4.3 AIR QUALITY

This section provides an overview of existing air quality conditions and evaluates the construction and operational impacts associated with the proposed project. Supporting data and calculations are included in Appendix C. This analysis focuses on air pollution from two perspectives: daily emissions and pollutant concentrations. "Emissions" refer to the quantity of pollutants released into the air, measured in pounds per day (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 ($\mu g/m^3$).

The proposed project is evaluated in terms of whether the implementation of the West Adams New Community Plan would result in substantial temporary or permanent increases in air emissions occurring within the West Adams CPA.

Pollutants and Effects

Criteria air pollutants are defined as pollutants for which the federal and State governments have established ambient air quality standards 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 ten microns or less in diameter (PM_{10}), and lead (Pb). These pollutants are discussed below.

Carbon Monoxide (CO). 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 West Adams CPA, 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 spatial 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). O_3 is a colorless gas that is formed in the atmosphere when reactive organic gases (ROG), which includes 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 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 exposure (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.

[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.

Nitrogen Dioxide (NO_2). 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 of bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 ppm.

Sulfur Dioxide (SO_2). 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 cause plant leaves to yellow and erode iron and steel. Sulfur oxide (SO_X) refers to any of several compounds of sulfur and oxygen, the most important of which is SO_2.

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. $PM_{2.5}$ and PM_{10} represent fractions of particulate matter. Fine particulate matter, or $PM_{2.5}$, is roughly 1/28 the diameter of a human hair. $PM_{2.5}$ 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. Inhalable particulate matter, or PM_{10}, is about 1/7 the thickness 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.

$PM_{2.5}$ 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 PM_{10} tends to collect in the upper portion of the respiratory system, $PM_{2.5}$ is so tiny that it 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). Pb in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturers of batteries, 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 have become 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. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance, including intelligence quotient performance, psychomotor performance, reaction time, and growth.

Toxic Air Contaminants (TACs). TACs are generally defined as those contaminants that are known or suspected to cause serious health problems, but do not have a corresponding ambient air quality standard. TACs are also defined as an air pollutant that may increase a person's risk of developing cancer and/or other serious health effects; however, the emission of a toxic chemical does not automatically create a health hazard. Other factors, such as the amount of the chemical; its toxicity, and how it is released into the air, the weather, and the terrain, all influence whether the emission could be hazardous to human health. TACs are emitted by a variety of industrial processes such as petroleum refining, electric utility and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust and may exist as PM_{10} and $PM_{2.5}$ or as vapors (gases). TACs include metals, other particles, gases absorbed by particles, and certain vapors from fuels and other sources.

The emission of toxic substances into the air can be damaging to human health and to the environment. Human exposure to these pollutants at sufficient concentrations and durations can result in cancer, poisoning, and rapid onset of sickness, such as nausea or difficulty in breathing. Other less measurable effects include immunological, neurological, reproductive, developmental, and respiratory problems. Pollutants deposited onto soil or into lakes and streams affect ecological systems and eventually human health through consumption of contaminated food. The carcinogenic potential of TACs is a particular public health concern because many scientists currently believe that there is no "safe" level of exposure to carcinogens. Any exposure to a carcinogen poses some risk of contracting cancer.

The public's exposure to TACs is a significant public health issue in California. The Air Toxics "Hotspots" Information and Assessment Act is a state law requiring facilities to report emissions of TACs to air districts. The program is designated to quantify the amounts of potentially hazardous air pollutants released, the location of the release, the concentrations to which the public is exposed, and the resulting health risks.

The State Air Toxics Program (AB 2588) identified over 200 TACs, including the 188 TACs identified in the Federal Clean Air Act. The Unites States Environmental Protection Agency (USEPA) has assessed this expansive list of toxics and identified 21 TACs as Mobile Source Air Toxics (MSATs). MSATs are compounds emitted from highway vehicles and nonroad equipment. Some toxic compounds are present in fuel and are emitted to the air when the fuel evaporates or passes through the engine unburned. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline. USEPA also extracted a subset of these 21 MSAT compounds that it now labels as the six priority MSATs: benzene, formaldehyde, acetaldehyde, diesel particulate matter/diesel exhaust organic gases, acrolein, and 1,3-butadiene. While these six MSATs are considered the priority transportation toxics, USEPA stresses that the lists are subject to change and may be adjusted in future rules.

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. The monitoring program measured more than 30 air pollutants, including both gases 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.

Diesel Particulate Matter (diesel PM). According to the 2006 California Almanac of Emissions and Air Quality, the majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being particulate matter from the exhaust of diesel-fueled engines (diesel PM). Diesel PM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances.

Diesel exhaust is composed of two phases, gas and particle, and both phases contribute to the health risk. The gas phase is composed of many of the urban hazardous air pollutants, such as acetaldehyde, acrolein, benzene, 1,3-butadiene, formaldehyde and polycyclic aromatic hydrocarbons. The particle phase is also composed of

many different types of particles by size or composition. Fine and ultra fine diesel particulates are of the greatest health concern, and may be composed of elemental carbon with adsorbed compounds such as organic compounds, sulfate, nitrate, metals and other trace elements. Diesel exhaust is emitted from a broad range of diesel engines; the on road diesel engines of trucks, buses and cars and the off road diesel engines that include locomotives, marine vessels and heavy duty equipment. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present.

