MM 3-3		
		Total Reductions	1,609 MTons
		Total GHG Inventory with Scoping Plan and CAPCOA Reductions	30,464 MTons

Source: CAPCOA 2009.

EV: Electric Vehicles; CNG: Compressed Natural Gas; TMA: Transportation Management Association; C&D: Construction and Demolition

[1] Based on one-quarter of 2.5 percent for each individual measure.

[2] Neighborhood electric vehicles (NEVs) are legally restricted to roads with posted speeds of 25 mph or less. As the City does not have dedicated NEV lanes and the project is adjacent to major arterials with speed limits greater than 25 mph, this mitigation measure was considered and rejected.

[3] Paid parking and parking less than the minimum required by Monterey Park was considered and rejected as a mitigation measure because it is not feasible in the current market and could drive development elsewhere. The project would generate a demand for 2,332 parking spaces and would create 2,386; the difference between the minimum required and actual provided (55 spaces) is nominal.

[4] Based on an annual net GHG reduction of 3.1 kg/m2 per canopy cover. Based on PDF 1(2), a minimum of 10 percent of the parking area (approximately 24 acre) would be shaded.

[5] The 2009 Appliance Efficiency Standards require appliance such as air conditioners, heat pumps, cooking/washing products, electronics, fans and humidifiers, lighting products, motor products, plumbing products, refrigeration products, transformer products, and water heaters to achieve performance standards for energy efficiency.

[6] The 2008 Building and Energy Efficiency Standards include enhanced requirements for lighting efficiency, solar reflectance (i.e., cool roofs), increased insulation, exterior shading devices, and solar orientation.

[7] The 2008 Building and Energy Efficiency Standards are approximately 15 percent more efficient than the 2005 Energy Efficiency Standards. This improvement in energy efficiency, and subsequent improvements are included as part of CARB's Scoping Plan strategy.

[8] Leadership in Energy and Design (LEED), measures performance in site sustainability, water savings, energy efficiency, material selection, and indoor air quality. Many of the design strategies of LEED have been incorporated into the California Building and Energy Efficiency Standards. Furthermore, buildings cannot be certified until after complete. Therefore, requiring LEED buildings is considered and rejected.