3.8 Greenhouse Gases

This section addresses effects of the Project with regard to global climate change. The results and conclusions of the greenhouse gas emissions technical report prepared for the Project by RECON Environmental in April 2012 are summarized below. The report is included in its entirety as Appendix G of this Draft Environmental Impact Report (DEIR).

3.8.1 Regulatory Setting

There are several international panels and agencies working on developing treaties and responding to growing concern about pollutants in the upper atmosphere and the potential problem of climate change. These include the Intergovernmental Panel on Climate Change (IPCC) established in 1988 by the World Meteorological Organization and the United Nations Environmental Program (UNEP), the United Nations Framework Convention on Climate Change (UNFCCC), and the 1997 Kyoto Protocol and subsequent accords (2001 Marrakesh Accords, 2009 Copenhagen Accords, and 2010 Cancun Accords). As of September 2011, 191 governments had signed and ratified the Kyoto Protocol. Most recently, the 2011 United Nations Climate Change Conference in Durban, South Africa resulted in the agreement to a legally binding treaty, called the Durban Platform, which will be prepared by 2015 and take effect in 2020. The Durban Platform includes developing countries, and the United States (U.S.), which refused to ratify the Kyoto Protocol. However, legislation at the federal and state level provides more guidance on the requirements and standards for greenhouse gas (GHG) reduction measures.

3.8.1.1 Federal

The U.S. developed the Climate Change Action Plan (CCAP) in 1993, which consists of initiatives that involve all economic sectors and aims at reducing all significant GHG. The CCAP, backed by federal funding, cultivates cooperative partnerships between the government and the private sector to establish flexible and cost-effective ways to reduce GHG emissions within each sector. The CCAP encourages investments in new technologies, but also relies on previous actions and programs focused on saving energy, reducing transportation emissions, improving forestry management, and reducing waste.

In 2002, the U.S. set a goal to reduce its GHG Emissions Intensity (the ratio of GHG emissions to economic output) by 18 percent by 2012 through various reduction programs, including those identified in the CCAP. New programs included the Energy Star program, which labels energy efficient appliances and products, and the Green Power Partnership, which promotes replacing electricity consumption with green (i.e., renewable) energy sources.

With regard to the transportation sector, the national Corporate Average Fuel Economy (CAFE) standards determine the fuel efficiency of certain vehicle classes in the U.S. After no changes since 1990, in 2007 the CAFE standards were increased for new light-duty vehicles to 35 miles per gallon (mpg) by 2020. In May 2009, plans were announced to increase these CAFE standards to 35.5 mpg by 2016. With improved gas mileage, fewer gallons of transportation fuel would be combusted to travel the same distance, thereby reducing nationwide GHG emissions associated with vehicle travel.

On June 26, 2009, the U.S. House of Representatives passed the American Clean Energy and Security Act. The Act establishes a cap-and-trade plan for GHG, under which the government sets a limit (cap) on the total amount of GHG that can be emitted from large U.S. sources. It requires a 17 percent emissions reduction from 2005 levels by 2020, and includes a renewable electricity standard that will require electricity providers to produce 20 percent of its electricity from renewable sources by 2020. The bill has not yet been approved by the Senate.

3.8.1.2 State

The State of California has a number of policies and regulations that are either directly or indirectly related to GHG emissions. Only those most relevant to land use development projects are included in this discussion.

a. Statewide GHG Emission Targets - Executive Order S-3-05

Executive Order (EO) S-3-05, signed by Governor Schwarzenegger on June 1, 2005, established the following GHG emission reduction targets for the state of California:

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

b. California Global Warming Solutions Act - Assembly Bill 32

In response to EO S-3-05, the California legislature passed Assembly Bill (AB) 32, the "California Global Warming Solutions Act of 2006," which required the California Air Resources Board (CARB) to adopt rules and regulations that would reduce statewide GHG emissions to 1990 levels by 2020. The CARB was also required to publish a list of discrete GHG emission reduction measures.

c. California Green Building Standards Code

The California Code of Regulations, Title 24, Part 6 is the California Energy Code. This code establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy consumption. The most recent amendments to the Energy Code, known as 2008 Title 24, or the 2008 Energy Code, require energy savings

of 15–35 percent above the former code. California Code of Regulations, Title 24, Part 11—California Green Building Standards (CalGreen) was added to Title 24 as Part 11 in 2009. CalGreen took effect in 2011 and instituted mandatory minimum environmental performance standards for all ground-up new construction of commercial and low-rise residential buildings, state-owned buildings, schools, and hospitals.

d. Assembly Bill 1493

In relation to the transportation sector, AB 1493 (also referred to as Pavley or the California Light-Duty Vehicle Greenhouse Gas Standards) was enacted on July 22, 2002. It required the CARB to develop and adopt regulations to lower GHG emissions from passenger vehicles and light duty trucks to the maximum extent technologically feasible, beginning with the 2009 model year. CARB adopted regulations in 2004, but due to litigation and delays from the U.S. Environmental Protection Agency (EPA) was not granted authority to proceed until June 2009. With this action, it is expected that the new regulations (Pavley I and II) will reduce GHG emissions from California passenger vehicles by about 18 percent statewide. These reductions are to come from improved vehicle technologies such as small engines with superchargers, continuously variable transmissions, and hybrid electric drives.

e. Low Carbon Fuel Standard

This executive order signed in 2007 directed that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 through a Low Carbon Fuel Standard (LCFS). The LCFS is a performance standard with flexible compliance mechanisms intended to incentivize the development of a diverse set of clean, low-carbon transportation fuel options. A 10 percent reduction in the intensity of transportation fuels is expected to equate to a reduction of 16.5 million metric tons of CO_2 equivalent ($MMTCO_2E$) in 2020. However, in order to account for possible overlap of benefits between LCFS and the Pavley GHG standards, CARB has discounted the contribution of LCFS to 15 $MMTCO_2E$ (CARB 2008).

f. Senate Bill 375 – Regional Emissions Targets

Senate Bill (SB) 375 was signed in September 2008 and requires CARB to set regional targets for reducing passenger vehicle GHG emissions in accordance with the Scoping Plan measure described above. Its purpose is to align regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation to reduce GHG emissions by promoting high-density, mixed-use developments around mass transit hubs.

CARB, in consultation with the Metropolitan Planning Organizations (MPOs), was required to provide each affected region with passenger vehicle GHG emissions reduction targets for 2020 and 2035 by September 30, 2010. The Southern California

Association of Governments (SCAG) is the region's MPO. On August 9, 2010, CARB released the staff report on the proposed reduction target, which was subsequently approved by CARB on September 23, 2010. The SCAG region will be required to reduce greenhouse gas emissions from cars and light trucks by 8 percent per capita by 2020 and 13 percent by 2035 (CARB 2010).

The reduction targets are to be updated every eight years, but can be updated every four years if advancements in emissions technologies affect the reduction strategies to achieve the targets.