The most common exposure to diesel PM is breathing the air that contains diesel PM. The fine and ultra-fine particles are respirable (similar to $PM_{2.5}$), which means that they can avoid many of the human respiratory system defense mechanisms and enter deeply into the lung. Exposure to diesel PM comes from both on-road and off-road engine exhaust that is either directly emitted from the engines or lingering in the atmosphere.

Diesel exhaust causes health effects from both short-term or acute exposures, and long-term chronic exposures. The type and severity of health effects depends upon several factors including the amount of chemical exposure and the duration of exposure. Individuals also react differently to different levels of exposure. There is limited information on exposure to just diesel PM but there is enough evidence to indicate that inhalation exposure to diesel exhaust causes acute and chronic health effects.

Acute exposure to diesel exhaust may cause irritation to the eyes, nose, throat and lungs, some neurological effects such as lightheadedness. Acute exposure may also elicit a cough or nausea as well as exacerbate asthma. Chronic exposure to diesel PM in experimental animal inhalation studies have shown a range of dose-dependent lung inflammation and cellular changes in the lung and immunological effects. Based upon human and laboratory studies, there is considerable evidence that diesel exhaust is a likely carcinogen. Human epidemiological studies demonstrate an association between diesel exhaust exposure and increased lung cancer rates in occupational settings.

Unlike other TACs, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. However, California Air Resources Board (CARB) has made preliminary concentration estimates based on a PM exposure method. This method uses the CARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of diesel PM.

Diesel PM poses the greatest health risk among these ten TACs mentioned. Based on receptor modeling techniques, the South Coast Air Quality Management District (SCAQMD) estimated that diesel PM accounts for 84 percent of the total risk in the South Coast Air Basin.

REGULATORY FRAMEWORK

Federal

United States Environmental Protection Agency (USEPA). The Federal Clean Air Act (CAA) governs air quality in the United States. USEPA is responsible for enforcing the 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.

As required by the 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 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 4.3-1**. The USEPA has classified the South Coast Air Basin (Basin) as maintenance for CO and nonattainment for O_3, $PM_{2.5}$, and PM_{10}.

TABLE 4.3-1: STATE AND NATIONAL AMBIENT AIR QUALITY STANDARDS AND ATTAINMENT STATUS FOR THE SOUTH COAST AIR BASIN

		California		Federal	
Pollutant	Averaging Period	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	15.0 µg/m^3	Nonattainment
Carbon Monoxide (CO)	8-hour	9.0 ppm (10 mg/m^3)	Attainment	9 ppm (10 mg/m^3)	Unclassified
	1-hour	20 ppm (23 mg/m^3)	Attainment	35 ppm (40 mg/m^3)	Unclassified
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	Attainment	53 ppb (100 µg/m^3)	Unclassified
	1-hour	0.18 ppm (338 µg/m^3)	Attainment	100 ppb (190 µg/m^3)	n/a
Sulfur Dioxide (SO_2)	24-hour	0.04 ppm (105 µg/m^3)	Attainment	--	--
	3-hour	--	--	--	--
	1-hour	0.25 ppm (655 µg/m^3)	Attainment	75 ppb (196 µg/m^3)	Attainment
Lead (Pb)	30-day average	1.5 µg/m^3	Attainment	--	--
	Calendar Quarter	--	--	0.15 µg/m^3	Attainment

n/a = not available
SOURCE: CARB, *Ambient Air Quality Standards and Attainment Status*, September 8, 2010.

State

California Air Resources Board (CARB). 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). In California, the CCAA is administered by CARB at the State level and by the air quality management districts and air pollution control districts at the regional and local levels. The CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for meeting the State requirements of the 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 in 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 levels. The State standards are summarized in **Table 4.3-1** above.

The CCAA requires 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}.[2]

The CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* serves as a guide for considering impacts to sensitive receptors from facilities that emit TAC emissions.[3] The Handbook provides information to protect sensitive receptors (e.g., schools, hospitals, daycare facilities, etc.) from exposure to TAC emissions. The document highlights recent studies that have shown that public exposure to air pollution can be substantially elevated near freeways, distribution centers, rail yards, ports, refineries, chrome platers, dry cleaners that use percholoroethylene, and gasoline dispensing facilities. Studies have also shown that the health risk is reduced with increased distance from the source to the receptor. The Handbook provides recommendations for appropriate distances between sources of air pollution and sensitive land uses.

Local

South Coast Air Quality Management District (SCAQMD). The 1977 Lewis Air Quality Management Act created the 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, the SCAQMD is the agency principally responsible for comprehensive air pollution control in the region. Specifically, the 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. The 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 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 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 4.3-1**).

