# B. AIR QUALITY

The following analysis of air quality impacts is based on The Plaza at the Glen Air Quality and Noise Impact Report prepared by Terry A. Hayes Associates LLC (TAHA), dated February 2009. This report is included in its entirety as **Appendix C** of this Draft EIR.

This section examines the degree to which the proposed project could result in significant adverse changes to air quality. Both short-term construction emissions occurring from activities such as site grading and haul truck trips and long-term effects related to the ongoing operation of the proposed project are discussed in this section. This analysis focuses on air pollution from two perspectives: daily emissions and pollutant concentrations. "Emissions" refer to the quantity of pollutant released into the air, measured in ppd. "Concentrations" refer to the amount of pollutant material per volumetric unit of air, measured in parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$).

## EXISTING CONDITIONS

### *POLLUTANTS & EFFECTS*

Criteria air pollutants are defined as pollutants for which the federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations to protect public health. The federal and State standards have been set at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons from illness or discomfort. Pollutants of concern include: carbon monoxide (CO), ozone ($O_3$), nitrogen dioxide ($NO_2$), sulfur dioxide ($SO_2$), particulate matter 2.5 microns or less in diameter ($PM_{2.5}$), particulate matter 10 microns or less in diameter ($PM_{10}$), and lead (Pb). These pollutants are discussed below.

**Carbon Monoxide**. CO is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. In urban areas such as the project location, automobile exhaust accounts for the majority of CO emissions. CO is a non-reactive air pollutant that dissipates relatively quickly, so ambient CO concentrations generally follow the spacial and temporal distributions of vehicular traffic. CO concentrations are influenced by local meteorological conditions, primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions, a typical situation at dusk in urban areas between November and February.[1] The highest levels of CO typically occur during the colder months of the year when inversion conditions are more frequent. In terms of health, CO competes with oxygen, often replacing it in the blood, thus reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can be dizziness, fatigue, and impairment of central nervous system functions.

**Ozone**. $O_3$ is a colorless gas that is formed in the atmosphere when reactive organic gases (ROG), which include volatile organic compounds (VOC), and nitrogen oxides ($NO_X$) react in the presence of ultraviolet sunlight. $O_3$ is not a primary pollutant; it is a secondary pollutant formed by complex interactions of two pollutants directly emitted into the atmosphere. The primary sources of ROG and $NO_X$, the components of $O_3$, are automobile exhaust and industrial

[1] Inversion is an atmospheric condition in which a layer of warm air traps cooler air near the surface of the earth, preventing the normal rising of surface air.

sources. Meteorology and terrain play major roles in $O_3$ formation. Ideal conditions occur during summer and early autumn, on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. The greatest source of smog-producing gases is the automobile. Short-term exposures (lasting for a few hours) to $O_3$ at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes.

**Nitrogen Dioxide**. $NO_2$, like $O_3$, is not directly emitted into the atmosphere but is formed by an atmospheric chemical reaction between nitric oxide (NO) and atmospheric oxygen. NO and $NO_2$ are collectively referred to as $NO_X$ and are major contributors to $O_3$ formation. $NO_2$ also contributes to the formation of $PM_{10}$. High concentrations of $NO_2$ can cause breathing difficulties and result in a brownish-red cast to the atmosphere with reduced visibility. There is some indication of a relationship between $NO_2$ and chronic pulmonary fibrosis. Some increase in bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 ppm.

**Sulfur Dioxide**. $SO_2$ is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Main sources of $SO_2$ are coal and oil used in power plants and industries. Generally, the highest levels of $SO_2$ are found near large industrial complexes. In recent years, $SO_2$ concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of $SO_2$ and limits on the sulfur content of fuels. $SO_2$ is an irritant gas that attacks the throat and lungs. It can cause acute respiratory symptoms and diminished ventilator function in children. $SO_2$ can also yellow plant leaves and erode iron and steel.

**Particulate Matter**. Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter also forms when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. $PM_{10}$ and $PM_{2.5}$ represent fractions of particulate matter. Inhalable particulate matter, or $PM_{10}$, is about 1/7 the thickness of a human hair. $PM_{2.5}$ refers to particulate matter that is 2.5 microns or less in diameter, roughly 1/28 the diameter of a human hair. Major sources of $PM_{10}$ include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions. $PM_{2.5}$ results from fuel combustion (e.g. motor vehicles, power generation, and industrial facilities), residential fireplaces, and wood stoves. In addition, $PM_{2.5}$ can be formed in the atmosphere from gases, such as, $SO_2$, $NO_X$, and VOC.

$PM_{2.5}$ and $PM_{10}$ pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. $PM_{2.5}$ and $PM_{10}$ can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances, such as lead, sulfates, and nitrates can cause lung damage directly. These substances can be absorbed into the blood stream and cause damage elsewhere in the body. These substances can transport absorbed gases, such as chlorides or ammonium, into the lungs and cause injury. Whereas, particles 2.5 to 10 microns in diameter tend to collect in the upper portion of the respiratory system, particles 2.5 microns or less are so tiny that they can penetrate deeper into the lungs and damage lung tissues.

Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility.

**Lead**. Pb in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline, battery manufacturers, paint, ink, ceramics, and ammunition and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phase-out of leaded gasoline reduced the overall inventory of airborne lead by nearly 95 percent. With the phase-out of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emission sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and, in severe cases, neuromuscular and neurological dysfunction. Low-level lead exposures during infancy and childhood are of particular concern. Such exposures are associated with decrements in neurobehavioral performance including intelligence quotient performance, psychomotor performance, reaction time, and growth.

**Toxic Air Contaminants**. A substance is considered toxic if it has the potential to cause adverse health effects in humans. A toxic substance released into the air is considered a toxic air contaminant (TAC). TACs are identified by State and federal agencies based on a review of available scientific evidence. In the State of California, TACs are identified through a two-step process that was established in 1983 under the Toxic Air Contaminant Identification and Control Act, Assembly Bill 1807, Tanner. This two-step process of risk identification and risk management was designed to protect residents from the health effects of toxic substances in the air.

The South Coast Air Quality Management District (SCAQMD) has a long and successful history of reducing air toxics and criteria emissions in the South Coast Air Basin. SCAQMD has an extensive control program, including traditional and innovative rules and policies. These policies can be viewed in the SCAQMD's *Air Toxics Control Plan for the Next Ten Years* (March 2000).

To date, the most comprehensive study on air toxics in the Basin is the *Multiple Air Toxics Exposure Study* (*MATES-III*), conducted by the SCAQMD and released in 2007. The monitoring program measured more than 30 air pollutants, including both gas and particulates. The monitoring study was accompanied by a computer modeling study in which SCAQMD estimated the risk of cancer from breathing toxic air pollution throughout the region based on emissions and weather data. *MATES-III* found that the average cancer risk in the region from carcinogenic air pollutants ranges from about 870 in a million to 1,400 in a million, with an average regional risk of about 1,200 in a million.

**Greenhouse Gases**. Greenhouse Gas (GHG) emissions refer to a group of emissions that are generally believed to affect global climate conditions. The greenhouse effect compares the Earth and the atmosphere surrounding it to a greenhouse with glass panes. The glass panes in a greenhouse let heat from sunlight through and reduce the amount of heat that escapes. GHGs, such as carbon dioxide ($CO_2$), methane ($CH_4$), and nitrous oxide ($N_2O$) keep the average surface temperature of the Earth close to a hospitable 60 degrees Fahrenheit (°F). Without the greenhouse effect, the Earth would be a frozen globe with an average surface temperature of about 5 °F.

In addition to $CO_2$, $CH_4$, and $N_2O$, GHGs include hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride ($SF_6$), and water vapor. $CO_2$ is the most abundant climate change pollutant of all the GHGs, with fossil fuel combustion comprising 81.0 percent of the total GHG emissions in California in 2002 and non-fossil fuel $CO_2$ comprising 2.3 percent.[2] The other GHGs are less abundant, but have higher global warming potential than $CO_2$. To account for this higher potential, emissions of other GHGs are frequently expressed in the equivalent mass of $CO_2$, denoted as $CO_2e$. The $CO_2e$ of $CH_4$ represented 6.4 percent of the 2002 California GHG emissions, $NO_X$ 6.8 percent, and the other high global warming potential gases represented 3.5 percent of these emissions.[3] In addition, there are a number of man-made pollutants, such as CO, $NO_X$, non-methane VOC, and $SO_2$, that have indirect effects on terrestrial or solar radiation absorption by influencing the formation or destruction of other climate change emissions.

*REGULATORY SETTING*

The Federal Clean Air Act (CAA) governs air quality in the United States. In addition to being subject to the requirements of CAA, air quality in California is also governed by more stringent regulations under the California Clean Air Act (CCAA). At the federal level, CAA is administered by the United States Environmental Protection Agency (USEPA). In California, the CCAA is administered by the California Air Resources Board (CARB) at the State level and by the air quality management districts and air pollution control districts at the regional and local levels.

**United States Environmental Protection Agency**. USEPA is responsible for enforcing the federal CAA. USEPA is also responsible for establishing the National Ambient Air Quality Standards (NAAQS). NAAQS are required under the 1977 CAA and subsequent amendments. USEPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. USEPA has jurisdiction over emission sources outside State waters (e.g., beyond the outer continental shelf) and establishes various emission standards, including those for vehicles sold in States other than California. Automobiles sold in California must meet stricter emission standards established by CARB.

**California Air Resources Board**. In California, CARB, which became part of the California Environmental Protection Agency (Cal/EPA) in 1991, is responsible for meeting the State requirements of the Federal CAA, administering the CCAA, and establishing the California Ambient Air Quality Standards (CAAQS). The CCAA, as amended in 1992, requires all air districts in the State to endeavor to achieve and maintain the CAAQS. CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride and visibility reducing particles. CARB regulates mobile air pollution sources, such as motor vehicles. CARB is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB established passenger vehicle fuel specifications, which became effective on March 1996. CARB oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional and county level.

[2] California Environmental Protection Agency, Climate Action Team Report to Governor Schwarzenegger and the Legislature, March 2006, p. 11.

[3] *Ibid*.

On July 26, 2007, the CARB approved a regulation to reduce emissions from existing off-road diesel vehicles used in California in construction, mining, and other industries. The regulation applies to diesel-powered off-road vehicles with engines of 25 horsepower or greater. Each year, the regulation requires each fleet to meet the fleet average emission rate targets for particulate matter (PM) or apply the highest level of verified diesel emission control system to 20 percent of its horsepower. In addition, large and medium fleets are required each year to meet the fleet average emission rate targets for $NO_X$ or to turn over a certain percent of their horsepower (eight percent in earlier years, and ten percent in later years). In total, the regulation is expected to reduce 187,000 tons of $NO_X$ emissions and 33,000 tons of PM emissions between 2009 and 2030. The regulation is expected to achieve the 2020 goal of reducing PM emissions 85 percent from 2000 baseline levels set forth in CARB's 2000 Diesel Risk Reduction Plan. It is also projected to reduce PM emissions 37 percent from the 2000 baseline by 2010, and 92 percent by 2020. $NO_X$ is expected to be approximately 13 percent lower in 2015 as a result of the regulation, and by 2020, $NO_X$ emissions would be 32 percent lower than would occur in the absence of the regulation.

**South Coast Air Quality Management District**. SCAQMD monitors air quality within the project area. SCAQMD has jurisdiction over an area of 10,743 square miles, consisting of Orange County; the non-desert portions of Los Angeles, Riverside, and San Bernardino counties; and the Riverside County portion of the Salton Sea Air Basin and Mojave Desert Air Basin. The 1977 Lewis Air Quality Management Act created SCAQMD to coordinate air quality planning efforts throughout Southern California. This Act merged four county air pollution control agencies into one regional district to better address the issue of improving air quality in Southern California. Under the Act, renamed the Lewis-Presley Air Quality Management Act in 1988, SCAQMD is the agency principally responsible for comprehensive air pollution control in the South Coast Air Basin (Basin). Specifically, SCAQMD is responsible for monitoring air quality, as well as planning, implementing, and enforcing programs designed to attain and maintain State and federal ambient air quality standards in the district. Programs that were developed include air quality rules and regulations that regulate stationary sources, area sources, point sources, and certain mobile source emissions. SCAQMD is also responsible for establishing stationary source permitting requirements and for ensuring that new, modified, or relocated stationary sources do not create net emission increases.

The Basin is a subregion of the SCAQMD and covers an area of 6,745 square miles. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Basin is bounded by the Pacific Ocean to the west; the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east; and the San Diego County line to the south (**Figure IV.B-1**).

**Global Climate Change**. In response to growing scientific and political concern with global climate change, California has recently adopted a series of laws to reduce emissions of GHGs into the atmosphere from commercial and private activities within the State. In September 2002, Assembly Bill (AB) 1493, Davis was enacted, requiring the development and adoption of regulations to achieve "the maximum feasible reduction of greenhouse gases" emitted by noncommercial passenger vehicles, light-duty trucks, and other vehicles used primarily for personal transportation in the State. California Governor Arnold Schwarzenegger announced, on June 1, 2005, through Executive Order S-3-05, the following GHG emission reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels.




SOURCE: California Air Resources Board, State and Local Air Monitoring Network Plan, October 1998

**Figure IV.B-1**

South Coast Air Basin

In response to the Executive Order, the Secretary of the California Environmental Protection Agency created the Climate Action Team (CAT), which, in March 2006, published the *Climate Action Team Report to Governor Schwarzenegger and the Legislature* (the "2006 CAT Report"). The 2006 CAT Report identifies a recommended list of strategies that the State could pursue to reduce climate change GHG emissions. These are strategies that could be implemented by various State agencies to ensure that the Governor's targets are met and can be met with existing authority of the State agencies.

In September 2006, Governor Arnold Schwarzenegger signed the California Global Warming Solutions Act of 2006, also known as AB 32, into law. AB 32 focuses on reducing GHG emissions in California, and requires the CARB to adopt rules and regulations that would achieve greenhouse gas emissions equivalent to statewide levels in 1990 by 2020. To achieve this goal, AB 32 mandated that the CARB establish a quantified emissions cap, institute a schedule to meet the cap, implement regulations to reduce statewide GHG emissions from stationary sources, and develop tracking, reporting, and enforcement mechanisms to ensure that reductions are achieved. Because the intent of AB 32 is to limit 2020 emissions to the equivalent of 1990, and the present year (2008) is near the midpoint of this timeframe, it is expected that the regulations would affect many existing sources of greenhouse and not just new general development projects. Senate Bill (SB) 1368, a companion bill to AB 32, requires the California Public Utilities Commission and CEC to establish GHG emission performance standards for the generation of electricity. These standards will also apply to power that is generated outside of California and imported into the State.

AB 32 charges CARB with the responsibility to monitor and regulate sources of GHG emissions in order to reduce those emissions. On June 1, 2007, CARB adopted three discrete early action measures to reduce GHG emissions. These measures involved complying with a low carbon fuel standard, reducing refrigerant loss from motor vehicle air conditioning maintenance, and increasing methane capture from landfills.[4] On October 25 2007, the CARB tripled the set of previously approved early action measures. The approved measures include Smartway truck efficiency (i.e., reducing aerodynamic drag), port electrification, reducing perfluorocarbons from the semiconductor industry, reducing propellants in consumer products, promoting proper tire inflation in vehicles, and reducing sulfur hexaflouride emission from the non-electricity sector. AB 32 also required CARB to define the 1990 baseline emissions for California and adopt that baseline as the 2020 statewide emissions cap. CARB has determined that the total statewide aggregated greenhouse gas 1990 emissions level and 2020 emissions limit is 427 million metric tons of $CO_2$e. The 2020 target reductions are currently estimated to be 174 million metric tons $CO_2$e.

On June 27, 2008, CARB released its Draft AB 32 Scoping Plan which contains the main strategies to achieve the 2020 emissions cap. The Draft Scoping Plan was developed by CARB with input from the Climate Action Team and proposes a comprehensive set of actions designed to reduce overall carbon emissions in California, improve the environment, reduce oil dependency, diversify energy sources, and enhance public health while creating new jobs and enhancing the growth in the State economy. GHG reduction strategies contained in the Scoping Plan include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system. The Scoping Plan was released for public review and comment and will go to the

[4] California Air Resources Board, Proposed Early Action Measures to Mitigate Climate Change in California, April 20, 2007.

board for adoption in November of 2008. The measures in the Scoping Plan adopted by the Board will be developed and put in place by 2012.

The CARB has also developed the greenhouse gas mandatory reporting regulation, which required reporting beginning on January 1, 2008 pursuant to requirements of AB 32. The regulations require reporting for certain types of facilities that make up the bulk of the stationary source emissions in California. The regulation language identifies major facilities as those that generate more than 25,000 metric tons of $CO_2$ per year. Cement plants, oil refineries, electric generating facilities/providers, co-generation facilities, and hydrogen plants and other stationary combustion sources that emit more than 25,000 metric tons of $CO_2$ per year, make up 94 percent of the point source $CO_2$ emissions in California.