Once reduction targets are established, each of California's MPOs must prepare and adopt a Sustainable Communities Strategy (SCS) that demonstrates how the region will meet its GHG reduction targets through integrated land use and housing and transportation planning. Enhanced public transit service combined with incentives for land use development that provides a better market for public transit will play an important role in the SCS. After the SCS is adopted by the MPO, the SCS will be incorporated into that region's federally enforceable regional transportation plan (RTP). SCAG is currently working on the 2012 RTP (CARB 2010, SCAG 2011).

CARB is also required to review each final SCS to determine whether it would, if implemented, achieve the greenhouse gas emission reduction target for its region. If the combination of measures in the SCS will not meet the region's target, the MPO must prepare a separate "alternative planning strategy (APS)" to meet the target. The APS is not a part of the RTP.

As an incentive to encourage implementation of the SCS and APS, developers can obtain relief from certain requirements under the California Environmental Quality Act (CEQA) for those projects that are consistent with either the SCS or APS (CARB 2010).

3.8.1.3 Local

a. General Plan 2025

The General Plan 2025 includes several climate change-related policies to ensure that GHG emissions reductions are imposed on future development and City of Riverside (City) operations. The relevant policies are listed below.

Air Quality Element

Sustainable Riverside and Global Warming

Policy AQ-8.1: Support the Sustainable Riverside Policy Statement by developing a Green Plan of Action.

Policy AQ-8.2: Support appropriate initiatives, legislation, and actions for reducing and responding to climate change.

Policy AQ-8.3: Encourage community involvement and public-private partnerships to reduce and respond to global warming.

Policy AQ-8.4: Develop a Climate Action Plan that sets a schedule to complete an inventory of municipal and private GHG emissions, sets targets for reductions and methodologies to reach targets.

Transportation Element

Policy AQ-2.1: Support Transportation Management Associations between large employers and commercial/industrial complexes.

Policy AQ-2.2: Support programs and educate employers about employee rideshare and transit incentives for employers with more than 250 employees at a single location. The City will provide incentives and programs to encourage alternative methods of transit.

Policy AQ-2.3: Cooperate with local, regional, state, and federal jurisdictions to reduce VMT and motor vehicle emissions through job creation in job-poor areas.

Policy AQ-2.4: Monitor and strive to achieve performance goals and/or VMT reduction, which are consistent with SCAG's goals.

Policy AQ-2.5: Consult with the CARB to identify ways that it may assist the City (e.g., providing funding, sponsoring programs) with its goal to reduce air pollution by reducing emissions from mobile sources.

Policy AQ-2.6: Develop trip reduction plans that promote alternative work schedules, ridesharing, telecommuting and work-at-home programs, employee education, and preferential parking.

Policy AQ-2.7: Use incentives, regulations, and Transportation Demand Management in cooperation with surrounding jurisdictions to eliminate vehicle trips that would otherwise be made.

Policy AQ-2.8: Work with RTA to establish mass transit mechanisms for the reduction of work-related and non-work-related vehicle trips.

Policy AQ-2.9: Encourage local transit agencies to promote ridership though careful planning of routes, headways, origins and destinations, [and] types of vehicles.

Policy AQ-2.10: Identify and develop non-motorized transportation corridors.

b. Green Riverside Action Plan

In 2005, the City of Riverside developed a 38-point Clean and Green Sustainable Riverside Action Plan (Green Action Plan) with the goal of furthering the City's commitment to a clean, green, and sustainable future and to ensure sustainable growth while preserving the health of the local environment. The plan highlights the following areas: energy, greenhouse gas emissions, waste reduction, urban design, urban nature, transportation, and nature. The City worked with the California Department of Conservation (CDC) to make the plan more robust and then was appointed as an Emerald City by the CDC. The items applicable to transportation projects are discussed further in Section 3.8.5 below.

3.8.2 Environmental Setting

Global climate change is a change in the average weather of the earth, which can be measured by wind patterns, storms, precipitation, and temperature. The earth's climate is in a state of constant flux, with periodic warming and cooling cycles. Extreme periods of cooling are termed "ice ages," which may then be followed by extended periods of warmth. For most of the earth's geologic history, these periods of warming and cooling have been the result of many complicated, interacting natural factors that include volcanic eruptions which spew gases and particles (dust) into the atmosphere, the amount of water, vegetation, and ice covering the earth's surface, subtle changes in the earth's orbit, and the amount of energy released by the sun (sun cycles). However, since the beginning of the Industrial Revolution around 1750, the average temperature of the earth has been increasing at a rate that is faster than can be explained by natural climate cycles alone.

With the Industrial Revolution came an increase in the combustion of carbon-based fuels such as wood, coal, oil, natural gas, and biomass. Industrial processes have also created emissions of substances that are not found in nature. This in turn has led to a marked increase in the emissions of gases that have been shown to influence the world's climate. These gases, termed "greenhouse" gases, influence the amount of heat that is trapped in the earth's atmosphere. Because recently observed increased concentrations of GHGs in the atmosphere are related to increased emissions resulting from human activity, the current cycle of "global warming" is generally believed to be largely due to human activity. Of late, the issue of global warming or global climate change has arguably become the most important and widely debated environmental issue in the U.S. and the world. Because climate change is caused by the collective of human actions taking place throughout the world, it is quintessentially a global or cumulative issue.

3.8.2.1 State and Regional GHG Inventories

There are numerous GHGs, both naturally occurring and artificial, that are measured based on the average time they stay in the atmosphere and potential to trap heat and warm the atmosphere (also referred to as global warming potential [GWP]). Of the most common GHGs, carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) are produced by both biogenic (natural) and anthropogenic (human) sources. These gases are the GHGs of primary concern in this analysis. The remaining gases occur solely as the result of human processes. Hydrofluorocarbons (HFCs) are synthetic, man-made chemicals used as substitutes for ozone-depleting chlorofluorocarbons used in air conditioners and as refrigerants. Perfluorocarbons (PFCs) such as tetrafluoromethane (CF_4) are used primarily in aluminum production and semiconductor manufacture. Sulfur hexafluoride (SF_6) is used for insulation in electric power transmission and distribution equipment. HFCs, PFCs, and SF_6 are thus not of primary concern to a roadway/bridge project. CO_2 would be emitted primarily through the combustion of fossil fuels in vehicles and construction equipment. Smaller amounts of CH_4 and N_2O would also be emitted from these sources.

The CARB performs statewide GHG inventories that are divided into nine broad sectors of economic activity: agriculture, commercial, electricity generation, forestry, high GWP emitters, industrial, recycling and waste, residential, and transportation. Emissions are quantified in $MMTCO_2E$. CARB has estimated statewide GHG emissions for the following sectors: agriculture, commercial, electricity generation, forestry, high GWP, industrial, recycling and waste, residential, transportation, and other. Transportation-related emissions consistently contribute the most GHG emissions, followed by electricity generation and industrial emissions. According to data from the CARB, it appears that statewide GHG emissions peaked in 2004, and are now beginning to decrease (CARB 2010).

3.8.2.2 Existing GHG Emissions

The City has prepared a Baseline Community Greenhouse Gas Emissions Inventory for the City and for the Riverside Public Utilities (City of Riverside 2010). The preliminary study evaluates the current level of GHG emissions within the City of Riverside and utilizes the International Council for Local Environmental Initiatives' (ICLEI) Clean Air and Climate Protection Software and emission accounting protocols. The study focused on the following sectors: Built Environment Energy Use – Electricity, Built Environment Energy Use – Natural Gas, Mobile Emissions, and Solid Waste. Similar to the statewide emissions, transportation-related GHG emissions contributed the most countywide, followed by emissions associated with energy use.