The SCAQMD's *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning* provides suggested policies that local governments can use to prevent or reduce potential air pollution impacts and protect public health through local planning.[4] The objective of the guidance document is to facilitate collaboration between local governments and the SCAQMD to reduce community exposure to source-specific and cumulative air pollution impacts. The SCAQMD recognizes that local governments must weigh and balance multiple issues including the need for housing, existing development patterns, and environmental responsibilities.

[2]California Air Resources Board (CARB), Area Designation Maps website, *http://www.arb.ca.gov/desig/adm/adm.htm*, accessed April 11, 2011.

[3]California Air Resources Board (CARB), *Air Quality and Land Use Handbook: A Community Health Perspective*, April 2005.

[4]South Coast Air Quality Management District, *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*, May 2005.

LEGEND:

South Coast Air Basin

State of California

SOURCE: California Air Resources Board, State and Local Air Monitoring Network Plan, May 2008

Approx. Scale

N

0 75 150 Miles

FIGURE 4.3-1

SOUTH COAST AIR BASIN

Air Quality Management Plan (AQMP). 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 AQMP is the SCAQMD plan for improving regional air quality. 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). Environmental review of individual projects within the Basin must demonstrate that daily construction and operational emissions thresholds, as established by the SCAQMD, would not be exceeded. The environmental review must also demonstrate that individual projects would not 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 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.

The SCAQMD has a long and successful history of reducing air toxics and criteria emissions in the 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. The monitoring program measured more than 30 air pollutants, including both gases 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 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.

City of Los Angeles General Plan Air Quality Element. The principal objective of the Air Quality Element of the General Plan is to aid the region in attaining the State and federal Ambient Air Quality Standards while continuing economic growth and improvement in the quality of life afforded to City residents.[5] The Air Quality Element also documents how the City will implement local programs contained in the General Plan. **Table 4.3-2** shows Air Quality Element policies relevant to the proposed project.

[5]City of Los Angeles General Plan, *Air Quality Element*, 1992.

TABLE 4.3-2: RELEVANT GENERAL PLAN AIR QUALITY GOALS, OBJECTIVES, AND POLICIES	
Goal/Objective/Policy	**Goal/Objective/Policy Description**
Goal 1	Good air quality and mobility in an environment of continued population growth and healthy economic structure.
Objective 1.3	It is the objective of the City of Los Angeles to reduce particulate air pollutants emanating from unpaved areas, parking lots, and construction sites.
Policy 1.3.1	Minimize particulate matter emissions from construction sites.
Goal 3	Efficient management of transportation facilities and system infrastructure using cost effective system management and innovative demand management techniques.
Objective 3.2	It is the objective of the City of Los Angeles to reduce vehicular traffic during peak periods.
Policy 3.2.1	Manage traffic congestion during peak periods.
Objective 3.3	It is the objective of the City of Los Angeles to install Automated Traffic Surveillance and Control Systems, utilize channelization of streets and other capital programs commensurate with the City's portion of regional goals.
Policy 3.3.1	Implement best available system management techniques and transportation management and mobility action plans to improve the efficiency of existing transportation facilities, subject to availability of funding.
Goal 4	Minimal impact of existing land use patterns and future land use development on air quality by addressing the relationship between land use, transportation, and air quality.
Objective 4.1	It is the objective of the City of Los Angeles to include the regional attainment of ambient air quality standards as a primary consideration in land use planning.
Policy 4.1.1	Coordinate with all appropriate regional agencies in the implementation of strategies for the integration of land use, transportation, and air quality policies.
Policy 4.1.2	Ensure that project level review and approval of land use development remain at the local level.
Policy 4.2.1	Revise the City's General Plan/Community Plans to achieve a more compact, efficient urban form and to promote more transit-oriented development and mixed-use development.
Objective 4.2	It is the objective of the City of Los Angeles to reduce vehicle trips and vehicle miles traveled associated with land use patterns.
Policy 4.2.2	Improve accessibility for the City's residents to places of employment, shopping centers and other establishments.
Policy 4.2.3	Ensure that new development is compatible with pedestrians, bicycles, transit, and alternative fuel vehicles.
Policy 4.2.4	Require that air quality impacts be a consideration in the review and approval of all discretionary projects.
Policy 4.2.5	Emphasize trip reduction, alternative transit and congestion management measures for discretionary projects.
Objective 4.3	It is the objective of the City of Los Angeles to ensure that land use plans separate major sources of air pollution from sensitive receptors such as schools, hospitals, and parks.
Policy 4.3.1	Revise the City's General Plan/Community Plans to ensure that new or relocated sensitive receptors are located to minimize significance health risks posed by air pollution sources.
Policy 4.3.2	Revise the City's General Plan/Community Plans to ensure that new or relocated major air pollution sources are located to minimize significance health risks posed by air pollution sources.
SOURCE: City of Los Angeles General Plan, *Air Quality Element*, 1992.	