California Senate Bill (SB) 97, passed in August 2007, is designed to work in conjunction with the California Environmental Quality Act (CEQA) and AB 32. CEQA requires the State Office of Planning and Research (OPR) to prepare and develop proposed guidelines for the implementation of CEQA by public agencies. SB 97 requires OPR, by July 1, 2009, to prepare, develop, and transmit to the Resource Agency guidelines for the feasible mitigation of GHG emissions, as required by CEQA, including, but not limited to, effects associated with transportation or energy consumption. The Resource Agency would be required to certify and adopt the guidelines by January 1, 2010 and OPR would be required to periodically update the guidelines to incorporate new information or criteria established by the CARB pursuant to the California Global Warming Solutions Act of 2006. SB 97 would apply retroactively to any environmental impact report, negative declaration, mitigated negative declaration, or other document under CEQA that has not been certified or adopted by the CEQA lead agency. In addition, SB 97 exempts transportation projects funded under the Highway Safety, Traffic Reduction, Air Quality and Port Security Bond Act of 2006, or projects funded under the Disaster Preparedness and Flood Prevention Bond Act of 2006.

The OPR CEQA guidelines will provide regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents. In the interim, OPR has published informal guidance regarding the steps lead agencies should take to address climate change in their CEQA documents.[5] According to the OPR, lead agencies should determine whether GHG may be generated by a proposed project, and if so, quantify or estimate the GHG emissions by type and source. The lead agency must assess whether those emissions are individually or cumulatively significant. When assessing whether a project's effects on climate change are "cumulatively considerable" even though its GHG contribution may be individually limited, the lead agency must consider the impact of the project when viewed in connection with the effects of past, current, and probable future projects. Finally, if the lead agency determines that the GHG emissions from the project as proposed are potentially significant, it must investigate and implement ways to avoid, reduce, or otherwise mitigate the impacts of those emissions.

The SCAQMD has convened a GHG CEQA Significance Threshold Working Group to provide guidance to local lead agencies on determining significance for GHG emissions in their CEQA documents. Members of the working group include government agencies implementing CEQA and representatives from various stakeholder groups that will provide input to the SCAQMD staff on developing GHG CEQA significance thresholds. The working group is currently discussing multiple methodologies for determining project significance. These methodologies

[5] State of California, Governor's Office of Planning and Research, CEQA and Climate Change: Addressing Climate Change through California Environmental Climate Act (CEQA) Review, June 19, 2008.

include categorical exemptions, consistency with regional GHG budgets in approved plans, a numerical threshold, performance standards, and emissions offsets.

The City of Los Angeles has issued guidance promoting green building to reduce GHG emissions. The goal of the Green LA Action Plan (Plan) is to reduce greenhouse gas emissions 35 percent below 1990 levels by 2030.[6] The Plan identifies objectives and actions designed to make the City a leader in confronting global climate change. The measures would reduce emissions directly from municipal facilities and operations, and create a framework to address City-wide GHG emissions. The Plan lists various focus areas in which to implement GHG reduction strategies. Focus areas listed in the Plan include energy, water, transportation, land use, waste, port, airport, and ensuring that changes to the local climate are incorporated into planning and building decisions. The Plan discusses City goals for each focus area, as follows:

***Energy***

- Increase the generation of renewable energy;
- Encouraging the use of mass transit;
- Develop sustainable construction guidelines;
- Increase City-wide energy efficiency; and
- Promote energy conservation.

***Water***

- Decrease per capita water use to reduce electricity demand associated with water pumping and treatment.

***Transportation***

- Power the City vehicle fleet with alternative fuels; and
- Promote alternative transportation (e.g., mass transit and rideshare).

***Other Goals***

- Create a more livable City through land use regulations;
- Increase recycling, reducing emissions generated by activity associated with the Port of Los Angeles and regional airports;
- Create more city parks, promoting the environmental economic sector; and
- Adapt planning and building policies to incorporate climate change policy.

The City adopted an ordinance to establish a green building program in April 2008. The ordinance establishes green building requirements for projects involving 50 or more dwelling units. The Green Building Program was established to reduce the use of natural resources, create healthier living environments and minimize the negative impacts of development on local, regional, and global ecosystems. The program addresses the following five areas:

- Site: location, site planning, landscaping, storm water management, construction and demolition recycling
- Water Efficiency: efficient fixtures, wastewater reuse, and efficient irrigation
- Energy and Atmosphere: energy efficiency, and clean/renewable energy

[6] City of Los Angeles, Green LA: An Action Plan to Lead the Nation in Fighting Global Warming, May 2007.

- Materials and Resources: materials reuse, efficient building systems, and use of recycled and rapidly renewable materials
- Indoor Environmental Quality: improved indoor air quality, increased natural lighting, and thermal comfort/control

**National and California Ambient Air Quality Standards and Attainment Status**

As required by the federal CAA, NAAQS have been established for seven major air pollutants: CO, $NO_2$, $O_3$, $PM_{2.5}$, $PM_{10}$, $SO_2$, and Pb. The CAA requires USEPA to designate areas as either attainment, nonattainment, or maintenance (previously nonattainment and currently attainment), for each criteria pollutant based on whether the NAAQS have been achieved. The federal standards are summarized in **Table IV.B-1**. The USEPA has classified the Basin as nonattainment for $O_3$, $PM_{2.5}$, and $PM_{10}$ and maintenance for CO.

As discussed above, the CAAQS are generally more stringent than the corresponding federal standards (NAAQS) and, as such, are used as the comparative standard in the air quality analysis contained in this report. The State standards are summarized in **Table IV.B-1**.

The CCAA requires the CARB to designate areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data shows that a State standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a State standard and are not used as a basis for designating areas as nonattainment. Under the CCAA, the Los Angeles County portion of the Basin is designated as a nonattainment area for $O_3$, $PM_{2.5}$, and $PM_{10}$.[7]

**Air Quality Management Plan**

All areas designated as nonattainment under the CCAA are required to prepare plans showing how the area would meet the State air quality standards by its attainment dates. The Air Quality Management Plan (AQMP) is the region's plan for improving air quality in the region. It addresses CAA and CCAA requirements and demonstrates attainment with State and federal ambient air quality standards. The AQMP is prepared by SCAQMD and the Southern California Association of Governments (SCAG). The AQMP provides policies and control measures that reduce emissions to attain both State and federal ambient air quality standards by their applicable deadlines. Environmental review of individual projects within the Basin must assess whether daily construction and operational emissions thresholds, as established by the Basin, would not be exceeded. The environmental review must also assess whether individual projects would increase the number or severity of existing air quality violations.

The 2007 AQMP was adopted by the SCAQMD on June 1, 2007. The 2007 AQMP proposes attainment demonstration of the federal $PM_{2.5}$ standards through a more focused control of $SO_X$, directly-emitted $PM_{2.5}$, and $NO_X$ supplemented with VOC by 2015. The eight-hour ozone control strategy builds upon the $PM_{2.5}$ strategy, augmented with additional $NO_X$ and VOC reductions to meet the standard by 2024. The 2007 AQMP also addresses several federal planning requirements and incorporates significant new scientific data, primarily in the form of updated

[7] CARB, http://www.arb.ca.gov/desig/adm/adm.htm, accessed May 13, 2008.

**TABLE IV.B-1**
**STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS**

| Pollutant | Averaging Period | California | | Federal | |
|---|---|---|---|---|---|
| | | Standards | Attainment Status | Standards | Attainment Status |
| Ozone ($O_3$) | 1-hour | 0.09 ppm (180 µg/m$^3$) | Nonattainment | -- | -- |
| | 8-hour | 0.070 ppm (137 µg/m$^3$) | n/a | 0.075 ppm (147 µg/m$^3$) | Nonattainment |
| Respirable Particulate Matter ($PM_{10}$) | 24-hour | 50 µg/m$^3$ | Nonattainment | 150 µg/m$^3$ | Nonattainment |
| | Annual Arithmetic Mean | 20 µg/m$^3$ | Nonattainment | -- | -- |
| Fine Particulate Matter ($PM_{2.5}$) | 24-hour | -- | -- | 35 µg/m$^3$ | Nonattainment |
| | Annual Arithmetic Mean | 12 µg/m$^3$ | Nonattainment | 15 µg/m$^3$ | Nonattainment |
| Carbon Monoxide (CO) | 8-hour | 9.0 ppm (10 mg/m$^3$) | Attainment | 9 ppm (10 mg/m$^3$) | Maintenance |
| | 1-hour | 20 ppm (23 mg/m$^3$) | Attainment | 35 ppm (40 mg/m$^3$) | Maintenance |
| Nitrogen Dioxide ($NO_2$) | Annual Arithmetic Mean | 0.03 ppm (57 µg/m$^3$) | Attainment | 0.053 ppm (100 µg/m$^3$) | Attainment |
| | 1-hour | 0.18 ppm (339 µg/m$^3$) | Attainment | -- | -- |
| Sulfur Dioxide ($SO_2$) | Annual Arithmetic Mean | -- | -- | 0.03 ppm (80 µg/m$^3$) | Attainment |
| | 24-hour | 0.04 ppm (105 µg/m$^3$) | Attainment | 0.14 ppm (365 µg/m$^3$) | Attainment |
| | 3-hour | -- | -- | -- | -- |
| | 1-hour | 0.25 ppm (655 µg/m$^3$) | Attainment | -- | -- |
| Lead (Pb) | 30-day average | 1.5 µg/m$^3$ | Attainment | -- | -- |
| | Calendar Quarter | -- | -- | 1.5 µg/m$^3$ | Attainment |

**SOURCE**: CARB, *Ambient Air Quality Standards*, April 1, 2008

emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The 2007 AQMP is consistent with and builds upon the approaches taken in the 2003 AQMP. However, the 2007 AQMP highlights the significant amount of reductions needed and the urgent need to identify additional strategies, especially in the area of mobile sources, to meet all federal criteria pollutant standards within the time frames allowed under the CAA.

*EXISTING AIR QUALITY*

**Air Pollution Climatology**

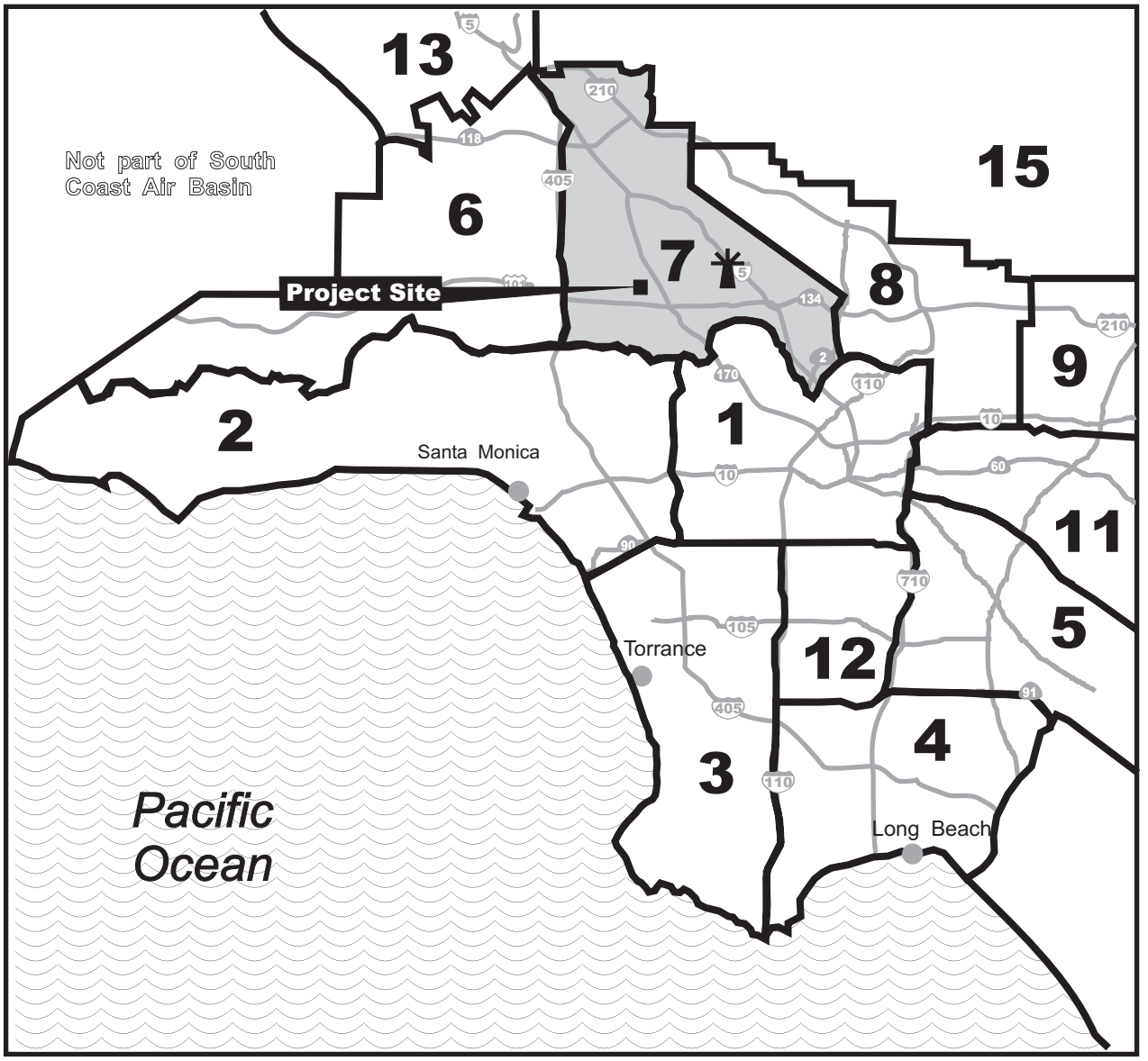
The project site is located within the Los Angeles County portion of the Basin. Ambient pollution concentrations recorded in Los Angeles County are among the highest in the four counties comprising the Basin.

The Basin is an area of high air pollution potential due to its climate and topography. The general region lies in the semi-permanent high pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The Basin experiences warm summers, mild winters, infrequent rainfalls, light winds, and moderate humidity. This usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The Basin is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountains around the rest of its perimeter. The mountains and hills within the area contribute to the variation of rainfall, temperature, and winds throughout the region.

The Basin experiences frequent temperature inversions. Temperature typically decreases with height. However, under inversion conditions, temperature increases as altitude increases, thereby preventing air close to the ground from mixing with the air above it. As a result, air pollutants are trapped near the ground. During the summer, air quality problems are created due to the interaction between the ocean surface and the lower layer of the atmosphere. This interaction creates a moist marine layer. An upper layer of warm air mass forms over the cool marine layer, preventing air pollutants from dispersing upward. Additionally, hydrocarbons and $NO_2$ react under strong sunlight, creating smog. Light, daytime winds, predominantly from the west, further aggravate the condition by driving air pollutants inland, toward the mountains. During the fall and winter, air quality problems are created due to CO and $NO_2$ emissions. CO concentrations are generally worse in the morning and late evening (around 10:00 p.m.). In the morning, CO levels are relatively high due to cold temperatures and the large number of cars traveling. High CO levels during the late evenings are a result of stagnant atmospheric conditions trapping CO in the area. Since CO is produced almost entirely from automobiles, the highest CO concentrations in the Basin are associated with heavy traffic. $NO_2$ levels are also generally higher during fall and winter days.

**Local Climate**

The mountains and hills within the Basin contribute to the variation of rainfall, temperature, and winds throughout the region. The project site is located in SCAQMD's East San Fernando Valley Air Monitoring Subregion, which is served by the Burbank Monitoring Station. The Burbank Monitoring Station is located approximately six miles east of the project site at 228 West Palm Avenue, in the City of Burbank (**Figure IV.B-2**). The historical average wind speed




SOURCE: South Coast Air Quality Management District Air Monitoring Areas Map, 1999



**Figure IV.B-2**

Air Monitoring Areas

recorded at the Burbank Wind Monitoring Station is approximately 3.9 miles per hour, with calm winds occurring approximately 10.1 percent of the time. Wind at the project site predominately blows from the southeast.[8]

The historical annual average temperature at the project site is approximately 64.1°F. The project site experiences an average winter temperature of approximately 55°F and an average summer temperature of approximately 73°F. Total precipitation at the project site averages approximately 17 inches annually. Precipitation occurs mostly during the winter and relatively infrequently during the summer. Precipitation averages approximately ten inches during the winter, approximately four inches during the spring, approximately two inches during the fall, and less than one inch during the summer.[9]

**Air Monitoring Data**

The SCAQMD monitors air quality conditions at 38 locations throughout the Basin. Historical data from the Burbank Monitoring Station were used to characterize existing conditions in the vicinity of the project area. Criteria pollutants monitored at the Burbank Monitoring Station include CO, $O_3$, $SO_2$, $NO_2$, $PM_{2.5}$, and $PM_{10}$.