3.8.2.3 Implications of Climate Change

The increase in the earth's temperature is expected to have wide ranging effects on the environment. Although global climate change is anticipated to affect all areas of the globe, there are numerous implications of direct importance to California. Statewide average temperatures are anticipated to increase by between 3 degrees Fahrenheit (°F) and 10.5°F by 2100. Some climate models indicate that this warming may be greater in the summer than in the winter. This could result in widespread adverse impacts to ecosystem health, agricultural production, water use and supply, and energy demand. Increased temperatures could reduce the Sierra Nevada snowpack and put additional strain on the region's water supply. In addition, increased temperatures could result in lower inversion levels leading to a decrease in air quality. It is important to note that even if GHG emissions were to be eliminated or dramatically reduced, it is projected that the effect of those emissions would continue to affect global climate for centuries.

3.8.3 Significance Determination Thresholds

Based on Appendix G of the CEQA Guidelines, impacts related to greenhouse gas emissions would be significant if the proposed Project would:

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

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

South Coast Air Quality Management District (SCAQMD) plans to provide guidance to local lead agencies on determining GHG significance thresholds in their CEQA documents by convening a GHG CEQA Significance Threshold Working Group. The SCAQMD began hosting monthly working group meetings in April 2008. The result of the October 2008 working group meeting was a *Draft AQMD Staff CEQA Greenhouse Gas Significance Threshold* and the *Draft Guidance Document – Interim CEQA Greenhouse Gas (GHG) Significance Threshold* (SCAQMD 2008). The Draft Threshold is intended to be interim guidance until statewide significance thresholds or guidance are established. The proposed significance threshold is a tiered approach which allows for flexibility by establishing multiple thresholds to cover a broad range of projects.

SCAQMD proposes five tiers of compliance that may lead to a determination that impacts are less than significant (SCAQMD 2008):

Tier 1 – consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA. For example, Senate Bill (SB) 97 specifically exempted a limited number of projects until it expired in 2010. If a project does not qualify for an exemption, then it would move to the next tier.

Tier 2 – consists of determining whether or not the project is consistent with a GHG reduction plan that may be part of a local general plan, for example. The concept embodied in this tier is equivalent to the existing concept of consistency in CEQA Guidelines Section 15064(h)(3), 15125(d), or 15152(a). The GHG reduction plan must, at a minimum, comply with AB 32 GHG reduction goals, include emissions estimates agreed upon by either CARB or the SCAQMD, have been analyzed under CEQA, and have a certified Final CEQA document. Further, the GHG reduction plan must include a GHG emissions inventory tracking mechanism, a process to monitor progress in achieving GHG emission reduction targets, and a commitment to remedy the excess emissions if AB 32 goals are not met (enforcement). If the proposed project is consistent with the local GHG reduction plan, it is not significant for GHG emissions. If the project is not consistent with a local GHG reduction plan or there is no approved plan, the GHG reduction does not include all of the components described above, or there is no adopted GHG reduction plan, the project would move to Tier 3.

Tier 3 – attempts to identify small projects that would not likely contribute to significant cumulative GHG impacts. However, because of the magnitude of increasing global temperatures from current and future GHG emissions, SCAQMD staff is recommending that all projects must implement measures to contribute to reducing GHG emissions. Therefore, Tier 3 includes a requirement that all projects with GHG emissions less than the screening level must include efficiency components that reduce a certain percentage beyond the requirements of Title 24 (Part 6, California Code of Regulations), California's energy efficiency standards for residential and nonresidential buildings. Project proponents would also have to reduce by a specified percentage electricity demand from water use, primarily electricity used for water conveyance.

The proposed screening thresholds are as follows:

a. Industrial projects with an incremental GHG emissions increase that falls below (or is mitigated to be less than) 10,000 metric tons of CO_2 equivalent ($MTCO_2E$) per year; or

b. Commercial and residential projects with an incremental GHG emissions increase that falls below (or is mitigated to be less than) 3,000 $MTCO_2E$ per year, provided that such projects also meet energy efficiency and water conservation performance targets that have yet to be developed;

Tier 4 – Decision Tree Options: consists of three decision tree options to demonstrate that a project is not significant for GHG emissions. The four compliance options are as follows:

Option #1: Uniform percent emission reduction target objective (e.g., 30 percent) from Business As Usual (BAU) by incorporating project design features and/or implements emission reduction measures.

Option #2: Early implementation of applicable AB 32 Scoping Plan measures.

Option #3: Achieve sector-based standards (e.g., pounds per person, pounds per square foot, etc.).

BAU is based on CARB's 2020 BAU forecast model developed in 2008, which represents the net GHG emissions that would be expected to occur without any GHG project reducing features or mitigation. BAU emissions are not a hypothetical worst-case development scenario, but rather are the GHG emissions that would be reasonably expected to be generated by a development that would occur in the absence of GHG laws and regulations.

Tier 5 – under this tier, the lead agency would quantify GHG emissions from the project and the project proponent would implement off-site mitigation (GHG reduction projects) or purchase offsets to reduce GHG emission impacts to less than the proposed screening level. In addition, the project proponent would be required to provide offsets for the life of the project, which is defined as 30 years. If the project proponent is unable to obtain sufficient offsets, incorporate design features, or implement GHG reduction mitigation measures to reduce GHG emission impacts to less than the screening level, then GHG emissions from the project would be considered significant.

On December 5, 2008, the SCAQMD Governing Board adopted its staff proposal for an interim CEQA GHG significance threshold for evaluating projects where the SCAQMD is the lead agency. Currently, the Board has only adopted screening thresholds relevant to industrial (stationary source) projects (see 3(a) above).

Since December 2008, the SCAQMD continued hosting the working group meetings and revised the draft threshold proposal several times, although it did not officially provide these proposals in a subsequent document. The most recent working group meeting on September 28, 2010, proposed two options lead agencies can select from to screen thresholds of significance for GHG emissions in residential and commercial projects, and proposes to expand the industrial threshold to other lead agency industrial projects. Option 1 proposes a threshold of 3,000 $MTCO_2E$ per year for all residential and

commercial projects; Option 2 proposes a threshold value by land use type where the numeric threshold is 3,500 $MTCO_2E$ per year for residential projects, 1,400 $MTCO_2E$ per year for commercial projects, and 3,000 $MTCO_2E$ per year for mixed use projects.

The proposed Project is the evaluation of four circulation scenarios associated with Overlook Parkway, and does not propose any residential, commercial, mixed use, or industrial land use developments. Therefore, none of the proposed thresholds discussed above specifically apply to the proposed Project. In order to identify the least GHG impacting scenario, the current Project scenarios are evaluated using the most restrictive quantitative threshold proposal discussed above of 1,400 $MTCO_2E$ per year. Therefore, for the purposes of this analysis, the net emissions associated with each proposed scenario are compared to a threshold of 1,400 $MTCO_2E$ per year for the determination of significance.