EXISTING SETTING

Air Pollution Climatology

The proposed project 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 in 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 emissions are produced almost entirely from automobiles, the highest CO concentrations in the Basin are associated with heavy traffic. NO_2 concentrations 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. Within the West Adams CPA and its vicinity, the average wind speed, as recorded at the Lennox Wind Monitoring Station, is approximately four miles per hour, with calm winds occurring approximately 13 percent of the time. Wind in the vicinity of the West Adams CPA predominately blows from the west.

The annual average temperature in the vicinity of the West Adams CPA is 65 degrees Fahrenheit (°F) with an average winter temperature of approximately 58°F and an average summer temperature of approximately 72°F.[6] Total precipitation in the project area averages approximately 15 inches annually. Precipitation occurs mostly during the winter and relatively infrequently during the summer. Precipitation averages approximately nine inches during the winter, approximately four inches during the spring, approximately two inches during the fall, and less than one inch during the summer.[7]

[6]Western Regional Climate Center, Historical Climate Information website, *http://www.wrcc.dri.edu/CLIMATEDATA.html*, accessed February 16, 2012.

[7]*Ibid*.

Air Monitoring Data

The SCAQMD monitors air quality conditions at 37 locations throughout the Basin. The West Adams CPA is located in SCAQMD's Central Air Monitoring Subregion, which is served by the Los Angeles North Main Street Monitoring Station. This monitoring station is located approximately seven miles northeast of the West Adams CPA in the City of Los Angeles (**Figure 4.3-2**). Historical data from the Los Angeles North Main Street Monitoring Station was used to characterize existing air quality conditions.

Table 4.3-3 shows pollutant levels, the State standards, and the number of exceedances recorded at the Los Angeles – North Main Street Monitoring Stations. Criteria pollutants CO, NO_2 and SO_2 did not exceed the State standards during the 2008 to 2010 period. The one-hour State standard for O_3 was exceeded one to three times during this period while the eight-hour State standard for O_3 was exceeded one to six times. The 24-hour State standard for PM_{10} was exceeded zero to four days for the 2008 to 2010 period. The annual State standard for $PM_{2.5}$ was also exceeded between the 2008 to 2010 period.

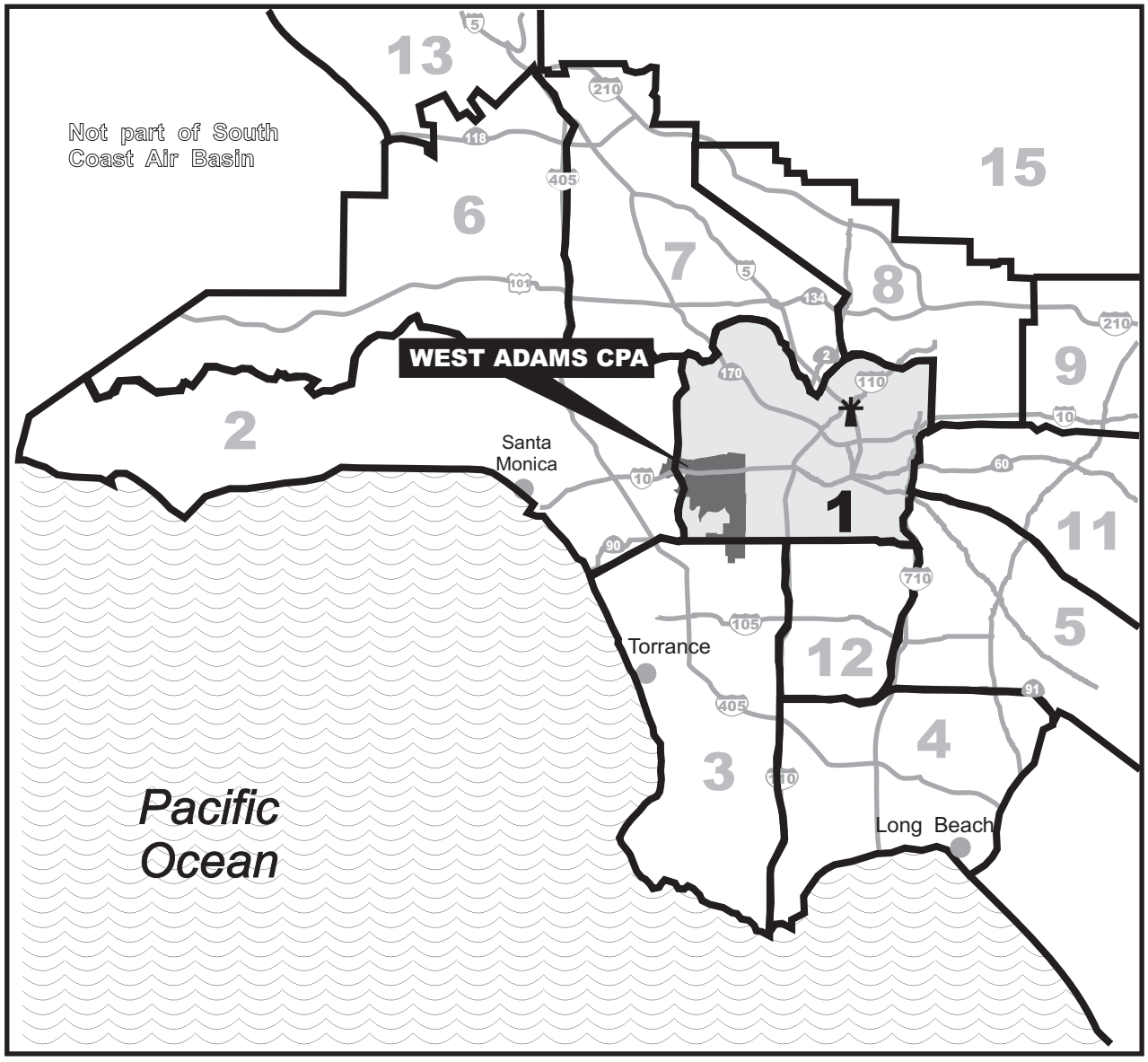
TABLE 4.3-3: 2007-2009 AMBIENT AIR QUALITY DATA IN PROJECT VICINITY