**Table IV.B-2** shows pollutant levels, the State standards, and the number of exceedances recorded at the Burbank Monitoring Station from 2005 to 2007. The CAAQS for the criteria pollutants are also shown in the table. As **Table IV.B-2** indicates, criteria pollutants CO, $NO_2$, and $SO_2$ did not exceed the CAAQS during the 2005 through 2007 period. However, the one-hour State standard for $O_3$ was exceeded 51 times during this period, and the eight-hour State standard for $O_3$ was exceeded 54 times. Additionally, the 24-hour State standard for $PM_{10}$ was exceeded 26 times from 2005 to 2007, and the annual State standard for $PM_{2.5}$ was exceeded every year from 2005 through 2007.

**Background Carbon Monoxide Conditions**

CO concentrations are typically used as an indicator of conformity with CAAQS because CO is the primary component of automobile exhaust (tailpipe emissions), and it does not readily react with other pollutants. In other words, operational air quality impacts associated with a project are generally best reflected through estimated changes in CO concentrations.

For purposes of this assessment, the ambient, or background CO concentration, is first established. SCAQMD defines the background level as the highest reading over the past three years. A review of data from the Burbank Station for the 2005 to 2007 period indicates that the one- and eight-hour background concentrations are approximately 4 and 2.8 ppm, respectively. Accordingly, the existing one- and eight-hour background concentrations do not exceed the State CO standards of 20 ppm and 9.0 ppm, respectively.

[8] SCAQMD, http://www.aqmd.gov/smog/metdata/MeteorologicalData.html.
[9] Western Regional Climate Center, http:// www.wrrc.dri.edu, accessed May 13, 2008.

**TABLE IV.B-2**
**2005-2007 DATA FROM THE LOS ANGELES - BURBANK MONITORING STATION**

| Pollutant | Pollutant Concentration & Standards | Number of Days Above State Standard | | |
|---|---|---|---|---|
| | | 2005 | 2006 | 2007 |
| Ozone (1-hour) | Maximum 1-hr Concentration (ppm)<br>Days > 0.09 ppm (State 1-hr standard) | 0.14<br>13 | 0.17<br>25 | 0.12<br>13 |
| Ozone (8-hour) | Maximum 8-hr concentration (ppm)<br>Days > 0.07 ppm (State 8-hr standard) | 0.11<br>12 | 0.13<br>23 | 0.10<br>19 |
| Carbon Monoxide (1-hour) | Maximum 1-hr Concentration (ppm)<br>Days > 0.09 ppm (State 1-hr standard) | 4<br>0 | 4<br>0 | 4<br>0 |
| Carbon Monoxide (8-hour) | Maximum 8-hr concentration (ppm)<br>Days > 9.0 ppm (State 8-hr standard) | 3.4<br>0 | 3.5<br>0 | 2.8<br>0 |
| Nitrogen Dioxide | Maximum 1-hr Concentration (ppm)<br>Days > 0.18 ppm (State 1-hr standard) | 0.09<br>0 | 0.10<br>0 | 0.09<br>0 |
| $PM_{10}$ | Maximum 24-hr concentration ($\mu g/m^3$)<br>Days > 50 $\mu g/m^3$ (State 24-hr standard) | 92<br>5 | 71<br>10 | 109<br>11 |
| $PM_{2.5}$ | State Arithmetic Mean ($\mu g/m^3$)<br>Days > 12 $\mu g/m^3$ (Federal 24-hr standard) | 18<br>Yes | 17<br>Yes | 17<br>Yes |
| Sulfur Dioxide | Maximum 24-hr Concentration (ppm)<br>Days > 0.05 ppm (State 24-hr standard) | 0.006<br>0 | 0.004<br>0 | 0.003<br>0 |

**SOURCE**: SCAQMD, http://www.aqmd.gov/smog/historicaldata.htm

### Existing Carbon Monoxide Concentrations at Project Area Intersections

There is a direct relationship between traffic/circulation congestion and CO impacts since exhaust fumes from vehicular traffic is the primary source of CO. CO is a localized gas that dissipates very quickly under normal meteorological conditions. Therefore, CO concentrations decrease substantially as distance from the source (intersection) increases. The highest CO concentrations are typically found in areas directly adjacent to congested roadway intersections.

Existing CO concentrations adjacent to ten study intersections were modeled for daily conditions. The study intersections were selected based on traffic volume to capacity (V/C) ratios and poor level of service (LOS) as indicated in the traffic analysis.[10,11] Each of the analyzed intersections operates at an LOS D or worse under existing conditions.

The selected intersections are as follows:

- Coldwater Canyon Avenue/Hamlin Street – PM Peak Hour
- Coldwater Canyon Avenue/Vanowen Street – PM Peak Hour
- Coldwater Canyon Avenue/Victory Boulevard – PM Peak Hour
- Ethel Avenue/Victory Boulevard – PM Peak Hour
- Morse Avenue/Victory Boulevard – PM Peak Hour
- Whitsett Avenue/Vanowen Street – PM Peak Hour
- Whitsett Avenue/Victory Boulevard – PM Peak Hour
- Woodman Avenue/Victory Boulevard – PM Peak Hour

[10] Level of service is used to indicate the quality of traffic flow on roadway segments and at intersections. Level of service ranges from LOS A (free flow, little congestion) to LOS F (forced flow, extreme congestion).

[11] Overland Traffic Consultants, Inc., *Traffic Impact Analysis for the Plaza at the Glen*, September 2008.

- 170 Freeway Southbound (North Side)/Victory Boulevard – PM Peak Hour
- 170 Freeway Southbound (South Side)/Victory Boulevard – PM Peak Hour

At each intersection, traffic-related CO contributions were added to background CO conditions. Traffic CO contributions were estimated using the USEPA CAL3QHC dispersion model, which utilizes traffic volume inputs and CARB EMFAC2007 emissions factors. Consistent with the California Department of Transportation (Caltrans) CO protocol, receptors were located three meters (approximately ten feet) from each intersection corner.[12] Existing traffic conditions at the study intersections are shown in **Table IV.B-3**. One-hour CO concentrations at the analyzed intersections are approximately 5 ppm and eight-hour CO concentrations range from approximately 3.2 ppm to 3.7 ppm. Presently, none of the study intersections exceed the State one- and eight-hour CO standards of 20 ppm and 9.0 ppm, respectively.

**TABLE IV.B-3**
**EXISTING CARBON MONOXIDE CONCENTRATIONS[1]**

| Intersection | Parts Per Million (ppm) | |
|---|---|---|
| | 1-hour | 8-hour |
| Coldwater Canyon Avenue/Hamlin Street | 5 | 3.2 |
| Coldwater Canyon Avenue/Vanowen Street | 5 | 3.5 |
| Coldwater Canyon Avenue/Victory Boulevard | 5 | 3.6 |
| Ethel Avenue/Victory Boulevard | 5 | 3.4 |
| Morse Avenue/Victory Boulevard | 5 | 3.2 |
| Whitsett Avenue/Vanowen Street | 5 | 3.5 |
| Whitsett Avenue/Victory Boulevard | 5 | 3.6 |
| Woodman Avenue/Victory Boulevard | 5 | 3.7 |
| 170 Freeway Southbound (North Side)/Victory Boulevard | 5 | 3.4 |
| 170 Freeway Southbound (South Side)/Victory Boulevard | 5 | 3.4 |
| **State Standard** | **20.0** | **9.0** |

[1] All concentrations include one- and eight-hour ambient concentrations of 4 ppm and 2.8 ppm, respectively.
**SOURCE**: TAHA, *The Plaza at the Glen Air Quality and Noise Impact Report*, February 2009

*Air Quality Sensitive Receptors*

Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. People most likely to be affected by air pollution, as identified by CARB, include children under 14, the elderly over 65 years of age, athletes, and people with cardiovascular and chronic respiratory diseases. According to the SCAQMD, sensitive receptors include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.

[12] Caltrans, Transportation Project-Level Carbon Monoxide Protocol, 1997.

*Proposed Project*

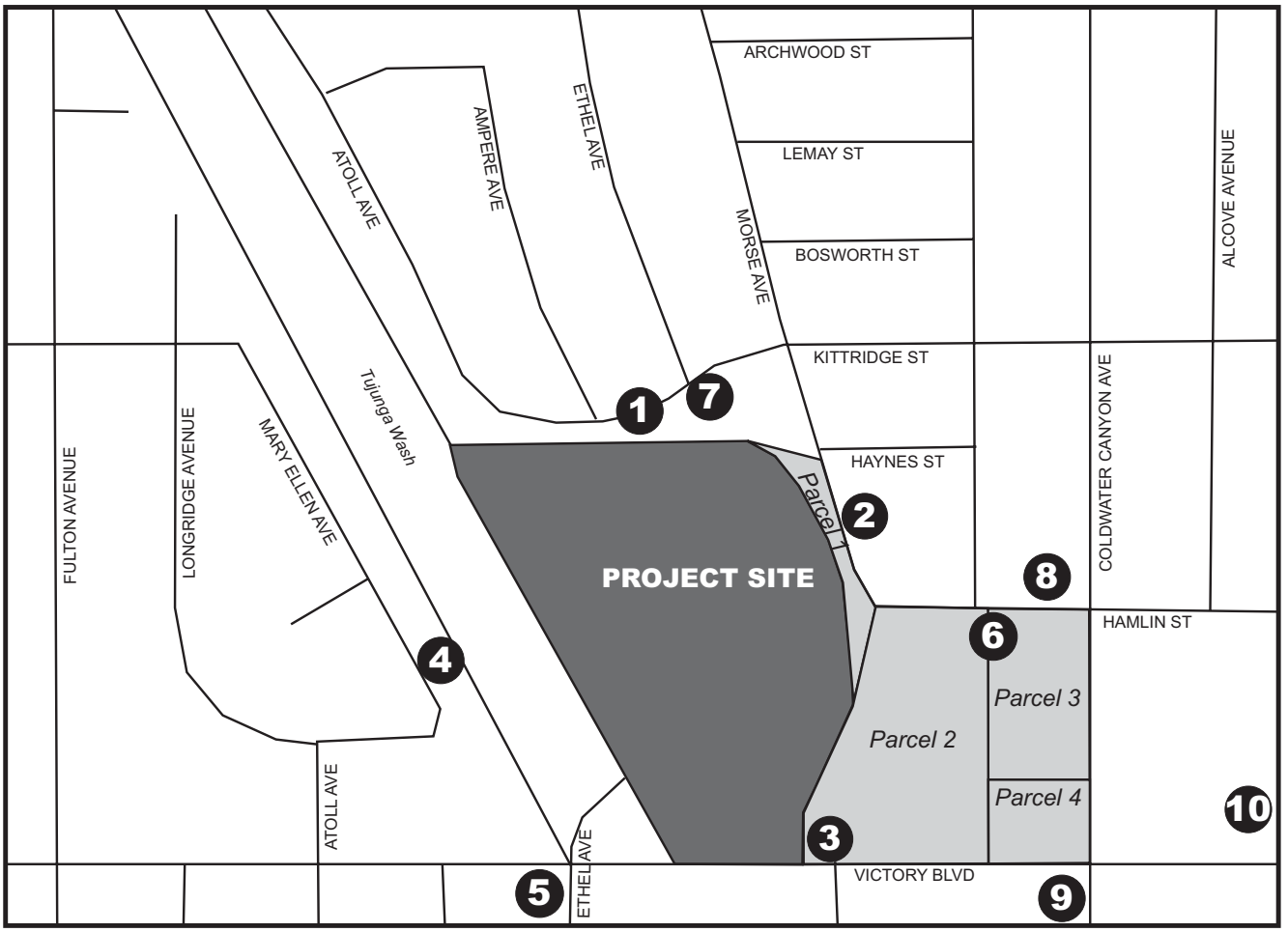
As shown in **Figure IV.B-3**, sensitive receptors near the project site include the following:

- Single-family residential buildings located on Kittridge Street, adjacent and to the north of the project site
- Single-family residential buildings located on Morse Avenue, adjacent and to the northeast of the project site
- St. Frances Church and School located on Victory Boulevard, adjacent and to the east of the project site
- Single-family residential buildings located on Mary Ellen Avenue, approximately 200 feet west of the project site
- Multi-family residential buildings located on Victory Boulevard, approximately 225 feet southwest of the project site
- Summit View School located on Hamlin Street, approximately 350 feet east of the project site

*Add Area*

As shown in **Figure IV.B-3**, sensitive receptors near the Add Area include the following:

- Single-family residential buildings located on Morse Avenue, adjacent and to the east of Parcel 1 and approximately 250 feet northwest of Parcel 3
- Single-family residential buildings located on Ethel Avenue, approximately 175 feet north of Parcel 1
- Summit View School located Hamlin Street, approximately 250 feet east of Parcel 1 and adjacent and to the north of Parcel 4
- Multi-family residential buildings located on Victory Boulevard, approximately 775 feet southwest of Parcel 1 and approximately 475 feet south of Parcel 3
- Single-family residential buildings located on Mary Ellen Avenue, approximately 900 feet west of Parcel 1, approximately 1,200 feet west of Parcel 3, and approximately 1,250 feet west of Parcel 4




LEGEND:

(#) Sensitive Receptor Locations

NOT TO SCALE

N

**1**. Single-Family Residence on Kittridge Street
**2**. Single-Family Residence on Morse Avenue
**3**. Saint Frances School and Church on Victory Boulevard
**4**. Single-Family Residence on Mary Ellen Avenue
**5**. Multi-Family Residence on Victory Boulevard
**6**. Summit View School on Hamlin Street
**7**. Single-Family Residence on Ethel Avenue
**8**. Single-Family Residence on Hamlin Street
**9**. Single- and Multi-Family Residences on Coldwater Canyon Avenue
**10**. Single-Family Residence on Goodland Avenue

SOURCE: TAHA, 2008



**Figure IV.B-3**
Air Quality Sensitive Receptor Locations

- St. Frances Church and School located on Victory Boulevard, adjacent and to the west of Parcels 3 and 4

- Single-family residential buildings located on Hamlin Street, approximately 50 feet north of Parcel 3 and approximately 450 feet north of Parcel 4

- Single- and multi-family residential buildings located on Coldwater Canyon Avenue, approximately 150 feet northeast of Parcel 3 and approximately 285 feet south of Parcel 4

- Single-family residential buildings located on Goodland Avenue, approximately 710 feet east of Parcel 4

The above sensitive receptors represent the nearest land uses with the potential to be impacted by the proposed project. Additional single- and multi-family residences are located in the surrounding community within one-quarter mile of the project site.

**METHODOLOGY**

This air quality analysis is consistent with the methods described in the SCAQMD *CEQA Air Quality Handbook* (1993 edition), as well as the updates to the CEQA Air Quality Handbook, as provided on the SCAQMD website.[13]

Regional and localized construction emissions were analyzed for the proposed project and the add areas. Construction emissions (i.e., demolition, grading/excavation, and building construction) were calculated using CARB's URBEMIS2007 model. Regional emissions were compared to SCAQMD regional thresholds to determine project impact significance. The localized construction analysis followed guidelines published by the SCAQMD in the *Localized Significance Methodology for CEQA Evaluations* (SCAQMD Localized Significance Threshold [LST] Guidance Document).[14] In January 2005, the SCAQMD supplemented the SCAQMD LST Guidance Document with *Sample Construction Scenarios for Projects Less than Five Acres in Size*.[15]

URBEMIS2007 was also used to calculate operational emissions (i.e., mobile and area). Localized CO emissions were calculated utilizing USEPA's CAL3QHC dispersion model and CARB's EMFAC2007 model. EMFAC2007 is the latest emission inventory model that calculates emission inventories and emission rates for motor vehicles operating on roads in California. This model reflects the CARB's current understanding of how vehicles travel and how much they pollute. The EMFAC2007 model can be used to show how California motor vehicle emissions have changed over time and are projected to change in the future. CAL3QHC is a model developed by USEPA to predict CO and other pollutant concentrations from motor vehicles at roadway intersections. The model uses a traffic algorithm for estimating vehicular queue lengths at signalized intersections.

As part of SCAQMD's environmental justice program, the SCAQMD has developed localized significance thresholds (LST) by air monitoring areas to determine whether a project would generate significant adverse localized air quality impacts. LSTs represent the maximum

[13] SCAQMD, available at http://www.aqmd.gov/ceqa/hdbk.html, accessed April 28, 2008.
[14] SCAQMD, Localized Significance Methodology, June 2003.
[15] SCAQMD, Sample Construction Scenarios for Projects Less than Five Acres in Size, January 2005.

emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable NAAQS or CAAQS for CO, $NO_X$, $PM_{2.5}$ and $PM_{10}$. LSTs are based on the ambient concentrations of that pollutant for each air monitoring area and are designed for five acres or less. The LSTs are applicable for the proposed project because less than five acres of land would be disturbed per day during construction activity. According to the project applicant, the project would not disturb more than one acre per day during construction activity.