3.8.4 Issue 1: GHG Emissions

Would the proposed Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

3.8.4.1 Impact Analysis

a. Transportation-related GHG Emissions

Similar to air quality, the study area was defined as the County of Riverside in order to capture the trips produced and attracted, some of which originate from outside the City boundaries and some of which have a destination outside the City boundary. As discussed in Section 2.0, Project Description, and in more detail in Section 3.12.4, Transportation/Traffic of the DEIR, the four circulation scenarios would not generate new or additional trips. Therefore, the Project would not result in an increase in ADT to the roadway network, and existing and future traffic volumes are the same for each scenario. However, each scenario would affect vehicle traffic patterns and the average trip length in the county, including vehicle miles traveled (VMT). As discussed in Section 2.4, two baselines were considered (Gates Closed and Gates Open) and existing traffic counts and VMT is considered for both baselines.

Existing and buildout (2035) GHG emissions were calculated for each scenario using Emission Factors 2007 program (EMFAC 2007) emission factors. In addition, for the discussion of the Project's consistency with AB 32 2020 targets, emissions for each scenario in year 2020 were also calculated. For a worst-case 2020 analysis, it was assumed that the year 2035 buildout traffic volumes would occur by year 2020.

Traffic information was obtained from ITERIS, Inc. Traffic speeds, volumes, and segment lengths for each roadway segment in Riverside County were provided for each

scenario. The VMT for each scenario was calculated by multiplying the ADT for each segment by the length of each segment.

Existing, year 2020, and buildout daily VMT and annual GHG are summarized in Tables 3.8-1a, 3.8-1b, and 3.8-1c. Where VMT and GHG emissions are higher than the Gates Closed or Gates Open baseline condition, the result is in shaded text.

TABLE 3.8-1a
EXISTING ANNUAL VEHICLE GHG EMISSIONS
(metric tons per year)

	VMT	CO_2	CH_4	N_2O	$CO_2Eq.$
Scenario 1/Gates Closed	48,610,947	8,702,463	495	1,100	9,053,874
Scenario 2/Gates Open	48,607,167	8,701,937	495	1,100	9,053,321
Scenario 3	48,605,055	8,701,512	495	1,100	9,052,881
Scenario 4	48,615,745	8,703,121	495	1,100	9,054,567
CHANGE BETWEEN SCENARIO AND GATES CLOSED BASELINE					
Scenario 1 – Gates Closed	0	0	0	0	0
Scenario 2 – Gates Closed	-3,780	-526	0	0	-553
Scenario 3 – Gates Closed	-5,892	-951	0	0	-993
Scenario 4 – Gates Closed	4,798	658	0	0	693
CHANGE BETWEEN SCENARIO AND GATES OPEN BASELINE					
Scenario 1 – Gates Open	3,780	526	0	0	553
Scenario 2 – Gates Open	0	0	0	0	0
Scenario 3 – Gates Open	-2,112	-425	0	0	-440
Scenario 4 – Gates Open	8,578	1,184	0	0	1,246

TABLE 3.8-1b
YEAR 2020 ANNUAL VEHICLE GHG EMISSIONS
(metric tons per year)

	VMT	CO_2	CH_4	N_2O	$CO_2Eq.$
Scenario 1/Gates Closed	102,093,231	12,967,904	577	2,348	13,707,798
Scenario 2/Gates Open	102,055,383	12,963,573	577	2,347	13,703,194
Scenario 3	102,089,360	12,967,156	577	2,348	13,707,022
Scenario 4	102,063,715	12,964,378	577	2,347	13,704,059
CHANGE BETWEEN SCENARIO AND GATES CLOSED BASELINE					
Scenario 1 – Gates Closed	0	0	0	0	0
Scenario 2 – Gates Closed	-37,848	-4,331	0	-1	-4,605
Scenario 3 – Gates Closed	-3,871	-748	0	0	-776
Scenario 4 – Gates Closed	-29,516	-3,526	0	-1	-3,739
CHANGE BETWEEN SCENARIO AND GATES OPEN BASELINE					
Scenario 1 – Gates Open	37,848	4,331	0	1	4,605
Scenario 2 – Gates Open	0	0	0	0	0
Scenario 3 – Gates Open	33,977	3,583	0	1	3,828
Scenario 4 – Gates Open	8,332	805	0	0	866

TABLE 3.8-1c
BUILDOUT ANNUAL VEHICLE GHG EMISSIONS
(metric tons per year)

	VMT	C_2O	CH_4	N_2O	$CO_2Eq.$
Scenario 1/Gates Closed	102,093,231	11,999,908	360	2,422	12,758,332
Scenario 2/Gates Open	102,055,383	11,995,898	360	2,421	12,754,041
Scenario 3	102,089,360	11,999,224	360	2,422	12,757,619
Scenario 4	102,063,715	11,996,654	360	2,421	12,754,859
CHANGE BETWEEN SCENARIO AND GATES CLOSED BASELINE					
Scenario 1 – Gates Closed	0	0	0	0	0
Scenario 2 – Gates Closed	-37,848	-4,010	0	-1	-4,291
Scenario 3 – Gates Closed	-3,871	-684	0	0	-713
Scenario 4 – Gates Closed	-29,516	-3,254	0	-1	-3,472
CHANGE BETWEEN SCENARIO AND GATES OPEN BASELINE					
Scenario 1 – Gates Open	37,848	4,010	0	1	4,291
Scenario 2 – Gates Open	0	0	0	0	0
Scenario 3 – Gates Open	33,977	3,326	0	1	3,578
Scenario 4 – Gates Open	8,332	756	0	0	818

b. Construction-related GHG Emissions

Construction activities emit GHGs primarily though combustion of fuels (mostly diesel) in the engines of off-road construction equipment and through combustion of diesel and gasoline in on-road construction vehicles and in the commute vehicles of the construction workers. Smaller amounts of GHGs are also emitted through the energy use embodied in any water use (for fugitive dust control) and lighting for the construction activity. Every phase of the construction process, including demolition, grading, and paving, emits GHG emissions in volumes proportional to the quantity and type of construction equipment used. The heavier equipment typically emits more GHGs per hour of use than the lighter equipment because of their greater fuel consumption and engine design.

Construction emissions were estimated for each scenario using the California Emissions Estimator Model (CalEEMod) that was released in March 2011 by the SCAQMD. This model estimates air emissions from construction and operational emissions sources. In brief, the model estimates criteria air pollutants and GHG emissions by multiplying emission source intensity factors by estimated quantities of emission sources based on the land use information entered.

GHG emissions associated with each phase of Project construction are calculated in CalEEMod by multiplying the total fuel consumed by the construction equipment and worker trips by applicable emission factors.

Scenario 1

Under Scenario 1, both Crystal View Terrace and Green Orchard Place gates would remain closed. Traffic flows would be the same as those required for the legal condition with the gates in place, and no construction would occur under Scenario 1. Therefore, construction GHG emissions under Scenario 1 would be **less than significant**.

Scenario 2

Under Scenario 2, the gates at both Crystal View Terrace and Green Orchard Place would be removed. Like Scenario 1, no construction would occur under Scenario 2, as the removal of the gates is a minor procedure. Therefore, construction GHG emissions under Scenario 2 would be **less than significant**.