		Los Angeles North Main Street Monitoring Station		
		Number of Days Above State Standard		
Pollutant	Pollutant Concentration & Standards	2008	2009	2010
Ozone	Maximum 1-hr Concentration (ppm)	0.109	0.139	0.098
	Days > 0.09 ppm (State 1-hr standard)	3	3	1
	Maximum 8-hr Concentration (ppm)	0.090	0.101	0.080
	Days > 0.07 ppm (State 8-hr standard)	6	5	1
Carbon Monoxide	Maximum 1-hr concentration (ppm)			
	Days > 20 ppm (State1-hr standard)			
	Maximum 8-hr concentration (ppm)	1.96	2.20	2.32
	Days > 9.0 ppm (State 8-hr standard)	0	0	0
Nitrogen Dioxide	Maximum 1-hr Concentration (ppm)	0.122	0.115	0.089
	Days > 0.18 ppm (State 1-hr standard)	0	0	0
	Annual Arithmetic Mean (ppm)	0.027	0.028	0.025
	Exceed State Standard (0.030 ppm)	No	No	No
PM_{10}	Maximum 24-hr concentration ($\mu g/m^3$)	64	70	41
	Days > 50 $\mu g/m^3$ (State 24-hr standard)	2	4	0
$PM_{2.5}$	Annual Arithmetic Mean ($\mu g/m^3$)	16.2	15.6	12.6
	Exceed State Standard (12 $\mu g/m^3$)	Yes	Yes	Yes
Sulfur Dioxide	Maximum 24-hr Concentration (ppm)	0.003	0.002	0.002
	Days > 0.04 ppm (State 24-hr standard)	No	No	No

SOURCE: CARB, Ambient Air Quality Monitoring Top 4 Summary website, *http://www.arb.ca.gov/adam/topfour/topfour1.php*, accessed February 12, 2012.

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. CARB has identified the following typical groups who are most likely to be affected by air pollution: 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, child care centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.



LEGEND: Los Angeles North Main Street Air Monitoring Station

Air Monitoring Areas:

1. Central Los Angeles
2. Northwest Coastal
3. Southwest Coastal
4. South Coastal
5. Southeast Los Angeles County
6. West San Fernando Valley
7. East San Fernando Valley
8. West San Gabriel Valley
9. East San Gabriel Valley
11. South San Gabriel Valley
12. South Central Los Angeles
13. Santa Clarita Valley
15. San Gabriel Mountains

APPROX. SCALE

0 4.5 9.0 MILES

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

FIGURE 4.3-2

AIR QUALITY MONITORING AREA

The predominate land use in the West Adams CPA is residential. Single-family neighborhoods are generally located in the southern and eastern portion of the West Adams CPA. Multiple-family residential uses are located throughout the West Adams CPA with a concentration in the north. The 8,221-acre West Adams CPA contains numerous schools and medical facilities. Outdoor areas include 120 acres of open space dispersed throughout the West Adams CPA as Neighborhood and Community Parks, as well as the Kenneth Hahn State Recreation Area.

THRESHOLDS OF SIGNIFICANCE

In accordance with Appendix G of the State CEQA Guidelines, the proposed project would have a significant impact related to air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Expose sensitive receptors to substantial pollutant concentrations; and/or
- Create objectionable odors affecting a substantial number of people.

The SCAQMD *CEQA Air Quality Handbook* states that the air quality assessment should be as comprehensive as possible at a programmatic level. There are some cases, such as construction impacts of a General Plan, where specific information may not be available. These cases should use a best-effort approach to disclose all reasonably available information. If significant effects cannot be evaluated in the EIR, then such evaluation should be performed when subsequent activities involving site-specific operations are contemplated.

Air quality impacts for the proposed project are assessed at the programmatic level. In the absence of SCAQMD programmatic thresholds, the EIR scrutinizes broad air quality implications of the West Adams CPA. Most importantly, the analysis examines project consistency with the 2007 AQMP. Consistency with this plan would ensure that the proposed project would comply with regional and local air quality goals. The analysis also broadly examines short-term construction emissions, long-term operational emissions, localized pollutant concentrations, TACs, and odors.