The proposed project does not contain lead emissions sources. Therefore, emissions and concentrations related to this pollutant are not analyzed in this report.[16]

## THRESHOLDS OF SIGNIFICANCE

*Construction Phase Significance Criteria*

A project would have a significant impact if:

- Regional and localized construction emissions were to exceed SCAQMD daily thresholds for VOC, $NO_X$, CO, $SO_X$, $PM_{2.5}$, or $PM_{10}$ (**Table IV.B-4**);
- The proposed project would generate excessive emissions of TACs; and/or
- The proposed project would create an odor nuisance.

**TABLE IV.B-4**
**SCAQMD DAILY CONSTRUCTION EMISSIONS THRESHOLDS**

| Pollutant | Regional Emissions (Pounds Per Day) | Localized Emissions (Pounds Per Day)[1] |
|---|---|---|
| Volatile Organic Compounds (VOC) | 75 | -- |
| Nitrogen Oxides ($NO_X$) | 100 | 103 |
| Carbon Monoxide (CO) | 550 | 151 |
| Sulfur Oxides ($SO_X$) | 150 | -- |
| Fine Particulates ($PM_{2.5}$) | 55 | 3 |
| Particulates ($PM_{10}$) | 150 | 4 |

[1] According to the project applicant, the project would not disturb more than one acre per day during construction activity and, therefore, LSTs were developed based on a 1-acre project site and a 25-meter (82-feet) receptor distance.
**SOURCE**: South Coast Air Quality Management District, 2008

*Operational Phase Significance Criteria*

The proposed project would have a significant impact if:

- Daily operational emissions were to exceed SCAQMD operational emissions thresholds for VOC, $NO_X$, CO, $SO_X$, $PM_{2.5}$, or $PM_{10}$ (**Table IV.B-5**);

[16] Prior to 1978, mobile emissions were the primary source of lead resulting in air concentrations. Between 1978 and 1987, the phase-out of leaded gasoline reduced the overall inventory of airborne lead by nearly 95 percent. Currently, industrial sources are the primary source of lead resulting in air concentrations. Since the proposed project does not contain an industrial component, lead emissions are not analyzed in this report.

- Project-related traffic causes CO concentrations at study intersections to violate the CAAQS for either the one- or eight-hour period;
- The proposed project would generate excess emissions of TACs;
- The proposed project would create an odor nuisance;
- The proposed project would not be consistent with the AQMP; and/or
- The proposed project would impair or prevent attainment of AB 32's GHG emission reduction goals and strategies.

**TABLE IV.B-5**
**SCAQMD DAILY OPERATIONAL EMISSIONS THRESHOLDS**

| Criteria Pollutant | Pounds Per Day |
|---|---|
| Volatile Organic Compounds (VOC) | 55 |
| Nitrogen Oxides ($NO_X$) | 55 |
| Carbon Monoxide (CO) | 550 |
| Sulfur Oxides ($SO_X$) | 150 |
| Fine Particulates ($PM_{2.5}$) | 55 |
| Particulates ($PM_{10}$) | 150 |

**SOURCE**: South Coast Air Quality Management District, 2008

## ENVIRONMENTAL IMPACTS

### Construction Phase Impacts

**Regional Impacts**. Construction of the proposed project has the potential to create air quality impacts through the use of heavy-duty construction equipment and through vehicle trips generated from construction workers traveling to and from the project site. Fugitive dust emissions would primarily result from demolition and site preparation (e.g., excavation) activities. $NO_X$ emissions would primarily result from the use of construction equipment. During the finishing phase, paving operations and the application of architectural coatings (e.g., paints) and other building materials would release VOCs. The assessment of construction air quality impacts considers each of these potential sources. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation and, for dust, the prevailing weather conditions.

It is mandatory for all construction projects in the Basin to comply with SCAQMD Rule 403 for Fugitive Dust. Specific Rule 403 control requirements include, but are not limited to, applying water in sufficient quantities to prevent the generation of visible dust plumes, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before vehicles exit the project site, and maintaining effective cover over exposed areas. Compliance with Rule 403 would reduce regional $PM_{10}$ emissions associated with construction activities by approximately 61 percent.

*Proposed Project*. **Table IV.B-6** shows the estimated daily emissions associated with each construction phase. As shown, daily construction emissions would not exceed the SCAQMD regional significance thresholds for CO, $SO_X$, $PM_{2.5}$, or $PM_{10}$. However, VOC and $NO_X$ construction emissions would exceed the SCAQMD regional significance threshold. As such, the proposed project would result in a significant regional construction impact without implementation of mitigation measures.

*Add Area*. **Table IV.B-7** shows the estimated daily emissions associated with each construction phase of Parcel 1. Daily construction emissions would not exceed the SCAQMD regional significance thresholds for CO, $SO_X$, $PM_{2.5}$, $PM_{10}$, VOC, or $NO_X$. As such, Parcel 1 would result in a less-than-significant regional construction impact.

Construction activity would not occur in Parcel 2. As such, no regional construction impact is anticipated in Parcel 2.

**Table IV.B-8** shows the estimated daily emissions associated with each construction phase for Parcel 3. Daily construction emissions would not exceed the SCAQMD regional significance thresholds for CO, $SO_X$, $PM_{2.5}$, $PM_{10}$, VOC, or $NO_X$. As such, Parcel 3 would result in a less-than-significant regional construction impact.

**Table IV.B-9** shows the estimated daily emissions associated with each construction phase for Parcel 4. Daily construction emissions would not exceed the SCAQMD regional significance thresholds for CO, $SO_X$, $PM_{2.5}$, $PM_{10}$, VOC, or $NO_X$. As such, Parcel 4 would result in a less-than-significant regional construction impact.

*Proposed Project with Add Area*. **Table IV.B-10** shows the estimated daily emissions associated with each construction phase for the Proposed Project and total Add Area. Daily construction emissions would not exceed the SCAQMD regional significance thresholds for CO, $SO_X$, $PM_{2.5}$, or $PM_{10}$. However, VOC and $NO_X$ construction emissions would exceed the SCAQMD regional significance threshold. As such, the Proposed Project with Add Area would result in a significant regional construction impact without implementation of mitigation measures.

**Localized Impacts**. Emissions for the localized construction air quality analysis of $PM_{2.5}$, $PM_{10}$, CO, and $NO_2$ were compiled using LST methodology promulgated by the SCAQMD.[17] Localized on-site emissions were calculated using similar methodology as the regional emission calculations. LSTs were developed based upon the size or total area of the emissions source, the ambient air quality in each source receptor area, and the distance to the sensitive receptor. LSTs for CO and $NO_2$ were derived by using an air quality dispersion model to back-calculate the emissions per day that would cause or contribute to a violation of any ambient air quality standard for a particular source receptor area. The construction $PM_{10}$ LST was derived using a dispersion model to back-calculate the emissions necessary to exceed a concentration equivalent to 50 $\mu g/m^3$ over five hours, which is the SCAQMD Rule 403 control requirement.

[17] The concentrations of $SO_2$ are not estimated because construction activities would generate a small amount of $SO_X$ emissions. No State standard exists for VOC. As such, concentrations for VOC were not estimated.

**TABLE IV.B-6**
**DAILY CONSTRUCTION EMISSIONS – PROPOSED PROJECT UNMITIGATED**

| Construction Phase | Pounds Per Day | | | | | |
|---|---|---|---|---|---|---|
| | VOC | $NO_X$ | CO | $SO_X$ | $PM_{2.5}$ | $PM_{10}$ |
| **Demolition** | | | | | | |
| On-Site | 6 | 46 | 23 | <1 | 6 | 16 |
| Off-Site | 1 | 14 | 8 | <1 | <1 | <1 |
| *Total* | *7* | *60* | *31* | *<1* | *6* | *16* |
| **Trenching** | | | | | | |
| On-Site | 2 | 18 | 8 | <1 | 1 | 1 |
| Off-Site | <1 | <1 | 1 | <1 | <1 | <1 |
| *Total* | *2* | *18* | *9* | *<1* | *1* | *1* |
| **Excavation/Site Preparation** | | | | | | |
| On-Site | 5 | 36 | 17 | <1 | 3[1] | 10[1] |
| Off-Site | 22 | 268 | 110 | <1 | 11 | 13 |
| *Total* | *27* | *304* | *127* | *<1* | *14* | *23* |
| **Building Construction** | | | | | | |
| On-Site | 7 | 64 | 25 | <1 | 3 | 3 |
| Off-Site | 5 | 21 | 99 | <1 | 1 | 1 |
| *Total* | *12* | *85* | *124* | *<1* | *4* | *4* |
| **Paving** | | | | | | |
| On-Site | 3 | 19 | 13 | <1 | 1 | 2 |
| Off-Site | <1 | <1 | 1 | <1 | <1 | <1 |
| *Total* | *4* | *19* | *14* | *<1* | *1* | *2* |
| **Architectural Coating** | | | | | | |
| On-Site | 158 | <1 | 2 | <1 | <1 | <1 |
| Off-Site | <1 | <1 | <1 | <1 | <1 | <1 |
| *Total* | *158* | *<1* | *2* | *<1* | *<1* | *<1* |
| **Maximum Regional Total** | **170** | **406** | **339** | **<1** | **21** | **40** |
| **Regional Significance Threshold** | **75** | **100** | **550** | **150** | **55** | **150** |
| Exceed Threshold? | Yes | Yes | No | No | No | No |
| | | | | | | |
| **Maximum On-Site Total** | **165** | **118** | **64** | **<1** | **10** | **26** |
| **Localized Significance Threshold[2]** | **--** | **103** | **151** | **--** | **3** | **4** |
| Exceed Threshold? | -- | Yes | No | -- | Yes | Yes |

[1] URBEMIS2007 emissions for fugitive dust were adjusted to account for a 61 percent control efficiency associated with SCAQMD Rule 403.
[2] LSTs were developed based on a one-acre project site and a 25-meter (82-feet) receptor distance.
**SOURCE**: TAHA, *The Plaza at the Glen Air Quality and Noise Impact Report*, February 2009

**TABLE IV.B-7**
**DAILY CONSTRUCTION EMISSIONS – PARCEL 1 UNMITIGATED**

| Construction Phase | Pounds Per Day | | | | | |
|---|---|---|---|---|---|---|
| | VOC | $NO_X$ | CO | $SO_X$ | $PM_{2.5}$ | $PM_{10}$ |
| **Demolition** | | | | | | |
| On-Site | 3 | 30 | 14 | <1 | 3 | 10 |
| Off-Site | 1 | 9 | 5 | <1 | <1 | <1 |
| *Total* | *4* | *39* | *19* | *<1* | *3* | *10* |
| **Excavation/Site Preparation** | | | | | | |
| On-Site | 2 | 22 | 9 | <1 | 3[1] | 9[1] |
| Off-Site | 3 | 36 | 16 | <1 | 1 | 2 |
| *Total* | *5* | *58* | *25* | *<1* | *4* | *11* |
| **Building Construction** | | | | | | |
| On-Site | 5 | 52 | 18 | <1 | 2 | 2 |
| Off-Site | <1 | 1 | 3 | <1 | <1 | <1 |
| *Total* | *5* | *53* | *21* | *<1* | *2* | *2* |
| **Paving** | | | | | | |
| On-Site | 3 | 17 | 9 | <1 | 1 | 1 |
| Off-Site | <1 | 1 | 2 | <1 | <1 | <1 |
| *Total* | *3* | *18* | *11* | *<1* | *1* | *1* |
| **Architectural Coating** | | | | | | |
| On-Site | 4 | <1 | <1 | <1 | <1 | <1 |
| Off-Site | <1 | <1 | <1 | <1 | <1 | <1 |
| *Total* | *4* | *<1* | *<1* | *<1* | *<1* | *<1* |
| **Maximum Regional Total** | **5** | **58** | **25** | **<1** | **4** | **11** |
| **Regional Significance Threshold** | **75** | **100** | **550** | **150** | **55** | **150** |
| Exceed Threshold? | No | No | No | No | No | No |
| | | | | | | |
| **Maximum On-Site Total** | **5** | **52** | **18** | **<1** | **3** | **10** |
| **Localized Significance Threshold[2]** | **--** | **103** | **151** | **--** | **3** | **4** |
| Exceed Threshold? | -- | No | No | -- | No | Yes |

[1] URBEMIS2007 emissions for fugitive dust were adjusted to account for a 61 percent control efficiency associated with SCAQMD Rule 403.
[2] LSTs were developed based on a one-acre project site and a 25-meter (82-feet) receptor distance.
**SOURCE**: TAHA, *The Plaza at the Glen Air Quality and Noise Impact Report*, February 2009

**TABLE IV.B-8**
**DAILY CONSTRUCTION EMISSIONS – PARCEL 3 UNMITIGATED**

| Construction Phase | Pounds Per Day | | | | | |
|---|---|---|---|---|---|---|
| | VOC | $NO_X$ | CO | $SO_X$ | $PM_{2.5}$ | $PM_{10}$ |
| **Demolition** | | | | | | |
| On-Site | 3 | 30 | 14 | <1 | 5 | 18 |
| Off-Site | 2 | 18 | 8 | <1 | <1 | 1 |
| *Total* | *5* | *48* | *22* | *<1* | *5* | *19* |
| **Excavation/Site Preparation** | | | | | | |
| On-Site | 2 | 22 | 9 | <1 | 3[1] | 9[1] |
| Off-Site | 3 | 36 | 16 | <1 | 1 | 2 |
| *Total* | *5* | *58* | *25* | *<1* | *4* | *11* |
| **Building Construction** | | | | | | |
| On-Site | 6 | 55 | 21 | <1 | 2 | 2 |
| Off-Site | 1 | 5 | 21 | <1 | 1 | <1 |
| *Total* | *7* | *60* | *42* | *<1* | *3* | *2* |
| **Paving** | | | | | | |
| On-Site | 5 | 23 | 12 | <1 | 2 | 2 |
| Off-Site | <1 | 3 | 4 | <1 | <1 | <1 |
| *Total* | *5* | *26* | *16* | *<1* | *2* | *2* |
| **Architectural Coating** | | | | | | |
| On-Site | 43 | <1 | <1 | <1 | <1 | <1 |
| Off-Site | <1 | 1 | <1 | <1 | <1 | <1 |
| *Total* | *43* | *1* | *<1* | *<1* | *<1* | *<1* |
| **Maximum Regional Total** | **43** | **60** | **42** | **<1** | **5** | **19** |
| **Regional Significance Threshold** | **75** | **100** | **550** | **150** | **55** | **150** |
| Exceed Threshold? | No | No | No | No | No | No |
| | | | | | | |
| **Maximum On-Site Total** | **43** | **55** | **21** | **<1** | **5** | **18** |
| **Localized Significance Threshold[2]** | **--** | **103** | **151** | **--** | **3** | **4** |
| Exceed Threshold? | -- | No | No | -- | Yes | Yes |

[1] URBEMIS2007 emissions for fugitive dust were adjusted to account for a 61 percent control efficiency associated with SCAQMD Rule 403.
[2] LSTs were developed based on a one-acre project site and a 25-meter (82-feet) receptor distance.
**SOURCE**: TAHA, *The Plaza at the Glen Air Quality and Noise Impact Report*, February 2009

**TABLE IV.B-9**
**DAILY CONSTRUCTION EMISSIONS – PARCEL 4 UNMITIGATED**

| Construction Phase | Pounds Per Day | | | | | |
|---|---|---|---|---|---|---|
| | VOC | $NO_X$ | CO | $SO_X$ | $PM_{2.5}$ | $PM_{10}$ |
| **Demolition** | | | | | | |
| On-Site | 3 | 30 | 14 | <1 | 3 | 10 |
| Off-Site | 1 | 9 | 5 | <1 | <1 | <1 |
| *Total* | *4* | *39* | *19* | *<1* | *3* | *10* |
| **Excavation/Site Preparation** | | | | | | |
| On-Site | 2 | 22 | 9 | <1 | 3 | 9 |
| Off-Site | 3 | 36 | 16 | <1 | 1 | 2 |
| *Total* | *5* | *58* | *25* | *<1* | *4* | *11* |
| **Building Construction** | | | | | | |
| On-Site | 7 | 55 | 21 | <1 | 2 | 2 |
| Off-Site | <1 | 2 | 10 | <1 | <1 | <1 |
| *Total* | *7* | *57* | *31* | *<1* | *2* | *2* |
| **Paving** | | | | | | |
| On-Site | 3 | 21 | 11 | <1 | 1 | 2 |
| Off-Site | <1 | 2 | 3 | <1 | <1 | <1 |
| *Total* | *4* | *23* | *14* | *<1* | *1* | *2* |
| **Architectural Coating** | | | | | | |
| On-Site | 43 | <1 | 1 | <1 | <1 | <1 |
| Off-Site | <1 | <1 | <1 | <1 | <1 | <1 |
| *Total* | *43* | *<1* | *1* | *<1* | *<1* | *<1* |
| **Maximum Regional Total** | **43** | **58** | **31** | **<1** | **4** | **11** |
| **Regional Significance Threshold** | **75** | **100** | **550** | **150** | **55** | **150** |
| Exceed Threshold? | No | No | No | No | No | No |
| | | | | | | |
| **Maximum On-Site Total** | **43** | **55** | **21** | **<1** | **3** | **9** |
| **Localized Significance Threshold[2]** | **--** | **103** | **151** | **--** | **3** | **4** |
| Exceed Threshold? | -- | No | No | -- | No | Yes |