Scenario 3

Under Scenario 3, the gates at Crystal View Terrace and Green Orchard Place would be removed and Overlook Parkway would be connected across the Alessandro Arroyo and eastward to Alessandro Boulevard.

Grading improvements are required to construct the missing section of roadway between Brittanee Court and Sandtrack Road. This fill crossing construction is anticipated to last approximately two months. Additionally, a bridge is proposed to connect Overlook Parkway from Crystal View Terrace to Via Vista Drive and span the Alessandro Arroyo. The bridge construction is anticipated to last approximately nine months. The bridge construction would be divided into three phases: abutment construction, bent construction, and superstructure construction. It was assumed that these construction phases would not overlap. In addition, storm drains, water lines, and gas and electric power lines would be extended to tie into existing lines. Installation/construction of utilities (water, sewer, electrical) would be concurrent with these phases and was taken into account in CalEEMod. Table 3.8-2 summarizes the phases of construction, the equipment required for each task, and the default horsepower and load factor for each piece of equipment. In addition to the equipment listed in Table 3.8-2, trucks would be required for material delivery and hauling, and vehicles would be used during construction worker trips to and from each site. Default trip lengths of 10.8 miles for worker trips, 7.3 miles for vendor trips, and 20 miles for hauling trips were provided by the model and those trips rates were based on construction surveys performed by the SCAQMD.

Table 3.8-3 summarizes the fill-crossing and bridge construction GHG emissions for Scenario 3.

TABLE 3.8-2
FILL-CROSSING AND BRIDGE CONSTRUCTION EQUIPMENT PARAMETERS

Phase/Length (days)*	Equipment	Horsepower	Load Factor
Abutment Construction (40)	1 Excavator	157	0.57
	1 Backhoe	75	0.55
	1 Bob Cat	37	0.55
	1 Pile Driver and Lead	82	0.75
	1 Crawler Crane	208	0.43
	1 Mobile Crane	208	0.43
	1 Concrete Pump	84	0.74
	2 Portable Generators	84	0.74
	2 Air Compressors	78	0.48
Bent Construction (20)	1 Backhoe	75	0.55
	1 Bob Cat	37	0.55
	1 Pile Drill Rig	82	0.75
	1 Crawler Crane	208	0.43
	1 Mobile Crane	208	0.43
	1 Concrete Pump	208	0.43
	2 Portable Generators	84	0.74
	2 Air Compressors	84	0.74
Superstructure Construction (120)	1 Backhoe	75	0.55
	2 Forklifts	149	0.30
	1 Pile Drill Rig	82	0.75
	2 Mobile Cranes	208	0.43
	2 Concrete Pumps	208	0.43
	2 Portable Generators	84	0.74
	2 Air Compressors	84	0.74
Fill Crossing (40)	1 Loader	75	0.55
	2 Backhoes	75	0.55
	1 Trencher	69	0.75
	1 Paving Machine	89	0.62
	1 Compactor	8	0.43
	1 Curb and Gutter Machine	82	0.53

SOURCE: Personal communication with Simon Wong, Rick Engineering, City of Riverside Public Works Department.
*Assumes construction would occur 5 days per week.

TABLE 3.8-3
SUMMARY OF FILL-CROSSING AND BRIDGE CONSTRUCTION GHG EMISSIONS FOR SCENARIO 3
(metric tons/year)

	CO_2	CH_4	N_2O	CO_2 Eq
2012	232.59	0.03	0.00	233.15
2013	400.03	0.04	0.00	400.95
TOTAL	632.62	0.07	0.00	634.10
Amortized over 30 years	21.09	0.00	0.00	21.14

Scenario 4

Under Scenario 4, both Crystal View Terrace and Green Orchard Place gates would be removed and Overlook Parkway would be connected east across the Alessandro Arroyo and eastward to Alessandro Boulevard. In addition, the Proposed C Street also would be constructed.

Construction GHG emissions due to connecting Overlook Parkway would be the same as those described for the road and bridge crossing discussed above and summarized in Table 3.8-7, below. Construction activities would also occur for the Proposed C Street.

Construction of the Proposed C Street would include grading and paving. It is anticipated that these construction activities would last up to three months and would require the grading of approximately 15.3 acres. It was assumed that construction would begin in 2013 after the fill-crossing and bridge construction discussed above. Table 3.8-4 summarizes the phases of construction, the equipment required for each task, and the default horsepower and load factor for each piece of equipment. It was assumed that each piece of equipment would operate eight hours per day and five days a week.

TABLE 3.8-4
CONSTRUCTION EQUIPMENT PARAMETERS FOR THE PROPOSED C STREET

Phase/Length (days)	Equipment	Horsepower	Load Factor
Grading (60)	2 Excavators	157	0.57
	1 Grader	162	0.61
	1 Rubber Tired Dozer	358	0.59
	2 Scrapers	356	0.72
	2 Tractors/Loaders/Backhoes	75	0.55
Paving (30)	1 Paver	89	0.62
	1 Paving Equipment	82	0.53
	1 Roller	84	0.56

Table 3.8-5 summarizes the Scenario 4 construction GHG emissions. These include emissions from construction of the Proposed C Street as well as emissions from construction of the fill-crossing and bridge.

TABLE 3.8-5
SUMMARY OF SCENARIO 4 CONSTRUCTION GHG EMISSIONS
(metric tons/year)

	CO_2	CH_4	N_2O	CO_2 Eq
Fill crossing and bridge	632.62	0.07	0.00	634.10
Proposed C Street	321.57	0.03	0.00	322.25
TOTAL	954.19	0.10	0.00	956.35
Amortized over 30 years*	31.81	0.00	0.00	31.88

*Refer to Appendix G for a detailed explanation of the methodology.

c. Total GHG Emissions

Tables 3.8-6a, 3.8-6b, and 3.8-6c summarize the total existing, year 2020, and buildout vehicle and construction emissions under each scenario. Where GHG emissions are higher than the Gates Closed or Gates Open baseline condition, the result is in shaded text.

TABLE 3.8-6a
EXISTING ANNUAL TOTAL GHG EMISSIONS
(metric tons per year)

	Vehicle Emissions ($MTCO_2E$)	Construction Emissions ($MTCO_2E$)	Total Emissions ($MTCO_2E$)
Scenario 1/Gates Closed	9,053,874	0	9,053,874
Scenario 2/Gates Open	9,053,321	0	9,053,321
Scenario 3	9,052,881	21	9,052,902
Scenario 4	9,054,567	32	9,054,599
COMPARISON TO GATES CLOSED BASELINE			
Scenario 1 – Gates Closed	0	0	0
Scenario 2 – Gates Closed	-553	0	-553
Scenario 3 – Gates Closed	-993	21	-972
Scenario 4 – Gates Closed	693	32	725
COMPARISON TO GATES OPEN BASELINE			
Scenario 1 – Gates Open	553	0	553
Scenario 2 – Gates Open	0	0	0
Scenario 3 – Gates Open	-440	21	-419
Scenario 4 – Gates Open	1,246	32	1,278