Although not relevant for a Community Plan impact analysis, the SCAQMD has developed specific CEQA significance thresholds to assess construction and operational air quality impacts associated with individual projects. Projects requiring CEQA review that are developed within the West Adams CPA should be assessed based on the thresholds presented below.

Construction. Individual projects requiring CEQA review within the West Adams CPA would have a significant impact related to construction activity if:

- Daily regional and localized construction emissions were to exceed SCAQMD construction emissions thresholds for VOC, NO_X, CO, SO_X, $PM_{2.5}$, or PM_{10}, as presented in **Table 4.3-4**; and/or
- The proposed project would create an odor nuisance.

TABLE 4.3-4: SCAQMD DAILY CONSTRUCTION EMISSIONS THRESHOLDS

Criteria Pollutant	Regional Emissions (Pounds Per Day)	Localized Emissions (Pounds per Day) /a, b/		
		1 Acre Area	2 Acre Area	5 Acre Area
Volatile Organic Compounds (VOC)	75	--	--	--
Nitrogen Oxides (NO_X)	100	74	108	161
Carbon Monoxide (CO)	550	680	1,048	1,861
Sulfur Oxides (SO_X)	150	--	--	--
Fine Particulates ($PM_{2.5}$)	55	3	5	8
Particulates (PM_{10})	150	5	8	16

/a/ Localized thresholds are based on a 25 meter receptor distance because the West Adams CPA is densely developed.
/b/ Project sites larger than five acres require AERMOD dispersion modeling with comparison to California Ambient Air Quality Standards.
SOURCE: SCAQMD, 2011.

Operations. Individual projects requiring CEQA review within the West Adams CPA would have a significant impact related to operational activity if:

- Daily operational emissions were to exceed SCAQMD operational emissions thresholds for VOC, NO_X, CO, SO_X, $PM_{2.5}$, or PM_{10}, as presented in **Table 4.3-5**;
- Project-related traffic causes CO concentrations at study intersections to violate the CAAQS for either the one- or eight-hour period. The CAAQS for the one- and eight-hour periods are 20 ppm and 9.0 ppm, respectively;
- The proposed project would generate significant emissions of TACs;
- The proposed project would create an odor nuisance; and/or
- The proposed project would not be consistent with the AQMP.

TABLE 4.3-5: 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: SCAQMD, 2011.

IMPACTS

The proposed project is the adoption of the West Adams New Community Plan and its implementing ordinances. These ordinances, which include standards and guidelines for projects within the West Adams CPA, include a CPIO containing several subdistricts throughout the plan area, as well as amendments to the existing Crenshaw Corridor Specific Plan. The proposed project further involves General Plan Amendments and zone changes to create consistency with the City's General Plan Framework Element, as well as create consistency between both planned and existing uses of parcels and their relationship to surrounding areas. Through implementation of the CPIO, the proposed project further restricts detrimental uses, incentivizes development in targeted areas, and provides development standards to ensure that new construction is consistent with neighborhood character, as well as corrects minor errors within the existing West Adams Community Plan. While there are air quality impacts to consider within the West Adams CPA, they are subject to the federal, State, and local regulations mentioned above; therefore, the proposed West Adams New Community Plan and its implementing ordinances do not contain any specific guidelines that would affect air quality.

CONSTRUCTION

Regional

Implementation of the proposed project would allow for an increase in the capacity for development in the West Adams CPA by 3.8 million square feet of commercial space, 2.3 million square feet of public facility, and 19,703 dwelling units. Construction activity has the potential to create air quality impacts through the use of heavy-duty construction equipment and through vehicle trips generated by construction workers traveling to and from the project site. Fugitive dust emissions would primarily result from demolition and site preparation (e.g., grading) 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 VOC. 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 $PM_{2.5}$ and PM_{10} emissions associated with construction activities by approximately 61 percent.[8]

CalEEMod was used to calculate daily construction emissions. Construction scenarios were developed based on land use estimated prepared in coordination with the City of Los Angeles. It was assumed that total development would include 238 residential developments of 100 units each; 26 commercial developments each 200,000 square feet; 8 industrial developments each 100,000 square feet; and 23 public facility developments each 100,000 square feet. This development was evenly distributed over 25 years to determine annual emissions and daily emissions were obtained assuming 260 work days per year. **Table 4.3-6** shows the average daily emissions associated with each land use. Average daily construction emissions would exceed the SCAQMD regional thresholds for VOC and NO_X. Therefore, without mitigation, the proposed project would result in a significant impact related to regional construction emissions.