[1] URBEMIS2007 emissions for fugitive dust were adjusted to account for a 61 percent control efficiency associated with SCAQMD Rule 403.
[2] LSTs were developed based on a one-acre project site and a 25-meter (82-feet) receptor distance.
**SOURCE**: TAHA, *The Plaza at the Glen Air Quality and Noise Impact Report*, February 2009

**TABLE IV.B-10**
**DAILY CONSTRUCTION EMISSIONS – PROPOSED PROJECT WITH ADD AREA UNMITIGATED**

| Construction Phase | Pounds Per Day | | | | | |
|---|---|---|---|---|---|---|
| | VOC | $NO_X$ | CO | $SO_X$ | $PM_{2.5}$ | $PM_{10}$ |
| **Demolition** | | | | | | |
| On-Site | 15 | 136 | 65 | <1 | 17 | 54 |
| Off-Site | 5 | 50 | 26 | <1 | <1 | 1 |
| *Total* | *20* | *186* | *91* | *<1* | *17* | *55* |
| **Trenching** | | | | | | |
| On-Site | 2 | 18 | 8 | <1 | 1 | 1 |
| Off-Site | <1 | <1 | 1 | <1 | <1 | <1 |
| *Total* | *2* | *18* | *9* | *<1* | *1* | *1* |
| **Excavation/Site Preparation** | | | | | | |
| On-Site | 11 | 102 | 44 | <1 | 12 | 53 |
| Off-Site | 31 | 376 | 158 | <1 | 14 | 19 |
| *Total* | *42* | *478* | *202* | *<1* | *26* | *72* |
| **Building Construction** | | | | | | |
| On-Site | 25 | 226 | 85 | <1 | 9 | 9 |
| Off-Site | 6 | 29 | 133 | <1 | 2 | 1 |
| *Total* | *31* | *255* | *218* | *<1* | *11* | *10* |
| **Paving** | | | | | | |
| On-Site | 14 | 80 | 45 | <1 | 5 | 7 |
| Off-Site | <1 | 6 | 10 | <1 | <1 | <1 |
| *Total* | *14* | *86* | *55* | *<1* | *5* | *7* |
| **Architectural Coating** | | | | | | |
| On-Site | 248 | <1 | 2 | <1 | <1 | <1 |
| Off-Site | <1 | 1 | <1 | <1 | <1 | <1 |
| *Total* | *248* | *1* | *2* | *<1* | *<1* | *<1* |
| **Maximum Regional Total** | **261** | **582** | **437** | **<1** | **34** | **81** |
| **Regional Significance Threshold** | **75** | **100** | **550** | **150** | **55** | **150** |
| Exceed Threshold? | Yes | Yes | No | No | No | No |
| | | | | | | |
| **Maximum On-Site Total** | **256** | **280** | **124** | **<1** | **21** | **63** |
| **Localized Significance Threshold[2]** | **--** | **103** | **151** | **--** | **3** | **4** |
| Exceed Threshold? | -- | Yes | No | -- | Yes | Yes |

[1] URBEMIS2007 emissions for fugitive dust were adjusted to account for a 61 percent control efficiency associated with SCAQMD Rule 403.
[2] LSTs were developed based on a one-acre project site and a 25-meter (82-feet) receptor distance.
**SOURCE**: TAHA, *The Plaza at the Glen Air Quality and Noise Impact Report*, February 2009

*Proposed Project*. **Table IV.B-6** shows the estimated daily localized emissions associated with each construction phase. Daily construction emissions would not exceed the SCAQMD localized thresholds for CO. However, $NO_X$, $PM_{2.5}$ and $PM_{10}$ construction emissions would exceed the SCAQMD localized significance threshold. As such, the proposed project would result in a significant localized construction impact without implementation of mitigation measures.

*Add Area*. **Table IV.B-7** shows the estimated daily localized emissions associated with each construction phase for Parcel 1. Daily construction emissions would not exceed the SCAQMD localized thresholds for $NO_2$, $PM_{2.5}$, or CO. However, $PM_{10}$ construction emissions would exceed the SCAQMD localized significance threshold. As such, Parcel 1 would result in a significant localized construction impact without implementation of mitigation measures.

Construction activity would not occur in Parcel 2 and, as such, no localized construction impact is anticipated.

**Table IV.B-8** shows the estimated daily localized emissions associated with each construction phase for Parcel 3. Daily construction emissions would not exceed the SCAQMD localized thresholds for $NO_2$, or CO. However, $PM_{2.5}$ and $PM_{10}$ construction emissions would exceed the SCAQMD localized significance threshold. As such, Parcel 3 would result in a significant localized construction impact without implementation of mitigation measures.

**Table IV.B-9** shows the estimated daily localized emissions associated with each construction phase for Parcel 4. Daily construction emissions would not exceed the SCAQMD localized thresholds for $NO_2$, $PM_{2.5}$, or CO. However, $PM_{10}$ construction emissions would exceed the SCAQMD localized significance threshold. As such, Parcel 4 would result in a significant localized construction impact without implementation of mitigation measures.

*Proposed Project with Add Area*. **Table IV.B-10** shows the estimated daily localized emissions associated with each construction phase. Daily construction emissions would not exceed the SCAQMD localized thresholds for CO. However, $NO_X$, $PM_{2.5}$ and $PM_{10}$ construction emissions would exceed the SCAQMD localized significance threshold. As such, the Proposed Project with Add Area would result in a significant localized construction impact without implementation of mitigation measures.

**Toxic Air Contaminant Impacts**.

*Proposed Project*. The greatest potential for TAC emissions during construction would be diesel particulate emissions associated with heavy equipment operations. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person continuously exposed to concentrations of TACs over a 70-year lifetime will contract cancer. Given the short-term construction schedule of approximately 30 months, the proposed project would not result in a long-term (i.e., 70 years) source of TAC emissions. No residual emissions and corresponding individual cancer risk are anticipated after construction. As such, project-related TAC emission impacts during construction would be less than significant.

*Add Area*. Similar to the proposed project, construction activity on Parcels 1, 3 and 4 would not result in a long-term (i.e., 70 years) source of TAC emissions. No residual emissions and

corresponding individual cancer risk are anticipated after construction and Parcels 1, 3, and 4 TAC emission impacts during construction would be less than significant.

Construction activity would not occur in Parcel 2. As such, no TAC impact is anticipated in Parcel 2.

*Proposed Project with Add Area*. Similar to the proposed project, the Proposed Project with Add Area construction activity would not result in a long-term (i.e., 70 years) source of TAC emissions. No residual emissions and corresponding individual cancer risk are anticipated after construction and the Proposed Project with Add Area TAC emission impacts during construction would be less than significant.

**Odors**.

*Proposed Project*. Potential sources that may emit odors during construction activities include equipment exhaust and architectural coatings. Odors from these sources would be localized and generally confined to the project site. The proposed project would utilize typical construction techniques, resulting in odors that would be typical of most construction sites and temporary. The proposed project construction would not cause an odor nuisance, and construction odors would result in a less-than-significant impact.

*Add Area*. Similar to the proposed project, construction activity on Parcels 1, 3 and 4 would not cause an odor nuisance, and construction odors would result in a less-than-significant impact.

Construction activity would not occur in Parcel 2. Therefore, no odor impact is anticipated in Parcel 2.

*Proposed Project with Add Area*. Similar to the proposed project, the Proposed Project with Add Areas construction activity would not cause an odor nuisance, and construction odors would result in a less-than-significant impact.

**Operational Phase Impacts**

**Regional Impacts**. Long-term emissions associated with the proposed project and the add areas would be generated by area sources, such as natural gas combustion and consumer products (e.g., aerosol sprays), and mobile sources. Motor vehicle trips generated by the proposed project and the add areas would be the predominate source of long-term project emissions. Mobile and area source emissions for the proposed project and the add areas were estimated using URBEMIS2007.

*Proposed Project*. According to the traffic report, the proposed project would generate 18,763 net daily vehicle trips.[18] The estimated daily operational emissions are shown in **Table IV.B-11**. The net regional operational emissions would exceed SCAQMD significance thresholds for VOC, $NO_X$, CO, $PM_{2.5}$ and $PM_{10}$. Therefore, proposed project operational emissions would result in a significant impact.

[18] Overland Traffic Consultants, Inc., *Traffic Impact Analysis for the Plaza at the Glen*, September 2008.

| TABLE IV.B-11<br>DAILY OPERATIONS EMISSIONS – PROPOSED PROJECT | | | | | | |
|---|---|---|---|---|---|---|
| | Pounds per Day | | | | | |
| **Emission Source** | **VOC** | **$NO_X$** | **CO** | **$SO_X$** | **$PM_{2.5}$** | **$PM_{10}$** |
| Existing Land Uses | | | | | | |
| Mobile Sources | 49 | 80 | 555 | 1 | 54 | 125 |
| Area Sources[1] | 1 | 1 | 1 | <1 | <1 | <1 |
| *Total Emissions* | *50* | *81* | *556* | *1* | *24* | *125* |
| | | | | | | |
| Proposed Land Uses | | | | | | |
| Mobile Sources | 170 | 267 | 1,895 | 2 | 83 | 428 |
| Area Sources[1] | 15 | 11 | 8 | <1 | <1 | <1 |
| *Total Emissions* | *185* | *278* | *1,903* | *2* | *83* | *428* |
| | | | | | | |
| **Net Emissions** | **135** | **197** | **1,347** | **1** | **59** | **303** |
| **SCAQMD Threshold** | **55** | **55** | **550** | **150** | **55** | **150** |
| Exceed Threshold? | Yes | Yes | Yes | No | Yes | Yes |

[1] Area sources include emissions from natural gas combustion, consumer product (e.g., aerosol sprays), and landscaping.
**SOURCE**: TAHA, *The Plaza at the Glen Air Quality and Noise Impact Report*, February 2009

*Add Area*. According to the traffic report, Parcel 1 would generate 183 net daily vehicle trips.[19] The estimated daily operational emissions are shown in **Table IV.B-12**. The net regional operational emissions would not exceed the SCAQMD significance thresholds and Parcel 1 operational emissions would result in a less-than-significant impact.

According to the traffic report, the proposed uses in Parcel 2 would not generate new daily vehicle trips since the existing uses would not change.[20] Therefore, no regional operational impact is anticipated in Parcel 2.

According to the traffic report, Parcel 3 would generate 1,887 net daily vehicle trips.[21] The estimated daily operational emissions are shown in **Table IV.B-13**. The net regional operational emissions would not exceed the SCAQMD significance thresholds and Parcel 3 operational emissions would result in a less-than-significant impact.

According to the traffic report, Parcel 4 would generate 550 net daily vehicle trips.[22] The estimated daily operational emissions are shown in **Table IV.B-14**. The net regional operational emissions would not exceed the SCAQMD significance thresholds and Parcel 4 operational emissions would result in a less-than-significant impact.

[19] *Ibid*.
[20] *Ibid*.
[21] *Ibid*.
[22] *Ibid*.

**TABLE IV.B-12**
**DAILY OPERATIONS EMISSIONS – PARCEL 1**

| | Pounds per Day | | | | | |
|---|---|---|---|---|---|---|
| **Emission Source** | **VOC** | **$NO_X$** | **CO** | **$SO_X$** | **$PM_{2.5}$** | **$PM_{10}$** |
| Existing Land Uses | | | | | | |
| Mobile Sources | <1 | <1 | 1 | <1 | <1 | <1 |
| Area Sources[1] | <1 | 1 | 1 | <1 | <1 | <1 |
| *Total Emissions* | *<1* | *1* | *2* | *<1* | *<1* | *<1* |
| | | | | | | |
| Proposed Land Uses | | | | | | |
| Mobile Sources | 2 | 3 | 18 | <1 | 1 | 4 |
| Area Sources[1] | 2 | <1 | <1 | <1 | <1 | <1 |
| *Total Emissions* | *4* | *3* | *18* | *<1* | *1* | *4* |
| | | | | | | |
| **Net Emissions** | **4** | **2** | **16** | **<1** | **1** | **4** |
| **SCAQMD Threshold** | **55** | **55** | **550** | **150** | **55** | **150** |
| Exceed Threshold? | No | No | No | No | No | No |

[1] Area sources include emissions from natural gas combustion, consumer product (e.g., aerosol sprays), and landscaping.
**SOURCE**: TAHA, *The Plaza at the Glen Air Quality and Noise Impact Report*, February 2009

**TABLE IV.B-13**
**DAILY OPERATIONS EMISSIONS – PARCEL 3**

| | Pounds per Day | | | | | |
|---|---|---|---|---|---|---|
| **Emission Source** | **VOC** | **$NO_X$** | **CO** | **$SO_X$** | **$PM_{2.5}$** | **$PM_{10}$** |
| Existing Land Uses | | | | | | |
| Mobile Sources | 13 | 20 | 140 | <1 | 6 | 32 |
| Area Sources[1] | <1 | <1 | <1 | <1 | <1 | <1 |
| *Total Emissions* | *13* | *20* | *140* | *<1* | *6* | *32* |
| | | | | | | |
| Proposed Land Uses | | | | | | |
| Mobile Sources | 18 | 27 | 192 | <1 | 8 | 43 |
| Area Sources[1] | 8 | 2 | 1 | <1 | <1 | <1 |
| *Total Emissions* | *26* | *29* | *193* | *<1* | *8* | *43* |
| | | | | | | |
| **Net Emissions** | **13** | **9** | **53** | **<1** | **2** | **11** |
| **SCAQMD Threshold** | **55** | **55** | **550** | **150** | **55** | **150** |
| Exceed Threshold? | No | No | No | No | No | No |

[1] Area sources include emissions from natural gas combustion, consumer product (e.g., aerosol sprays), and landscaping.
**SOURCE**: TAHA, *The Plaza at the Glen Air Quality and Noise Impact Report*, February 2009

**TABLE IV.B-14**
**DAILY OPERATIONS EMISSIONS – PARCEL 4**

| Emission Source | Pounds per Day | | | | | |
|---|---|---|---|---|---|---|
| | VOC | $NO_X$ | CO | $SO_X$ | $PM_{2.5}$ | $PM_{10}$ |
| Existing Land Uses | | | | | | |
| Mobile Sources | 8 | 13 | 91 | <1 | 4 | 21 |
| Area Sources[1] | <1 | <1 | <1 | <1 | <1 | <1 |
| *Total Emissions* | *8* | *13* | *91* | *<1* | *4* | *21* |
| | | | | | | |
| Proposed Land Uses | | | | | | |
| Mobile Sources | 13 | 20 | 142 | <1 | 6 | 32 |
| Area Sources[1] | 1 | 1 | 1 | <1 | <1 | <1 |
| *Total Emissions* | *14* | *21* | *143* | *<1* | *6* | *32* |
| | | | | | | |
| **Net Emissions** | **6** | **8** | **52** | **<1** | **2** | **11** |
| **SCAQMD Threshold** | **55** | **55** | **550** | **150** | **55** | **150** |
| Exceed Threshold? | No | No | No | No | No | No |

[1] Area sources include emissions from natural gas combustion, consumer product (e.g., aerosol sprays), and landscaping.
**SOURCE**: TAHA, *The Plaza at the Glen Air Quality and Noise Impact Report*, February 2009

*Proposed Project with Add Area*. According to the traffic report, the Proposed Project with Add Area would generate 21,383 net daily vehicle trips.[23] The estimated daily operational emissions are shown in **Table IV.B-15**. The net regional operational emissions would exceed the SCAQMD significance thresholds for VOC, $NO_X$, CO, $PM_{2.5}$ and $PM_{10}$ and operational emissions from the Proposed Project with Add Area would result in a significant impact.

**Localized Impacts**. CO concentrations in 2013 are expected to be lower than existing conditions due to stringent State and federal mandates for lowering vehicle emissions. Although traffic volumes would be higher in the future both without and with the implementation of the proposed project, CO emissions from vehicles are expected to be much lower due to technological advances in vehicle emissions systems, as well as from normal turnover in the vehicle fleet. Accordingly, increases in traffic volumes are expected to be offset by increases in cleaner-running cars as a percentage of the entire vehicle fleet on the road.[24]

The State one- and eight-hour CO standards may potentially be exceeded at congested intersections with high traffic volumes. An exceedance of the State CO standards at an intersection is referred to as a CO hotspot. The SCAQMD recommends a CO hotspot evaluation of potential localized CO impacts when V/C ratios are increased by two percent at intersections with a LOS of D or worse. SCAQMD also recommends a CO hotspot evaluation when an intersection decreases in LOS by one level beginning when LOS changes from C to D.

[23] *Ibid*.
[24] Consistent with CARB's vehicle emissions inventory.