TABLE 3.8-6b
YEAR 2020 ANNUAL TOTAL GHG EMISSIONS
(metric tons per year)

	Vehicle Emissions ($MTCO_2E$)	Construction Emissions ($MTCO_2E$)	Total Emissions ($MTCO_2E$)
Scenario 1/Gates Closed	13,707,798	0	13,707,798
Scenario 2/Gates Open	13,703,194	0	13,703,194
Scenario 3	13,707,022	21	13,707,043
Scenario 4	13,704,059	32	13,704,091
COMPARISON TO GATES CLOSED BASELINE			
Scenario 1 – Gates Closed	0	0	0
Scenario 2 – Gates Closed	-4,604	0	-4,604
Scenario 3 – Gates Closed	-776	21	-755
Scenario 4 – Gates Closed	-3,739	32	-3,707
COMPARISON TO GATES OPEN BASELINE			
Scenario 1 – Gates Open	4,604	0	4,604
Scenario 2 – Gates Open	0	0	0
Scenario 3 – Gates Open	3,828	21	3,849
Scenario 4 – Gates Open	865	32	897

TABLE 3.8-6c
BUILDOUT ANNUAL TOTAL GHG EMISSIONS
(metric tons per year)

	Vehicle Emissions ($MTCO_2E$)	Construction Emissions ($MTCO_2E$)	Total Emissions ($MTCO_2E$)
Scenario 1/Gates Closed	12,758,332	0	12,758,332
Scenario 2/Gates Open	12,754,041	0	12,754,041
Scenario 3	12,757,619	21	12,757,640
Scenario 4	12,754,859	32	12,754,891
COMPARISON TO GATES CLOSED BASELINE			
Scenario 1 – Gates Closed	0	0	0
Scenario 2 – Gates Closed	-4,291	0	-4,291
Scenario 3 – Gates Closed	-713	21	-692
Scenario 4 – Gates Closed	-3,473	32	-3,441
COMPARISON TO GATES OPEN BASELINE			
Scenario 1 – Gates Open	4,291	0	4,291
Scenario 2 – Gates Open	0	0	0
Scenario 3 – Gates Open	3,578	21	3,599
Scenario 4 – Gates Open	818	32	850

Gates Closed Baseline Comparison

Scenario 1

As shown in Tables 3.8-1a through 3.8-1c, Scenario 1 with the gates closed currently generates 48,610,947 daily VMT and would generate 102,093,231 daily VMT at buildout. This scenario is equivalent to the Gates Closed baseline. Additionally, no construction would occur under Scenario 1. Therefore, there is no difference in VMT or GHG emissions between Scenario 1 and the Gates Closed baseline, and GHG impacts due to operation of Scenario 1 would be **less than significant**.

Scenario 2

As shown in Tables 3.8-1a through 3.8-1c, Scenario 2 with the gates open currently generates 48,607,167 daily VMT and would generate 102,055,383 daily VMT at buildout. These are decreases in VMT relative to the Gates Closed baseline. When compared to the Gates Closed baseline, this decrease in VMT results in a decrease in vehicle GHG emissions. Additionally, no construction would occur under Scenario 2. As shown in Tables 3.8-6a through 3.8-6c, when compared to the Gates Closed baseline, Scenario 2 would result in an annual decrease in GHG emissions of 553 $MTCO_2E$ in the existing plus Scenario 2 condition, a decrease of 4,604 $MTCO_2E$ in year 2020, and a decrease of 4,291 at buildout. Since Scenario 2 would result in a decrease in emissions when compared to the Gates Closed baseline, GHG impacts would be **less than significant**.

Scenario 3

As shown in Tables 3.8-1a through 3.8-1c, Scenario 3 with the gates open and the Overlook connection made would generate 48,605,055 daily VMT with the existing traffic conditions (i.e., the existing plus Project scenario), and would generate 102,089,360 daily VMT at buildout. These are decreases in VMT relative to the Gates Closed baseline. When compared to the Gates Closed baseline, this decrease in VMT results in a decrease in vehicle GHG emissions. Construction of the fill-crossing and bridge would result in approximately 21 $MTCO_2E$ when amortized over 30 years. As shown in Tables 3.8-6a through 3.8-6c, when compared to the Gates Closed baseline, Scenario 3 would result in a total annual decrease in GHG emissions of 972 $MTCO_2E$ in the existing plus Scenario 3 condition, a decrease of 755 $MTCO_2E$ in year 2020, and a decrease of 692 $MTCO_2E$ at buildout. Since Scenario 3 would result in a decrease in emissions when compared to the Gates Closed baseline, GHG impacts would be **less than significant**.

Scenario 4

As shown in Tables 3.8-1a through 3.8-1c, Scenario 4 with the Overlook connection made east to Alessandro Boulevard, and the construction of the Proposed C Street would generate 48,615,745 daily VMT with the existing traffic conditions (i.e., the existing plus Project scenario), and would generate 102,063,715 daily VMT at buildout. In the existing condition, the daily VMT under Scenario 4 is greater than the existing Gates Closed baseline daily VMT. Additionally, construction of the fill-crossing and bridge and the Proposed C Street would result in approximately 32 $MTCO_2E$ when amortized over 30 years. As shown in Table 3.8-6a, when compared to the Gates Closed baseline, Scenario 4 would result in a total annual increase in GHG emissions of 725 $MTCO_2E$. This is less than the most restrictive proposed SCAQMD threshold of 1,400 $MTCO_2E$ per year.

At buildout, the daily VMT under Scenario 4 is less than the daily VMT under buildout of the Gates Closed baseline. This results in a decrease in GHG emissions. As shown in Tables 3.8-6b and 3.8-6c, when compared to the Gates Closed baseline, Scenario 4 would result in a total annual decrease in GHG emissions of 3,707 $MTCO_2E$ in year 2020 and a decrease of 3,441 $MTCO_2E$ at buildout. Since Scenario 4 would result in a decrease in emissions when compared to the Gates Closed baseline, GHG impacts would be **less than significant**.

Gates Open Baseline Comparison

Scenario 1

As shown in Tables 3.8-1a through 3.8-1c, the existing and buildout VMTs under Scenario 1 with the gates closed are greater than the existing and buildout VMTs under the Gates Open baseline. As shown in Tables 3.8-6a through 3.8-6c, when compared to the Gates Open baseline, Scenario 1 would result in a total annual increase in GHG emissions of 553 $MTCO_2E$ in the existing plus Scenario 1 condition, an increase of 4,604 $MTCO_2E$ in year 2020, and an increase of 4,291 $MTCO_2E$ at buildout. The increase of 553 $MTCO_2E$ in the existing plus Scenario 1 condition is less than the most restrictive SCAQMD proposed threshold of 1,400 $MTCO_2E$ per year and would be considered less than significant. However, the increases in emissions in year 2020 and at buildout would exceed this threshold.

It should be noted, however, that these slight increases in GHG emissions at buildout are minor when compared to the total GHG emissions due to vehicle travel on the entire Riverside County roadway network. These increases represent only 0.03 percent of the total vehicle GHG emissions of approximately 13,000,000 to 14,000,000 $MTCO_2E$ per year. Additionally, these increases are less than the adopted industrial significance threshold of 10,000 $MTCO_2E$ per year for a single project. However, because these increases would exceed the most restrictive threshold of 1,400 $MTCO_2E$ per year, GHG impacts due to operation of Scenario 1 would be **significant (S1-GHG-1)** when compared to the Gates Open baseline.