TABLE 4.3-6: ESTIMATED AVERAGE CONSTRUCTION EMISSIONS

	Average Pounds per Day					
Construction Phase	**VOC**	**NO_X**	**CO**	**SO_X**	**$PM_{2.5}$**	**PM_{10}**
Residential	122	526	323	<1	35	44
Commercial	22	24	17	0	2	2
Public Facility	13	29	20	0	2	2
Industrial	5	10	7	<1	2	2
Total Average Daily Emissions	*162*	*589*	*367*	*<1*	*41*	*50*
REGIONAL SIGNIFICANCE THRESHOLD	**75**	**100**	**550**	**150**	**55**	**150**
Exceed Threshold?	Yes	Yes	No	No	No	No

SOURCE: CalEEMod (default mode) used to determine total emissions from construction. Average Daily Emissions = annual divided by 260 days (assuming 5 work days per week – 52 weeks per year). Since the projects would spread over the entire plan horizon this is likely a conservative estimate of total emissions, since emissions would be expected to decrease with improved equipment and emissions control over time.

Localized

The specific location of construction activity was not known when the air quality analysis was completed. A localized construction analysis would be entirely speculative given the lack of a construction location and construction activities. It is reasonable to assume that construction activity would occur adjacent to air quality sensitive receptors (e.g., residences and schools). Based on the SCAQMD LSTs for a one-acre project site and a 25-meter receptor distance, equipment emissions combined with fugitive dust emissions would likely exceed the localized significance thresholds for NO_X, $PM_{2.5}$, and PM_{10}. Therefore, without mitigation, the proposed project would result in a significant impact related to localized construction emissions.

Odors

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 immediate area surrounding the project site. The proposed project would utilize typical construction techniques, and the

[8]SCAQMD, *Overview – Fugitive Dust Mitigation Measure Tables*, April 2007.

odors would be typical of most construction sites and temporary in nature. Proposed project construction would not cause an odor nuisance. Therefore, the proposed project would result in a less-than-significant impact related to construction odors.

Consistency with the Air Quality Management Plan

The AQMP focuses on long-term sources of emissions. The only control strategy for construction activity is related to modernizing the regional equipment fleet to reduce exhaust emissions. The AQMP states that equipment exhaust reduction will occur through compliance with USEPA exhaust standards and CARB emission reduction strategies. The proposed project would not interfere with implementation of these standards and strategies. Therefore, the proposed project would result in less-than-significant impacts related to consistency with the AQMP.

OPERATIONS

Regional

Long-term emissions would be generated by mobile sources and area sources, such as natural gas combustion. The added capacity of the proposed project would allow daily vehicle miles traveled (VMT) to increase from approximately 3,559,800 in 2008 to 4,111,500 in 2030 as a result of population growth.[9] This VMT accounts for TOD. These potential TOD areas are located directly adjacent to Phase I of the Expo LRT stations at Exposition/Crenshaw Boulevards, La Brea/Farmdale Avenues, Jefferson/La Cienega Boulevards, and Venice/Robertson Boulevards. In addition, TOD areas are considered for station areas for the proposed Crenshaw/LAX Corridor LRT. These TODs would allow for an increase in both jobs and housing. Locating jobs near housing can help reduce commutes, increase walking and biking rates, thereby creating a benefit for public health.

Daily operational emissions from increased VMT were calculated using CARB's EMFAC2007 emission factor model. The proposed project would also generate air emissions associated with new development. Emissions from area sources such as natural gas combustion, landscaping equipment usage, and architectural coatings were quantified using CalEEMod.

Table 4.3-7 shows estimated mobile and area source emissions associated with existing conditions and future emissions at project build out. Future daily emissions under implementation of the proposed project are expected to decrease from existing emissions for all of the assessed pollutant except VOC. This is largely a result of reductions in vehicle emissions that are projected to occur between 2008 and 2030 due to stricter regulations and improved technology. VOC emissions would increase as a result of architectural coating emissions associated with new residential land uses. However, the increase in VOC emissions would be less than the SCAQMD daily significance threshold. Therefore, the proposed project would result in a less-than-significant impact related to regional operational concentrations.

[9]Daily VMT was estimated using the assumption that AM and PM peak hour VMT combine to represent 14 percent of daily VMT.

TABLE 4.3-7: ESTIMATED OPERATIONAL EMISSIONS						
	Pounds per Day					
Scenario	VOC	NO_X	CO	SO_X	$PM_{2.5}$	PM_{10}
Existing Conditions (2008)						
Mobile Sources	1,318	8,060	27,766	31	306	439
Area Sources	3,268	81	6,037	0	25	25
Total	*4,586*	*8,141*	*33,803*	*31*	*331*	*464*
Future With Project (2030)						
Mobile Sources	317	2,112	8,511	36	181	199
Area Sources	4,293	86	7,164	0	43	43
Total	*4,610*	*2,198*	*15,675*	*36*	*224*	*242*
Net Emissions	24	(5,943)	(18,128)	(5)	(107)	(222)
REGIONAL SIGNIFICANCE THRESHOLD	**75**	**100**	**550**	**150**	**55**	**150**
Exceed Threshold?	No	No	No	No	No	No
SOURCE: TAHA, 2012.						