**TABLE IV.B-15**
**DAILY OPERATIONS EMISSIONS – PROPOSED PROJECT WITH ADD AREA**

| Emission Source | Pounds per Day | | | | | |
|---|---|---|---|---|---|---|
| | VOC | $NO_X$ | CO | $SO_X$ | $PM_{2.5}$ | $PM_{10}$ |
| Existing Land Uses | | | | | | |
| Mobile Sources | 70 | 113 | 787 | 1 | 34 | 178 |
| Area Sources[1] | 1 | 2 | 2 | <1 | <1 | <1 |
| *Total Emissions* | *71* | *115* | *789* | *1* | *34* | *178* |
| | | | | | | |
| Proposed Land Uses | | | | | | |
| Mobile Sources | 203 | 316 | 2,247 | 3 | 98 | 507 |
| Area Sources[1] | 26 | 13 | 10 | <1 | <1 | <1 |
| *Total Emissions* | *229* | *329* | *2,257* | *3* | *98* | *507* |
| | | | | | | |
| **Net Emissions** | **158** | **214** | **1,468** | **2** | **64** | **329** |
| **SCAQMD Threshold** | **55** | **55** | **550** | **150** | **55** | **150** |
| Exceed Threshold? | Yes | Yes | Yes | No | Yes | Yes |

[1] Area sources include emissions from natural gas combustion, consumer product (e.g., aerosol sprays), and landscaping.
**SOURCE**: TAHA, *The Plaza at the Glen Air Quality and Noise Impact Report*, February 2009

The USEPA CAL3QHC micro-scale dispersion model was used to calculate CO concentrations. Based on the traffic study, a CO hotspot analysis was conducted at the following intersections:

- Coldwater Canyon Avenue/Hamlin Street - PM Peak Hour
- Coldwater Canyon Avenue/Vanowen Street - PM Peak Hour
- Coldwater Canyon Avenue/Victory Boulevard - PM Peak Hour
- Ethel Avenue/Victory Boulevard – PM Peak Hour
- Morse Avenue/Victory Boulevard – PM Peak Hour
- Whitsett Avenue/Vanowen Street – PM Peak Hour
- Whitsett Avenue/Victory Boulevard – PM Peak Hour
- Woodman Avenue/Victory Boulevard – PM Peak Hour
- 170 Freeway Southbound (North Side)/Victory Boulevard
- 170 Freeway Southbound (South Side)/Victory Boulevard

*Proposed Project*. One- and eight-hour CO concentrations at the ten study intersections are shown in **Tables IV.B-16** and **IV.B-17**, respectively. As indicated, one-hour CO concentrations for the proposed project would be approximately 4 ppm at worst-case sidewalk receptors. Eight-hour CO concentrations for the proposed project would range from approximately 2.4 to 2.8 ppm. The State one- and eight-hour standards of 20 ppm and 9.0 ppm, respectively, would not be exceeded at the ten study intersections. Thus, the proposed project would result in a less-than-significant impact.

**TABLE IV.B-16**
**2008 AND 2013 ONE-HOUR CARBON MONOXIDE CONCENTRATIONS[1]**

| Intersection | Existing | No Project | Project | Parcel 1 | Parcel 3 | Parcel 4 | Project with Add Area |
|---|---|---|---|---|---|---|---|
| Coldwater Canyon Ave/ Hamlin St | 5 | 4 | 4 | 4 | 4 | 4 | 4 |
| Coldwater Canyon Ave/ Vanowen St | 5 | 4 | 4 | 4 | 4 | 4 | 4 |
| Coldwater Canyon Ave/ Victory Blvd | 5 | 4 | 4 | 4 | 4 | 4 | 4 |
| Ethel Ave/Victory Blvd | 5 | 4 | 4 | 4 | 4 | 4 | 4 |
| Morse Ave/Victory Blvd | 5 | 4 | 4 | 4 | 4 | 4 | 4 |
| Whitsett Ave/Vanowen St | 5 | 4 | 4 | 4 | 4 | 4 | 4 |
| Whitsett Ave/Victory Blvd | 5 | 4 | 4 | 4 | 4 | 4 | 4 |
| Woodman Ave/Victory Blvd | 5 | 4 | 4 | 4 | 4 | 4 | 4 |
| 170 Fwy Southbound (North Side)/Victory Blvd | 5 | 4 | 4 | 4 | 4 | 4 | 4 |
| 170 Fwy Southbound (South Side)/Victory Blvd | 5 | 4 | 4 | 4 | 4 | 4 | 4 |
| **State Standard** | **20** | | | | | | |

[1] Existing concentrations include year 2007 one-hour ambient concentration of 4 ppm (SCAQMD 2008 data were not available when this analysis was completed). No Project, Project, and Parcels 1 through 4 concentrations include year 2013 one-hour ambient concentration of 3 ppm.

**SOURCE**: TAHA, *The Plaza at the Glen Air Quality and Noise Impact Report*, February 2009

*Add Area*. One- and eight-hour CO concentrations at the ten study intersections for Parcel 1 are shown in **Tables IV.B-16** and **IV.B-17**, respectively. The nearest study intersection to Parcel 1 is Coldwater Canyon Avenue and Hamlin Street, which has a one-hour concentration of 4 ppm and an eight-hour CO concentration of 2.4 ppm. As indicated, one-hour CO concentrations for Parcel 1 would be approximately 4 ppm at worst-case sidewalk receptors. Eight-hour CO concentrations for Parcel 1 would range from approximately 2.4 to 2.9 ppm. The State one- and eight-hour standards of 20 ppm and 9.0 ppm, respectively, would not be exceeded at the ten study intersections. Thus, Parcel 1 would result in a less-than-significant impact.

One- and eight-hour CO concentrations at the ten study intersections for Parcel 3 are shown in **Tables IV.B-16** and **IV.B-17**, respectively. The nearest study intersection to Parcel 3 is Coldwater Canyon Avenue and Hamlin Street, which has a one-hour concentration of 4 ppm and an eight-hour CO concentration of 2.4 ppm. As indicated, one-hour CO concentrations for Parcel 3 would be approximately 4 ppm at worst-case sidewalk receptors. Eight-hour CO concentrations for Parcel 3 would range from approximately 2.4 to 2.8 ppm. The State one- and eight-hour standards of 20 ppm and 9.0 ppm, respectively, would not be exceeded at the ten study intersections. Thus, Parcel 3 would result in a less-than-significant impact.

**TABLE IV.B-17**
**2008 AND 2013 EIGHT-HOUR CARBON MONOXIDE CONCENTRATIONS[1]**

| Intersection | Existing | No Project | Project | Parcel 1 | Parcel 3 | Parcel 4 | Project with Add Area |
|---|---|---|---|---|---|---|---|
| Coldwater Canyon Ave/ Hamlin St | 3.2 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 | 2.4 |
| Coldwater Canyon Ave/ Vanowen St | 3.5 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 |
| Coldwater Canyon Ave/ Victory Blvd | 3.6 | 2.7 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 |
| Ethel Ave/Victory Blvd | 3.4 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.7 |
| Morse Ave/Victory Blvd | 3.2 | 2.4 | 2.8 | 2.7 | 2.6 | 2.7 | 2.8 |
| Whitsett Ave/Vanowen St | 3.5 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 |
| Whitsett Ave/Victory Blvd | 3.6 | 2.7 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 |
| Woodman Ave/Victory Blvd | 3.7 | 2.7 | 2.8 | 2.8 | 2.8 | 2.8 | 2.8 |
| 170 Fwy Southbound (North Side)/Victory Blvd | 3.4 | 2.5 | 2.5 | 2.6 | 2.6 | 2.6 | 2.5 |
| 170 Fwy Southbound (South Side)/Victory Blvd | 3.4 | 2.5 | 2.6 | 2.6 | 2.6 | 2.6 | 2.6 |
| **State Standard** | **9.0** | | | | | | |

[1] Existing concentrations include year 2007 eight-hour ambient concentration 2.8 ppm (SCAQMD 2008 data were not available when this analysis was completed). No Project, Project, and Add Areas 1 through 4 concentrations include year 2013 eight-hour ambient concentration of 2.0 ppm.

**SOURCE**: TAHA, *The Plaza at the Glen Air Quality and Noise Impact Report*, February 2009

One- and eight-hour CO concentrations at the ten study intersections for Parcel 4 are shown in Tables IV.B-13 and IV.B-14, respectively. The nearest study intersection to Parcel 4 is Coldwater Canyon Avenue and Victory Boulevard, which has a one-hour concentration of 4 ppm and an eight-hour CO concentration of 2.8 ppm. As indicated, one-hour CO concentrations for Parcel 4 would be approximately 4 ppm at worst-case sidewalk receptors. Eight-hour CO concentrations for Parcel 4 would range from approximately 2.8 to 3.2 ppm. The State one- and eight-hour standards of 20 ppm and 9.0 ppm, respectively, would not be exceeded at the ten study intersections. Thus, Parcel 4 would result in a less-than-significant impact.

*Proposed Project with Add Area*. One- and eight-hour CO concentrations at the ten study intersections for the proposed project and the Add Area are shown in **Tables IV.B-16** and **IV.B-17**, respectively. As indicated, one-hour CO concentrations for the Proposed Project with Add Area would be approximately 4 ppm at worst-case sidewalk receptors. Eight-hour CO concentrations for the Proposed Project with Add Area would range from approximately 2.4 to 2.8 ppm. The State one- and eight-hour standards of 20 ppm and 9.0 ppm, respectively, would not be exceeded at the ten study intersections. Thus, the Proposed Project with Add Area would result in a less-than-significant impact.

**Toxic Air Contaminant Impacts**.

*Proposed Project*. The SCAQMD recommends that health risk assessments be conducted for substantial sources of diesel particulate emissions (e.g., truck stops and warehouse distribution

facilities) and has provided guidance for analyzing mobile source diesel emissions.[25] The primary source of potential TACs associated with project operations is diesel particulate from delivery trucks (e.g., truck traffic on local streets and on-site truck idling). The proposed project would develop commercial and residential uses on the project site. Hundreds of daily truck trips and many cumulative hours of idle time are generally needed to result in a significant health risk. Proposed commercial and residential uses are not anticipated to generate a substantial number of daily truck trips, and the trucks that do visit the site would not idle on-site for extended periods of time. In addition, existing uses on the project site generate heavy-duty truck trips and would partially offset diesel emissions associated with the proposed project. The proposed project would not warrant the need for a health risk assessment associated with on-site activities, and potential TAC impacts would be less than significant.

Typical sources of acutely and chronically hazardous TACs include industrial manufacturing processes and automotive repair facilities. The proposed project would not include any of these potential sources, although minimal emissions may result from the use of consumer products (e.g., aerosol sprays). As such, the proposed project would not release substantial amounts of TACs, and no significant impact on human health would occur.

The proposed project would include a transit plaza. The transit plaza would not be a regional hub and would not be a major source of new diesel emissions. The transit plaza would generally be serviced by the Los Angeles County Metropolitan Transportation Agency (Metro). The majority of the Metro fleet is fueled with compressed natural gas, which emits less diesel particulate emissions when combusted than diesel fuel. As such, the transit plaza would not be a significant source of diesel emissions.

*Add Area*. The uses that are proposed for Parcels 1, 3, and 4 are residential and commercial. The land uses are not anticipated to create any substantial sources of TAC, including trucks. As the proposed uses for Parcels 1, 3, and 4 would not involve any substantial sources of TAC, a health risk assessment associated with on-site activities is not warranted, and no TAC impacts are anticipated.

Typical sources of acutely and chronically hazardous TACs include industrial manufacturing processes and automotive repair facilities. The proposed uses for Parcels 1, 3, and 4 would not include any of these potential sources, although minimal emissions may result from the use of consumer products (e.g., aerosol sprays). As such, the proposed project would not release substantial amounts of TACs, and no significant impact on human health would occur.

The existing uses within Parcel 2 would not change. No additional sources of TAC are expected be generated, and no new TAC impacts are anticipated within Parcel 2.

*Proposed Project with Add Area*. The uses for the proposed project and the add areas are commercial and residential. The primary source of potential TACs associated with operations of the proposed uses is diesel particulate from delivery trucks (e.g., truck traffic on local streets and on-site truck idling). The number of heavy-duty trucks (e.g., delivery trucks) accessing the project site on a daily basis would be minimal, and the trucks that do visit the site would not idle on-site for extended periods of time. Based on the limited activity of the TAC sources, the proposed project and the uses proposed for the add areas would not warrant the need for a

[25] SCAQMD, Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Emissions, December 2002.

health risk assessment associated with on-site activities, and potential TAC impacts would be less than significant.

Similar to the Proposed Project analysis, the Proposed Project with Add Area land uses would not include significant stationary TAC sources.

**Odor Impacts**

*Proposed Project*. According to the SCAQMD CEQA Air Quality Handbook, land uses and industrial operations that are associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies and fiberglass molding. The majority of the project site would be developed with residential and office space and not land uses that are typically associated with odor complaints. On-site trash receptacles would have the potential to create adverse odors. As trash receptacles would be located and maintained in a manner that promotes odor control, no adverse odor impacts are anticipated from these types of land uses.

The proposed project would also include residential buildings and restaurants. Most restaurants generally do not produce adverse odors, as this would not be conducive to having a successful business. Notwithstanding, restaurants do have the potential for the generation of odors from the operation of char-broilers and deep fat fryers. While there is a potential for odors to occur, compliance with industry standard odor control practices, SCAQMD Rule 402 (Nuisance), and SCAQMD Best Available Control Technology Guidelines would limit potential restaurant objectionable odor impacts to a less-than-significant level.

*Add Area*. The uses that are proposed for Parcels 1, 3, and 4 are residential, commercial, office, and shopping center. These land uses are not typically associated with odor complaints. On-site trash receptacles would have the potential to create adverse odors. Trash receptacles would be located and maintained in a manner that promotes odor control and no adverse odor impacts are anticipated. The proposed shopping center may contain restaurants. The proposed land uses are not typically associated with odor complaints. Potential operational airborne odors could result from cooking activities associated with the new restaurant uses. Notwithstanding, restaurants do have the potential for the generation of odors from the operation of char-broilers and deep fat fryers. While there is a potential for odors to occur, compliance with industry standard odor control practices, SCAQMD Rule 402 (Nuisance), and SCAQMD Best Available Control Technology Guidelines would limit potential restaurant objectionable odor impacts to a less-than-significant level. Therefore, Parcels 1, 3, and 4 would not create objectionable odors and would result in a less-than-significant impact.

*Proposed Project with Add Area*. The uses that are proposed for the project site and the add areas include residential uses, a hotel, offices, a health and fitness center, a theater, and shopping centers. The proposed shopping centers may contain restaurants. The proposed land uses are not typically associated with odor complaints. Potential operational airborne odors could result from cooking activities associated with the new restaurant uses. Notwithstanding, restaurants do have the potential for the generation of odors from the operation of char-broilers and deep fat fryers. While there is a potential for odors to occur, compliance with industry standard odor control practices, SCAQMD Rule 402 (Nuisance), and SCAQMD Best Available Control Technology Guidelines would limit potential restaurant objectionable odor impacts to a less-than-significant level. Therefore, the Proposed Project with Add Area would not create objectionable odors and would result in a less-than-significant impact.

**Consistency with the Air Quality Management Plan**

*Proposed Project*. Development of the proposed project is not expected to result in a significant impact in terms of conflicting with, or obstructing the implementation of the 2007 AQMP. The 2007 AQMP was prepared to accommodate growth, to reduce the high levels of pollutants within areas under the jurisdiction of SCAQMD, to return clean air to the region, and to minimize the impact on the economy. Growth considered to be consistent with the 2007 AQMP would not interfere with attainment because this growth is included in the projections utilized in the formulation of the AQMP. Consequently, as long as growth in the Basin is within the projections for growth identified in the 2008 RTP, implementation of the 2007 AQMP would not be obstructed by such growth. The project would require a General Plan Amendment and rezoning to increase density on the site from the current neighborhood commercial designation. As discussed in Section H Land Use, the General Plan Framework Element anticipates this change by showing the intersection of Coldwater Canyon and Victory Boulevard and area west, including the project site, as appropriate for Community Commercial, which is the requested land use designation. As growth in the City of Los Angeles and the North Hollywood-Valley Village Community Plan area has not exceeded the growth projections, the proposed project would have a less-than-significant impact related to consistency with the 2007 Air Quality Management Plan.

SCAG locates the project site within the Los Angeles City subregion. The proposed project includes residential units and would result in increased permanent population growth. The proposed project would add 150 new housing units, which represents 0.3 percent of the 58,509 new housing units projected in SCAG's RTP between 2010 and 2015 for the Los Angeles City subregion. Similarly, the proposed project would result in a population increase of approximately 323 persons, which represents 0.4 percent of the 73,579 new population growth projected in SCAG's RTP between 2010 and 2015 for the Los Angeles City subregion. The proposed project, which would add 2,885 employees, represents 6.5 percent of the 44,664 new employees projected in SCAG's RTP between 2010 and 2015 for the Los Angeles City subregion. Such levels of housing, population, and employment growth are consistent with forecasts for the subregion as adopted by SCAG. The proposed project would be consistent with growth assumptions included in the AQMP and, as such, would comply with Consistency Criterion No. 2.