Scenario 2

Scenario 2 is equivalent to the Gates Open baseline. Therefore, there is no difference in VMT or GHG emissions between Scenario 2 and the Gates Open baseline, and GHG impacts due to operation of Scenario 2 would be **less than significant** when compared to the Gates Open baseline.

Scenario 3

As shown in Tables 3.8-1a through 3.8-1c, in the existing condition, the daily VMT under Scenario 3 is less than the existing Gates Open baseline daily VMT. This results in a decrease in vehicle GHG emissions. After the addition of construction GHG emissions, Scenario 3 would result in a net decrease of 419 $MTCO_2E$ per year in the existing plus Scenario 3 condition when compared to the Gates Open baseline.

The buildout VMT under Scenario 3 are greater than the buildout VMT under the Gates Open baseline. This results in an increase in vehicle GHG emissions in year 2020 and at buildout. After the addition of construction GHG emissions, when compared to the Gates Open baseline, Scenario 3 would result in a total annual net increase in GHG emissions

of 3,849 $MTCO_2E$ in year 2020 and an increase of 3,599 $MTCO_2E$ at buildout. These increases in emissions in year 2020 and at buildout would exceed the 1,400 $MTCO_2E$ threshold.

As with Scenario 1, these slight increases in GHG emissions are minor (0.03 percent) when compared to the total GHG emissions due to vehicle travel on the entire Riverside County roadway network. Additionally, these increases are less than the adopted industrial significance threshold of 10,000 $MTCO_2E$ per year for a single project. However, because these increases would exceed the most restrictive threshold of 1,400 $MTCO_2E$ per year, GHG impacts due to operation of Scenario 3 would be **significant (S3-GHG-1)** when compared to the Gates Open baseline.

Scenario 4

As shown in Tables 3.8-1a through 3.8-1c, the existing and buildout VMTs under Scenario 4 are greater than the existing and buildout VMTs under the Gates Open baseline. After the addition of construction GHG emissions, Scenario 4 would result in a total annual net increase in GHG emissions of 1,278 $MTCO_2E$ in the existing plus Scenario 4 condition, an increase of 897 $MTCO_2E$ in year 2020, and an increase of 850 $MTCO_2E$ at buildout. These increases are less than the most restrictive SCAQMD proposed threshold of 1,400 $MTCO_2E$ per year and would be considered **less than significant**.

Off-site

The Traffic Impact Analysis (TIA) identifies mitigation measures involving traffic signalization and restriping for new or additional right- or left-turn lanes for all scenarios under both the gates open and gates closed baselines. Additionally, for Scenarios 2, 3, and 4, paving would be required at key intersections (e.g., Alessandro Boulevard and Trautwein Road, Victoria Avenue and Madison Street) to allow for additional turn lanes. However, paving would require a minimal amount of construction equipment and would be short in duration (1/2 day up to several weeks). Signalization, restriping, and paving would occur after completion of grading associated with roadway improvements described for the proposed Project. To quantify these emissions it was assumed that these off-site paving activities would be similar to the paving required for construction of Proposed C Street under Scenario 4. This is a conservative assumption since Proposed C Street would require significantly more paving than what would be required at existing intersections. It was calculated by CalEEMod that the total of all Project paving activities would emit 0.7 $MTCO_2E$ when amortized over 30 years. When added to the GHG emissions summarized in Tables 3.8-3 and 3.8-5, there would be no change to the significance conclusions in the impact discussion above.

3.8.4.2 Significance of Impacts

Table 3.8-7 summarizes the significance of impacts for all four scenarios when compared to the Gates Closed and Gates Open baselines.

TABLE 3.8-7
SIGNIFICANCE OF GHG IMPACTS

	Gate Closed Baseline	Gates Open Baseline
Scenario 1	No net increase in emissions. Less than significant.	Existing + Project: Net increase in emissions less than 1,400 $MTCO_2E$ per year. Less than significant. Year 2020+Project: Net increase in emissions greater than 1,400 $MTCO_2E$ per year. Significant Impact. Buildout + Project: Net increase in emissions greater than 1,400 $MTCO_2E$ per year. Significant Impact.
Scenario 2	Decrease in net emissions. Less than significant.	No net increase in emissions. Less than significant.
Scenario 3	Decrease in net emissions. Less than significant.	Existing + Project: Decrease in net emissions. Less than significant. Year 2020 + Project: Net increase in emissions greater than 1,400 $MTCO_2E$ per year. Significant Impact. Buildout + Project: Net increase in emissions greater than 1,400 $MTCO_2E$ per year. Significant Impact.
Scenario 4	Existing + Project: Net increase in emissions less than 1,400 $MTCO_2E$ per year. Less than significant. Year 2020+Project: Decrease in net emissions. Less than significant. Buildout + Project: Decrease in net emissions. Less than significant.	Net increase in emissions less than 1,400 $MTCO_2E$ per year. Less than significant.

When compared to the Gates Closed baseline, there would be no net increase in GHG emission, and impacts due to Scenario 1 would be less than significant. When compared to the Gates Open baseline, Scenario 1 would result in net increases in emissions that are greater than 1,400 $MTCO_2E$ in year 2020 and at buildout. Impacts due to Scenario 1 would be significant (**S1-GHG-1**).

When compared to the Gates Closed baseline, there would be a net decrease in GHG emissions. When compared to the Gates Open baseline, there would be no net increase in GHG emissions. Impacts due to Scenario 2 would be less than significant when compared to both Gates Closed and Gates Open baselines.

When compared to the Gates Closed baseline, there would be a net decrease in GHG emission, and impacts due to Scenario 3 would be less than significant. When compared to the Gates Open baseline, Scenario 3 would result in net increases in emissions that are greater than 1,400 $MTCO_2E$ in year 2020 and at buildout. Impacts due to Scenario 3 would be significant (**S3-GHG-1**).

When compared to the Gates Closed baseline, the net increase in GHG emissions in the existing plus Project condition would be less than 1,400 $MTCO_2E$, and there would be net decreases in emissions in year 2020 and at buildout. Therefore, impacts due to Scenario 4 would be less than significant. When compared to the Gates Open baseline, the net increase in GHG emissions would be less than 1,400 $MTCO_2E$. Impacts due to Scenario 4 would also be less than significant.

Emissions from construction of off-site improvements to add traffic signals, restripe, and add paved roadway at key intersections would be less than significant.

3.8.4.3 Mitigation, Monitoring, and Reporting

Calculations performed for each scenario took into account statewide measures aimed at reducing vehicle GHG emissions (i.e., Pavley and LCFS discussed in Section 3.8.1.3(d) and (e) above). Further reductions in the Project vicinity could only come from additional state and federal measures that would increase vehicle efficiency and would be out of the control of the proposed Project. Therefore, impacts from Scenarios 1 and 3 (**S1-GHG-1** and **S3-GHG-1**) would remain significant and unavoidable.