*Add Area*. Parcel 1 could add 39 new housing units, which represents less than 0.01 percent of the 58,509 new housing units projected in SCAG's RTP between 2010 and 2015 for the Los Angeles City subregion. Similarly, the proposed project would result in a population increase of approximately 84 persons, which represents less than 0.01 percent of the 73,579 new population growth projected in SCAG's RTP between 2010 and 2015 for the Los Angeles City subregion. Such levels of housing and population growth are consistent with housing forecasts for the subregion as adopted by SCAG. Parcel 1 would be consistent with growth assumptions included in the AQMP and, as such, would comply with Consistency Criterion No. 2.

The existing uses within Parcel 2 would likely remain. No net development or emissions are anticipated within this Parcel. Thus, no impact is anticipated within Parcel 2.

Parcel 3 could add 295 employees, which represents 0.1 percent of the 44,664 new employees projected in SCAG's RTP between 2010 and 2015 for the Los Angeles City subregion. Such levels of employment growth are consistent with forecasts for the subregion as adopted by SCAG. Parcel 3 would be consistent with growth assumptions included in the AQMP and, as such, would comply with Consistency Criterion No. 2.

Parcel 4 could add 436 employees, which represents 0.1 percent of the 44,664 new employees projected in SCAG's RTP between 2010 and 2015 for the Los Angeles City subregion. Such levels of employment growth are consistent with forecasts for the subregion as adopted by SCAG. Parcel 4 would be consistent with growth assumptions included in the AQMP and, as such, would comply with Consistency Criterion No. 2.

## MITIGATION MEASURES

*CONSTRUCTION PHASE*

The following is a list of control measures to reduce construction emissions of $NO_X$ and $PM_{10}$.

**IV.B-1** Water or a stabilizing agent shall be applied to exposed surfaces in sufficient quantity to prevent generation of dust plumes.

**IV.B-2** Track-out shall not extend 25 feet or more from an active operation, and track-out shall be removed at the conclusion of each workday.

**IV.B-3** A wheel washing system shall be installed and used to remove bulk material from tires and vehicle undercarriages before vehicles exit the project site.

**IV.B-4** All haul trucks hauling soil, sand, and other loose materials shall maintain at least six inches of freeboard in accordance with California Vehicle Code Section 23114.

**IV.B-5** All haul trucks hauling soil, sand, and other loose materials shall be covered (e.g., with tarps or other enclosures that would reduce fugitive dust emissions).

**IV.B-6** Traffic speeds on unpaved roads shall be limited to 15 miles per hour.

**IV.B-7** Operations on unpaved surfaces shall be suspended when winds exceed 25 miles per hour.

**IV.B-8** Heavy-equipment operations shall be suspended during first and second stage smog alerts.

**IV.B-9** On-site stockpiles of debris, dirt, or rusty materials shall be covered or watered at least three times per day.

**IV.B-10** Construction equipment utilized for grading and excavation shall be equipped with a diesel oxidation catalyst capable of reducing $NO_X$ emissions by 40 percent.

**IV.B-11** Contractors shall maintain equipment and vehicle engines in good condition and in proper tune per manufacturers' specifications.

**IV.B-12** Contractors shall utilize electricity from power poles rather than temporary diesel or gasoline generators, as feasible.

**IV.B-13** Heavy-duty haul/delivery trucks shall be prohibited from idling in excess of five minutes, both on- and off-site, to be consistent with State law.

**IV.B-14** Construction parking shall be configured to minimize traffic interference.

**IV.B-15** Construction activity that affects traffic flow on the arterial system shall be limited to off-peak hours, as feasible.

**IV.B-16** Architectural coatings shall be purchased from a super-compliant architectural coating manufacturer as identified by the SCAQMD (http://www.aqmd.gov/prdas/brochures/Super-Compliant_AIM.pdf).

**IV.B-17** Spray equipment with high transfer efficiency, such as the electrostatic spray gun or manual coatings application (e.g., paint brush and hand roller), shall be used to reduce VOC emissions.

*OPERATIONAL PHASE*

The following control measures would help to reduce daily vehicle trips and mobile emissions, and would reduce project occupant exposure to air contaminants.

**IV.B-18** The Applicant shall provide informational packets to new residents within the development locating nearby public transportation options, including transportation options provided at the transit plaza.

**IV.B-19** Residential units shall be constructed with air filtration systems meeting or exceeding the ASHRAE Standard 52.2 Minimum Efficiency Reporting Value (MERV) of 11, to the satisfaction of the Department of Building and Safety.

Commercial/institutional land uses shall be constructed with air filtration systems meeting or exceeding the ASHRAE Standard 52.2 Minimum Efficiency Reporting Value (MERV) of 12, to the satisfaction of the Department of Building and Safety.

**LEVEL OF SIGNIFICANCE AFTER MITIGATION**

*CONSTRUCTION PHASE*

Fugitive dust emissions are responsible for approximately 78 percent of localized $PM_{10}$ concentrations. As such, mitigating exhaust emissions would do little to lower $PM_{10}$ concentrations. Mitigation Measures **IV.B-1** through **IV.B-9** would ensure that the proposed project would comply with SCAQMD Rule 403 and fugitive dust emissions would be reduced by approximately 61 percent. However, as shown in **Table IV.B-18**, mitigated localized $PM_{10}$ concentrations would exceed the SCAQMD localized significance threshold in addition to $PM_{2.5}$ and, as such, would result in a significant and unavoidable localized impact.

Approximately 32 percent of $NO_X$ emissions during the site preparation phase would result from equipment emissions and 68 percent of $NO_X$ emissions would result from on-road truck travel associated with hauling dirt. Mitigation Measure **IV.B-10** would reduce regional $NO_X$ emissions from equipment by 40 percent. Mitigation Measures **IV.B-11** and **IV.B-12**, while difficult to quantify, would also reduce equipment $NO_X$ emissions. Mitigation Measure **IV.B-16** would reduce VOC emissions during the architectural coating activity by approximately 64 percent. Mitigation Measures **IV.B-13**, **IV.B-14**, **IV.B-15**, and **IV.B-17**, while difficult to quantify, would reduce on-road $NO_X$ and VOC emissions.

**TABLE IV.B-18**
**DAILY CONSTRUCTION EMISSIONS – PROPOSED PROJECT MITIGATED**

| Construction Phase | Pounds Per Day | | | | | |
|---|---|---|---|---|---|---|
| | VOC | $NO_X$ | CO | $SO_X$ | $PM_{2.5}$ | $PM_{10}$ |
| **Demolition** | | | | | | |
| On-Site | 6 | 28 | 23 | <1 | 6 | 16 |
| Off-Site | 1 | 13 | 8 | <1 | <1 | <1 |
| *Total* | *7* | *41* | *31* | *<1* | *6* | *16* |
| **Trenching** | | | | | | |
| On-Site | 2 | 13 | 8 | <1 | 1 | 1 |
| Off-Site | <1 | <1 | 1 | <1 | <1 | <1 |
| *Total* | *2* | *13* | *9* | *<1* | *1* | *1* |
| **Excavation/Site Preparation** | | | | | | |
| On-Site | 5 | 21 | 17 | <1 | 3[1] | 10[1] |
| Off-Site | 22 | 268 | 110 | <1 | 11 | 13 |
| *Total* | *27* | *289* | *127* | *<1* | *14* | *23* |
| **Building Construction** | | | | | | |
| On-Site | 7 | 41 | 25 | <1 | 3 | 3 |
| Off-Site | 5 | 21 | 99 | <1 | 1 | 1 |
| *Total* | *12* | *62* | *124* | *<1* | *4* | *4* |
| **Paving** | | | | | | |
| On-Site | 3 | 11 | 13 | <1 | 1 | 2 |
| Off-Site | <1 | <1 | 1 | <1 | <1 | <1 |
| *Total* | *4* | *11* | *14* | *<1* | *1* | *2* |
| **Architectural Coating** | | | | | | |
| On-Site | 143 | <1 | 2 | <1 | <1 | <1 |
| Off-Site | <1 | <1 | <1 | <1 | <1 | <1 |
| *Total* | *143* | *<1* | *2* | *<1* | *<1* | *<1* |
| **Maximum Regional Total** | **155** | **365** | **339** | **<1** | **21** | **40** |
| **Regional Significance Threshold** | **75** | **100** | **550** | **150** | **55** | **150** |
| Exceed Threshold? | Yes | Yes | No | No | No | No |
| | | | | | | |
| **Maximum On-Site Total** | **150** | **76** | **64** | **<1** | **10** | **26** |
| **Localized Significance Threshold[2]** | **--** | **103** | **151** | **--** | **3** | **4** |
| Exceed Threshold? | -- | No | No | -- | Yes | Yes |

[1] URBEMIS2007 emissions for fugitive dust were adjusted to account for a 61 percent control efficiency associated with SCAQMD Rule 403.
[2] LSTs were developed based on a one-acre project site and a 25-meter (82-feet) receptor distance.
**SOURCE**: TAHA, *The Plaza at the Glen Air Quality and Noise Impact Report*, February 2009

*Proposed Project*. Mitigation Measures **IV.B-10** through **IV.B-15** would reduce maximum daily regional $NO_X$ emissions to 365 pounds per day. Mitigation Measure **IV.B-16** would reduce maximum daily regional VOC emissions to 155 pounds per day. As shown in **Table IV.B-18**, mitigated $NO_X$ and VOC emissions would still exceed the SCAQMD regional significance

thresholds of 100 and 75 pounds per day, respectively; and, as such, the proposed project would result in a significant and unavoidable regional impact.

*Add Area*. **Table IV.B-19**, shows the estimated daily emissions associated with each construction phase of Parcel 1. As shown, daily construction emissions would not exceed the SCAQMD regional significance thresholds for CO, $SO_X$, $PM_{2.5}$, $PM_{10}$, VOC, or $NO_X$. As such, Parcel 1 would result in a less-than-significant regional construction impact.

The existing uses within Parcel 2 would remain. No net development or emissions are anticipated within this Parcel. Thus, no impact is anticipated within Parcel 2.

**Table IV.B-20** shows the estimated daily emissions associated with each construction phase of Parcel 3. As shown, daily construction emissions would not exceed the SCAQMD regional significance thresholds for CO, $SO_X$, $PM_{2.5}$, $PM_{10}$, VOC, or $NO_X$. As such, Parcel 3 would result in a less-than-significant regional construction impact.

**Table IV.B-21** shows the estimated daily emissions associated with each construction phase of Parcel 4. As shown, daily construction emissions would not exceed the SCAQMD regional significance thresholds for CO, $SO_X$, $PM_{2.5}$, $PM_{10}$, VOC, or $NO_X$. As such, Parcel 4 would result in a less-than-significant regional construction impact.

*Proposed Project with Add Area*. Mitigation Measures **IV.B-10** through **IV.B-16** would reduce maximum daily regional $NO_X$ emissions to 515 pounds per day and VOC emissions to 239 pounds per day. As shown in **Table IV.B-22**, mitigated $NO_X$ and VOC emissions would still exceed the SCAQMD regional significance thresholds, and the Proposed Project with Add Area would result in a significant and unavoidable regional impact.

*OPERATIONAL PHASE*

Daily operational regional emissions would not exceed the regional thresholds for $SO_X$, but would exceed the significance thresholds for VOC, $NO_X$, CO, $PM_{2.5}$, and $PM_{10}$. The majority of project-related emissions are a result of the estimated 18,763 net average daily trips. The Applicant cannot reasonably impose emission control devices on private vehicle associated with the proposed project. Mitigation Measure **IV.B-18** would help to reduce mobile emissions by increasing awareness of public transportation options, which would lower daily vehicle trips. However, the proposed project would result in a significant and unavoidable regional operations impact. Mitigation Measure **IV.B-19** would reduce on-site exposure to air contaminants.

**TABLE IV.B-19**
**DAILY CONSTRUCTION EMISSIONS – PARCEL 1 MITIGATED**

| Construction Phase | Pounds Per Day | | | | | |
|---|---|---|---|---|---|---|
| | VOC | $NO_X$ | CO | $SO_X$ | $PM_{2.5}$ | $PM_{10}$ |
| **Demolition** | | | | | | |
| On-Site | 3 | 18 | 14 | <1 | 3 | 10 |
| Off-Site | 1 | 9 | 5 | <1 | <1 | <1 |
| *Total* | *4* | *27* | *19* | *<1* | *3* | *10* |
| **Excavation/Site Preparation** | | | | | | |
| On-Site | 2 | 13 | 9 | <1 | 3[1] | 9[1] |
| Off-Site | 3 | 36 | 16 | <1 | 1 | 2 |
| *Total* | *5* | *49* | *25* | *<1* | *4* | *11* |
| **Building Construction** | | | | | | |
| On-Site | 5 | 43 | 18 | <1 | 2 | 2 |
| Off-Site | <1 | 1 | 3 | <1 | <1 | <1 |
| *Total* | *5* | *43* | *21* | *<1* | *2* | *2* |
| **Paving** | | | | | | |
| On-Site | 3 | 12 | 9 | <1 | 1 | 1 |
| Off-Site | <1 | <1 | 2 | <1 | <1 | <1 |
| *Total* | *3* | *12* | *11* | *<1* | *1* | *1* |
| **Architectural Coating** | | | | | | |
| On-Site | 4 | <1 | <1 | <1 | <1 | <1 |
| Off-Site | <1 | <1 | <1 | <1 | <1 | <1 |
| *Total* | *4* | *<1* | *<1* | *<1* | *<1* | *<1* |
| **Maximum Regional Total** | **5** | **49** | **25** | **<1** | **4** | **11** |
| **Regional Significance Threshold** | **75** | **100** | **550** | **150** | **55** | **150** |
| Exceed Threshold? | No | No | No | No | No | No |
| | | | | | | |
| **Maximum On-Site Total** | **5** | **43** | **18** | **<1** | **3** | **10** |
| **Localized Significance Threshold[2]** | **--** | **103** | **151** | **--** | **3** | **4** |
| Exceed Threshold? | -- | No | No | -- | No | Yes |

[1] URBEMIS2007 emissions for fugitive dust were adjusted to account for a 61 percent control efficiency associated with SCAQMD Rule 403.
[2] LSTs were developed based on a one-acre project site and a 25-meter (82-feet) receptor distance.
**SOURCE**: TAHA, *The Plaza at the Glen Air Quality and Noise Impact Report*, February 2009

**TABLE IV.B-20**
**DAILY CONSTRUCTION EMISSIONS – PARCEL 3 MITIGATED**

| Construction Phase | Pounds Per Day | | | | | |
|---|---|---|---|---|---|---|
| | VOC | $NO_X$ | CO | $SO_X$ | $PM_{2.5}$ | $PM_{10}$ |
| **Demolition** | | | | | | |
| On-Site | 3 | 18 | 14 | <1 | 5 | 18 |
| Off-Site | 2 | 18 | 8 | <1 | <1 | 1 |
| *Total* | *5* | *36* | *22* | *<1* | *5* | *19* |
| **Excavation/Site Preparation** | | | | | | |
| On-Site | 2 | 13 | 9 | <1 | 3[1] | 9[1] |
| Off-Site | 3 | 36 | 16 | <1 | 1 | 2 |
| *Total* | *5* | *49* | *25* | *<1* | *4* | *11* |
| **Building Construction** | | | | | | |
| On-Site | 6 | 46 | 21 | <1 | 2 | 2 |
| Off-Site | 1 | 6 | 21 | <1 | 1 | <1 |
| *Total* | *7* | *52* | *42* | *<1* | *3* | *2* |
| **Paving** | | | | | | |
| On-Site | 5 | 23 | 12 | <1 | 2 | 2 |
| Off-Site | <1 | 3 | 4 | <1 | <1 | <1 |
| *Total* | *5* | *26* | *16* | *<1* | *2* | *2* |
| **Architectural Coating** | | | | | | |
| On-Site | 40 | <1 | <1 | <1 | <1 | <1 |
| Off-Site | <1 | 1 | <1 | <1 | <1 | <1 |
| *Total* | *40* | *1* | *<1* | *<1* | *<1* | *<1* |
| **Maximum Regional Total** | **40** | **52** | **42** | **<1** | **5** | **19** |
| **Regional Significance Threshold** | **75** | **100** | **550** | **150** | **55** | **150** |
| Exceed Threshold? | No | No | No | No | No | No |
| | | | | | | |
| **Maximum On-Site Total** | **40** | **46** | **21** | **<1** | **5** | **18** |
| **Localized Significance Threshold[2]** | **--** | **103** | **151** | **--** | **3** | **4** |
| Exceed Threshold? | -- | No | No | -- | Yes | Yes |

[1] URBEMIS2007 emissions for fugitive dust were adjusted to account for a 61 percent control efficiency associated with SCAQMD Rule 403.
[2] LSTs were developed based on a one-acre project site and a 25-meter (82-feet) receptor distance.
**SOURCE**: TAHA, *The Plaza at the Glen Air Quality and Noise Impact Report*, February 2009

**TABLE IV.B-21**
**DAILY CONSTRUCTION EMISSIONS – PARCEL 4 MITIGATED**

| Construction Phase | Pounds Per Day | | | | | |
|---|---|---|---|---|---|---|
| | VOC | $NO_X$ | CO | $SO_X$ | $PM_{2.5}$ | $PM_{10}$ |
| **Demolition** | | | | | | |
| On-Site | 3 | 18 | 14 | <1 | 3 | 10 |
| Off-Site | 1 | 9 | 5 | <1 | <1 | <1 |
| *Total* | *4* | *27* | *19* | *<1* | *3* | *10* |
| **Excavation/Site Preparation** | | | | | | |
| On-Site | 2 | 13 | 9 | <1 | 3 | 9 |
| Off-Site | 3 | 36 | 16 | <1 | 1 | 2 |
| *Total* | *5* | *49* | *25* | *<1* | *4* | *11* |
| **Building Construction** | | | | | | |
| On-Site | 7 | 46 | 21 | <1 | 2 | 2 |
| Off-Site | <1 | 2 | 10 | <1 | <1 | <1 |
| *Total* | *7* | *48* | *31* | *<1* | *2* | *2* |
| **Paving** | | | | | | |
| On-Site | 3 | 15 | 11 | <1 | 1 | 2 |
| Off-Site | <1 | 2 | 3 | <1 | <1 | <1 |
| *Total* | *4* | *17* | *14* | *<1* | *1* | *2* |
| **Architectural Coating** | | | | | | |
| On-Site | 39 | <1 | 1 | <1 | <1 | <1 |
| Off-Site | <1 | <1 | <1 | <1 | <1 | <1 |
| *Total* | *39* | *<1* | *1* | *<1* | *<1* | *<1* |
| **Maximum Regional Total** | **39** | **49** | **31** | **<1** | **4** | **11** |
| **Regional Significance Threshold** | **75** | **100** | **550** | **150** | **55** | **150** |
| Exceed Threshold? | No | No | No | No | No | No |
| | | | | | | |
| **Maximum On-Site Total** | **39** | **46** | **21** | **<1** | **3** | **10** |
| **Localized Significance Threshold[2]** | **--** | **103** | **151** | **--** | **3** | **4** |
| Exceed Threshold? | -- | No | No | -- | No | Yes |

[1] URBEMIS2007 emissions for fugitive dust were adjusted to account for a 61 percent control efficiency associated with SCAQMD Rule 403.
[2] LSTs were developed based on a one-acre project site and a 25-meter (82-feet) receptor distance.
**SOURCE**: TAHA, *The Plaza at the Glen Air Quality and Noise Impact Report*, February 2009

**TABLE IV.B-22**
**DAILY CONSTRUCTION EMISSIONS – PROPOSED PROJECT WITH ADD AREA MITIGATED**

| Construction Phase | Pounds Per Day | | | | | |
|---|---|---|---|---|---|---|
| | VOC | $NO_X$ | CO | $SO_X$ | $PM_{2.5}$ | $PM_{10}$ |
| **Demolition** | | | | | | |
| On-Site | 15 | 82 | 65 | <1 | 17 | 54 |
| Off-Site | 5 | 50 | 26 | <1 | <1 | 1 |
| *Total* | *20* | *132* | *91* | *<1* | *17* | *55* |
| **Trenching** | | | | | | |
| On-Site | 2 | 13 | 8 | <1 | 1 | 1 |
| Off-Site | <1 | <1 | 1 | <1 | <1 | <1 |
| *Total* | *2* | *13* | *9* | *<1* | *1* | *1* |
| **Excavation/Site Preparation** | | | | | | |
| On-Site | 11 | 60 | 44 | <1 | 18 | 53 |
| Off-Site | 31 | 376 | 158 | <1 | 17 | 19 |
| *Total* | *42* | *436* | *202* | *<1* | *35* | *72* |
| **Building Construction** | | | | | | |
| On-Site | 25 | 176 | 85 | <1 | 9 | 9 |
| Off-Site | 6 | 29 | 133 | <1 | 2 | 1 |
| *Total* | *31* | *205* | *218* | *<1* | *11* | *10* |
| **Paving** | | | | | | |
| On-Site | 14 | 61 | 45 | <1 | 5 | 7 |
| Off-Site | <1 | 6 | 10 | <1 | <1 | <1 |
| *Total* | *14* | *67* | *55* | *<1* | *5* | *7* |
| **Architectural Coating** | | | | | | |
| On-Site | 226 | <1 | 2 | <1 | <1 | <1 |
| Off-Site | <1 | 1 | <1 | <1 | <1 | <1 |
| *Total* | *226* | *1* | *2* | *<1* | *<1* | *<1* |
| **Maximum Regional Total** | **239** | **515** | **437** | **<1** | **34** | **81** |
| **Regional Significance Threshold** | **75** | **100** | **550** | **150** | **55** | **150** |
| Exceed Threshold? | Yes | Yes | No | No | No | No |
| | | | | | | |
| **Maximum On-Site Total** | **226** | **211** | **124** | **<1** | **21** | **56** |
| **Localized Significance Threshold[2]** | **--** | **103** | **151** | **--** | **3** | **4** |
| Exceed Threshold? | -- | Yes | No | -- | Yes | Yes |

[1] URBEMIS2007 emissions for fugitive dust were adjusted to account for a 61 percent control efficiency associated with SCAQMD Rule 403.
[2] LSTs were developed based on a one-acre project site and a 25-meter (82-feet) receptor distance.
**SOURCE**: TAHA, *The Plaza at the Glen Air Quality and Noise Impact Report*, February 2009

## CUMULATIVE IMPACTS

*SCAQMD METHODOLOGY*

The SCAQMD's approach for assessing cumulative operational impacts is based on the SCAQMD's AQMP forecasts of attainment of ambient air quality standards in accordance with the requirements of the federal and state CAAs. This forecast also takes into account SCAG's forecasted future regional growth. As such, the analysis of cumulative impacts focuses on determining whether the project is consistent with forecasted future regional growth. If a project is consistent with the regional population, housing and employment growth assumptions upon which the SCAQMD's AQMP is based, then future development would not impede the attainment of ambient air quality standards and a significant cumulative air quality impact would not occur. The proposed project would result in a significant VOC, $PM_{2.5}$, $PM_{10,}$ $NO_X$ and CO impact during operations. Therefore, the proposed project would result in a regional cumulative operations impact given that the Basin is in nonattainment for $O_3$, $PM_{2.5}$, and $PM_{10}$ and the proposed project would exceed the regional daily emissions threshold for $PM_{10}$, $PM_{2.5}$, and an ozone precursor, ($NO_X$).

## GLOBAL CLIMATE CHANGE

### Methodology

The California Climate Action Registry (CCAR) published version 2.2 of its General Reporting Protocol (Protocol) in March 2007 as a means for businesses, government agencies, and non-profit organizations to calculate GHG emissions from a number of general and industry-specific activities and participate in the Registry. This Protocol is not intended for CEQA purposes, but it does provide methods that can be used to quantify the GHG emissions of $CO_2$, $CH_4$, and $N_2O$ associated with a project's increase in on-road mobile vehicle operations, electricity consumption, and natural gas consumption.

The consumption of fossil fuels to generate electricity and to provide heating and hot water for the proposed project, as well as the consumption of fuel by on-road mobile vehicles associated with the proposed project, has the potential to create GHG emissions. As such, in generating the GHG emissions for the proposed project, the future fuel consumption rates for the proposed project by these sources are estimated based on the amount of proposed residential units. Natural gas and electricity demand factors derived from the SCAQMD's *CEQA Air Quality Handbook* are used to project fuel consumption rates. The GHG emission factors from the CCAR Protocol for natural gas and electricity are then applied to the respective consumption rates, to calculate annual GHG emissions in metric tons. Mobile source $CO_2$ emissions were obtained from the URBEMIS2007 emissions inventory model. Mobile source $CH_4$ and $N_2O$ emissions were obtained using vehicle miles traveled data generated by URBEMIS2007 and emission factors obtained from the CARB's EMFAC2007 model. It should be noted that it is difficult to identify the specific generating source of electricity. The Los Angeles Department of Water and Power (LADWP) produces power at City-operated plants and also imports power during peak demand periods. The emission factors used in this analysis represent a State-wide average of known power producing facilities, utilizing various technologies and emission control strategies, and do not take into account the LADWP's unique emissions profile nor do they reflect targeted future reductions in GHG emissions under SB 1368 or the LA Green Plan. At this time, these emission factors are considered conservative and representative.

California's water infrastructure uses a tremendous amount of energy to collect, move, and treat water; dispose of wastewater; and power the large pumps that move water throughout the State. California consumers also use energy to heat, cool, and pressurize the water they use in their homes and businesses. Together these water-related energy uses annually account for roughly 20 percent of the state's electricity consumption, one-third of non-power plant natural gas consumption, and about 88 million gallons of diesel fuel consumption. The California Energy Commission has reported that the energy intensity of the water use cycle in Southern California is 12,700 kilowatt-hours per million gallons.[26]

Not all greenhouse gases exhibit the same ability to induce climate change; as a result, greenhouse gas contributions are commonly quantified in carbon dioxide equivalencies ($CO_2e$). The GHG mass emissions for the proposed project are calculated by converting pollutant specific emissions to $CO_2e$ emissions by applying the applicable global warming potential (GWP) value.[27] These GWP ratios are published in the CCAR Protocol. By applying the GWP ratios, the proposed project-related $CO_2e$ emissions are converted to metric tons per year.

**Greenhouse Gas Inventory**

Generally, an individual project cannot generate enough GHG emissions to influence global climate change because it is the increased accumulation of GHGs which may result in global climate change. However, an individual project may contribute an incremental amount of GHG emissions that could combine with other emission sources and to create concentrations of GHG that could influence climate change. For most projects, the main contribution of GHG emissions is from motor vehicles, but how much of those emissions are "new" is uncertain. New projects do not create new drivers, and therefore do not create a new mobile source of emissions. Rather, new projects only redistribute the existing traffic patterns. Larger projects will certainly affect a larger geographic area, but again, would not necessarily cause the creation of new drivers. Some mixed-use, urban infill, and mass transit projects could actually reduce the number of vehicle miles traveled.

The GHG emissions generated by the proposed project have been calculated in metric tons per year and are shown in **Table IV.B-23**.

In addition, the GHG emissions generated at the project site under the "future without project" baseline scenario are also calculated. This scenario represents the future GHG emissions that would be generated should the existing land uses (i.e., 102,817 square feet of retail use, 41,141 square feet of health/fitness use, 4,524 square feet of restaurant use, and 3,324 square feet of bank use) remain. The future GHG emissions from the existing land use were then subtracted from the future proposed project GHG emissions to obtain the net increase in GHG emissions resulting from implementation of the proposed project. In addition, net GHG emissions were also calculated for the proposed add areas. Also included in **Table IV.B-23** is the California Energy Commission's estimated 2004 State-wide inventory, the latest year for which data are available. As shown in **Table IV.B-23**, the overall net increase (project with add areas minus existing uses) in GHG emissions from vehicle, electrical, and natural gas usage is approximately 0.009 percent of the 2004 emission level.

[26] California Energy Commission, *2005 Integrated Energy Policy Report*, November 2005.

[27] $CO_2E$ was developed by the Intergovernmental Panel on Climate Change (IPCC), and published in its Second Assessment Report (SAR) 1996.

**TABLE IV.B-23**
**GREENHOUSE GAS EMISSIONS**

| Scenario | Carbon Equivalent (Tons per Year) | | |
|---|---|---|---|
| | $CO_2$[1] | $CH_4$[2] | $N_2O$[2] |
| **Existing Emissions** | | | |
| Mobile Emissions | 11,860 | 23 | 454 |
| Natural Gas Emissions | 298 | 1 | <1 |
| General Electricity Emissions | 835 | <1 | <1 |
| Water Cycle Electricity Emissions | 110 | <1 | <1 |
| **Total Existing Emissions** | **13,581** | | |
| **Project Emissions** | | | |
| Mobile Emissions | 43,572 | 79 | 1,552 |
| Natural Gas Emissions | 2,349 | 4 | 1 |
| General Electricity Emissions | 6,611 | <1 | <1 |
| Water Cycle Electricity Emissions | 1,026 | <1 | 1 |
| **Total Project Emissions** | **55,195** | | |
| **Add Area** | | | |
| ***Parcel 1 Net Emissions*** | | | |
| Mobile Emissions | 379 | 1 | 14 |
| Natural Gas Emissions | (89) | <1 | <1 |
| General Electricity Emissions | 56 | <1 | <1 |
| Water Cycle Electricity Emissions | 34 | <1 | <1 |
| **Total Parcel 1 Net Emissions** | **428** | | |
| ***Parcel 3 Net Emissions*** | | | |
| Mobile Emissions | 1,158 | 8 | 154 |
| Natural Gas Emissions | 394 | 1 | <1 |
| General Electricity Emissions | 710 | <1 | <1 |
| Water Cycle Electricity Emissions | 69 | <1 | <1 |
| **Total Parcel 3 Net Emissions** | **2,494** | | |
| ***Parcel 4 Net Emissions*** | | | |
| Mobile Emissions | 1,170 | 6 | 116 |
| Natural Gas Emissions | 186 | <1 | <1 |
| General Electricity Emissions | 575 | <1 | <1 |
| Water Cycle Electricity Emissions | 34 | <1 | <1 |
| **Total Parcel 4 Net Emissions** | **2,087** | | |
| **Net Project Emissions** | **41,614** | | |
| **Net Project With Add Area Emissions** | **46,623** | | |
| **2004 California GHG Emissions Inventory**[3] | **528,820,000**[4] | | |

[1] Mobile and natural gas emissions were obtained from URBEMIS2007. Electricity emissions were obtained from *California Climate Action Registry General Reporting Protocol (March 2007)*.
[2] Emissions were obtained from *California Climate Action Registry General Reporting Protocol (March 2007)*.
[3] CARB, *DRAFT California Greenhouse Gas Inventory (Millions of Metric Tonnes of CO2 Equivalent) – By IPCC Category*, November 19, 2007.
[4] Metric tonnes provided by the CARB were converted into tons to allow for the appropriate comparison.
**SOURCE**: TAHA, *The Plaza at the Glen Air Quality and Noise Impact Report*, February 2009

Emitting GHGs into the atmosphere is not itself an adverse environmental effect. Rather, it is the increased accumulation of GHGs in the atmosphere from a variety of sources that may result in global climate change; the consequences of which may result in adverse environmental effects. However, there are no available methodologies to predict the specific impact, if any, to

global climate change from the relatively small incremental increase in emissions associated with a single development project.

The following planned City actions, as presented in the Green LA Action Plan, when implemented, may further decrease emissions of GHGs from the proposed project:

- Decreasing emissions from LADWP electrical generation and import activities
- Providing compact fluorescent light (CFL) bulbs to encourage acceptance and use of CFLs
- Coordinating with local, regional, and State agencies to reduce VMT

The City adopted an ordinance to establish a green building program in April 2008. The ordinance establishes green building requirements for projects involving 50 or more dwelling units. The proposed project would be required to abide by the green building program regulations. The green building program ordinance would also reduce project-related GHG emissions.

The project includes a transit plaza intended to integrate transit opportunities in to the project. The mix of uses on site would also reduce trips.

Additionally, as described in Section II, Project Description, the project intends to pursue a Leadership in Energy and Environmental Design (LEED) certification by the US Green Building Council. The mix of uses, design concept and size of the site will afford many opportunities to incorporate sustainable features and strategies. Some of these opportunities being explored include: alternative fuel sources, water conservation and reuse, and recycling programs. A mandate of green policies for the tenants as conditions of their leases is also being explored. Given the number of buildings and mix of uses that comprise the project, certification for Neighborhood Development will be pursued.

The State has mandated a goal of reducing State-wide emissions to 1990 levels by 2020, even though State-wide population and commerce is predicted to grow substantially. To help meet this goal the California Climate Action Team recommended strategies that could be implemented by lead agencies to reduce GHG emissions. The proposed project would comply with these strategies which include increasing building energy efficiency and reducing HFC use in air conditioning systems. The implementation of the proposed project would not result in an unplanned level of development, does not represent a substantial new source of GHG emissions, and furthers the General Plan Framework's vision of Community Center uses for the project site and Add Area. The LEED ND rating system (and all LEED rating systems) also includes rigorous energy efficiency requirements that can far exceed ASHRAE and Title 24 standards. For these reasons, the impact of the project to the cumulative effect of global climate change is not cumulatively considerable and is, therefore, considered to be less than significant.

**Cumulative Mitigation Measures**

Refer to Mitigation Measure **IV.B-18**.

**Level of Significance After Mitigation**

The majority of operational emissions would result from project-related mobile sources. Project-related mobile source emissions cannot be substantially reduced though mitigation as the Applicant cannot reasonably impose mitigation measures on private vehicles. As such, regional operational emissions would result in a significant and unavoidable air quality impact.