3.8.4.4 Significance after Mitigation

Impacts from implementation of Scenarios 1 and 3 would remain **significant and unavoidable**.

3.8.5 Issue 2: Applicable Plans, Policies, and Regulations

Would the proposed Project result conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

3.8.5.1 Impact Analysis

Scenarios 1–4 and Off-site

a. Consistency with the Scoping Plan

The regulatory plans and policies discussed above aim to reduce federal, state, and local GHG emissions by primarily targeting the largest emitters of GHGs: the transportation and energy sectors. Plan goals and regulatory standards are thus largely focused on the automobile industry and public utilities. For the transportation sector, the reduction strategy is generally three pronged: to reduce GHG emissions from vehicles by improving engine design; to reduce the carbon content of transportation fuels through research, funding, and incentives to fuel suppliers; and to reduce the miles these vehicles travel through land use change and infrastructure investments.

The vehicle GHG emissions calculated above take into account the vehicle emission reductions provided by Pavley and the LCFS. Together, these measures result in an approximate 24 percent reduction in vehicle GHG emissions in Riverside County. None of the proposed scenarios would conflict with the GHG-reducing measures outlined in the Scoping Plan. The majority of reductions is directed at the sectors with the largest GHG emissions contributions—transportation and electricity generation—and involve statutory mandates affecting vehicle or fuel manufacture, public transit, and public

utilities. The proposed scenarios would not conflict with these transportation reduction measures.

The other measures are applicable to land use planning and development. For the energy sector, the reduction strategies aim to reduce energy demand, impose emission caps on energy providers, establish minimum building energy and green building standards, transition to renewable non-fossil fuels, incentivize homeowners and builders, fully recover landfill gas for energy, expand research and development, and so forth. Since the proposed Project does not propose any changes in land use or development that would increase energy demand, these measures are not applicable to the proposed Project or any off-site improvements, if implemented.

b. Consistency with the General Plan 2025

The EIR prepared for the General Plan 2025 update estimated GHG emissions due to buildout of the City. The EIR calculated that the annual VMT per person would more than double from 1990 to 2020 in the plan area. It was found that, given that the buildout would result in GHG emissions of 1.63 million metric tons in 2020 within the City of Riverside that will produce a total of 7.3 million metric tons, and would generate approximately three times the annual level that occurred in 1990 and approximately double the tons of CO_2 per person, the increase in GHG was considered significant (City of Riverside 2007a). The City has adopted policies and programs in the General Plan 2025 to promote the use of clean and renewable energy sources, facilitate alternative modes of transportation and reduction in VMT, waste reduction, water conservation, and the efficient and sustainable use of energy.

The General Plan 2025 analysis considered buildout of the City, including the connection of Overlook Parkway. The analysis presented above is consistent with the General Plan 2025 analysis, but with specific emphasis on traffic patterns in a specific area of the City, some of which include the Overlook Parkway connection. Similar to the General Plan 2025 analysis, it was found that VMT would increase under certain scenarios.

Scenario 2 would result in a net decrease in VMT at buildout, while Scenarios 1, 3, and 4 would result in a net increase in VMT at buildout. General Plan 2025 Policy AQ-2.4 aims at achieving performance goals and/or reducing regional VMT (see Section 3.2.4.1). The goal behind this policy is to reduce vehicle emissions. Scenarios 3 and 4 would connect Overlook Parkway, as called for in the General Plan 2025, and improve traffic flow thereby not conflicting with the policy objective of achieving performance goals. Thus, Scenarios 3 and 4 would be consistent with the policy. As discussed above, Scenario 1 would increase VMT. The gates at two locations are intended as traffic control devices to prevent cut-through traffic. By keeping the gates in place, this scenario does not allow for the efficient flow of traffic in this area of the City. However, Scenario 1 would not prevent the City from achieving overarching sustainability and performance goals, and therefore does not conflict with this policy. Further reductions of vehicle emissions could

also come from state and federal measures which increase standards for vehicle efficiency over time. Off-site improvements require minimal construction equipment and would be short term; these activities would not conflict with any applicable plan, policy, or regulation and impacts would also be **less than significant**.

Similarly, off-site improvements at intersections, if implemented to improve traffic flow, would not conflict with applicable goals and policies related to greenhouse gas emissions, and **no impacts** would result.

c. Consistency with the Green Action Plan

As discussed above, the City has developed a Green Action Plan. The following is a list of the Green Action Plan items that may be applicable to transportation projects:

Item 26: Synchronize traffic signals along primary City arterials by the end of 2008.

Item 27: Implement a program to design, construct, or close at least one of the 26 railroad grade separations each year.

Item 28: Reconstruct at least two freeway/street interchanges by 2012.

Item 29: Increase the number of clean vehicles in the non-emergency City fleet to at least 60 percent by 2010.

Item 30: Encourage the use of bicycles as an alternative form of transportation, not just recreation, by increasing the number of bike trails by 15 miles and bike lanes by 111 miles throughout the City before 2025.

Item 31: Develop programs to reduce mobile sources of pollution, such as encouraging the purchase of alternative fuel vehicles or lower emission hybrids and plug-ins for the residential and business community before 2009.

Item 32: Promote and encourage the use of alternative methods of transportation throughout the community by providing programs to City employees that can be duplicated by local businesses.

Item 33: Implement a regional transit program between educational facilities by 2010.

Item 34: Coordinate a plan with local agencies to expand affordable convenient public transit that will assist in reducing the per capita vehicle trips within the City limits by 2009.

Since the proposed Project would only affect vehicle traffic patterns and trip length on road segments, the proposed Project would not conflict with these goals. The proposed Project would further these goals by synchronizing traffic signals, providing new bike

lanes, providing designated turn lanes, and implementing other traffic mitigation measures that would increase traffic flow. Off-site improvements are limited to intersection improvements which would also not conflict with applicable goals and policies related to greenhouse gas emissions.

d. Consistency with SB 375

SB 375 is discussed in Section 3.8.1.3(f). The proposed Project is not a land use development project. The Project would implement, to varying degrees, the City's existing General Plan 2025 roadway network and would not expand the footprint of existing development or alter land use designations in a manner that may lead to the "sprawl" that SB 375 was enacted to avoid. Accordingly, the proposed Project, along with off-site improvements, would not conflict with an SCS or with the goals or implementation of SB 375.

3.8.5.2 Significance of Impacts

The proposed Project is consistent with the goals and strategies of state plans, policies, and regulations aimed at reducing GHG emissions. Because Scenario 2 would not result in an increase in VMT or net GHG emissions, impacts due to Scenario 2 would be less than significant. Scenarios 3 and 4 would improve traffic flow and therefore be consistent with the goals behind General Plan 2025 Policy AQ-2.4 of achieving performance goals. Impacts under Scenarios 3 and 4 would be less than significant. Although Scenario 1 would increase VMT, this scenario would not prevent the City from achieving performance goals related to reduced vehicle emissions. Impacts would also be less than significant.

Off-site improvements would not conflict with applicable goals and policies related to greenhouse gas emissions, and no impact would result.

3.8.5.3 Mitigation, Monitoring, and Reporting

No mitigation is required.

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