Also, as discussed previously, the proposed project includes policies to help reduce VMT generated by projected growth. Such policies would further ensure that impacts from implementation of the proposed project would be less than significant. Policies include:

- *Policy 4.1.1*: Coordinate with all appropriate regional agencies the implementation of strategies for the integration of land use, transportation, and air quality policies.
- *Policy 4.2.1*: Revise the City's General Plan/Community Plans to achieve a more compact, efficient urban form and to promote more transit-oriented development and mixed-use development.
- *Policy 4.2.3*: Ensure that new development is compatible with pedestrians, bicycles, transit, and alternative fuel vehicles.
- *Policy 4.2.4*: Require that air quality impacts be a consideration in the review and approval of all discretionary projects.
- *Policy 4.2.5*: Emphasize trip reduction, alternative transit and congestion management measures for discretionary projects.

Localized

Historically, mobile source-related CO concentrations at high-volume (e.g. congested intersections) have health concerns according to the USEPA and SCAQMD. **Table 4.3-3**, above, shows that CO concentrations have not exceeded the State standards in the project area since 2008. In fact, the Basin has not experienced an exceedance of State CO standards since prior to 1994. According to the *2004 Revision to the California State Implementation Plan for Carbon Monoxide*, requirements for cleaner vehicles, equipment, and fuels have cut peak CO levels in half since 1980 despite growth. EMFAC2007 estimates that 2008 emission rates are almost five times greater than those that are anticipated in 2030. The transportation analysis shows that the two largest traffic volumes on any one segment under 2030 project conditions would be 1,914 on Florence Avenue and Hyde Park Boulevard during the PM peak hour period and 1,788 on La Brea Boulevard and Santa Rosalia Drive during the PM peak hour period. Using the CALINE4 micro-scale dispersion model, one- and eight-hour CO concentrations would be 3 and 2.5 ppm, respectively for road segments at Florence Avenue and Hyde Park Boulevard. The one- and eight-hour CO concentrations for road segments at La Brea and Santa Rosalia Drive would be 3 and 2.0 ppm, respectively. The State one- and eight-hour standards of 20 and 9.0 ppm, respectively, would not be exceeded at any intersection within the West Adams

CPA. Therefore, the proposed project would result in a less-than-significant impact related to mobile source CO concentrations.

Toxic Air Contaminants

In 2005, CARB published the *Air Quality and Land Use Handbook: A Community Health Perspective*. This document provides recommendations that local governments should consider when siting new sensitive lands uses to help keep children and other vulnerable populations out of harm's way with respect to sources of air pollution and TACs. Sources of particular concern include freeways and high-traffic roadways, distribution centers, rail yards, ports, refineries, chrome platers, dry cleaners, and gasoline dispensing facilities.

The I-10 Freeway runs through the West Adams CPA; therefore, if receptors are sited within close proximity to the freeway, impacts would be potentially significant. It is the practice of the City of Los Angeles to condition approval of private projects located in the vicinity of major transportation corridors (within 500 feet of a freeway for commercial and industrial uses and residential uses that front on a Major Highway or are located adjacent to an active heavy rail line) to install and maintain an air filtration system having efficiency equal to or exceeding American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 52.2 Minimum Efficiency Reporting Value (MERV 13) (excluding storage/warehouse areas or garages). Such filtration systems would reduce particulate levels by 75 percent or greater, thereby substantially reducing risk to employees and residents. Furthermore, windows facing freeways are generally not allowed to be operable and the property perimeter nearest the freeway is typically required to be landscaped with a dense mixture of shrubs and trees to maximize passive filtration of particulate air contaminants. Such requirements would reduce health risks from exposure to mobile source toxic air contaminants.

New development could still be located within the CARB minimum distances for various stationary source land uses, including distribution centers, chrome platers, dry cleaners, and gasoline dispensing facilities. Therefore, without mitigation, the proposed project would result in a significant impact related to operational toxic air contaminant emissions.

Odors

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 West Adams CPA is not anticipated to be developed with land uses that are typically associated with odor complaints. The majority of development would be typical residential and commercial uses. 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 from these types of land uses. Therefore, the proposed project would result in a less-than-significant impact related to operational odors.

Consistency with the Air Quality Management Plan

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. Consistency with the AQMP can be assessed by determining how a project accommodates increases in population or employment. Generally, a project that is planned in a way that minimizes VMT would also minimize air pollutant emissions. This type of project would be consistent with the goals of the AQMP.

As previously discussed, the proposed project includes at least five policies designed to minimize VMT within the West Adams CPA. In addition, as shown in **Table 4.3-7** above, the proposed project would reduce of air emissions associated with the assessed pollutants when compared to existing conditions (VOC

emissions would increase but would be less than the SCAQMD significance threshold). The proposed project is consistent with the AQMP goals to reduce pollution levels. Therefore, the proposed project would result in a less-than-significant impact related to consistency with the AQMP.

MITIGATION MEASURES

CONSTRUCTION

Regional

AQ1 As a condition of approval for any Discretionary or "*Active Change Area Project*", as defined in Section 3.4 of the Project Description, the City shall require all contractors to include the following best management practices in contract specifications:

- Use properly tuned and maintained equipment.
- Contractors shall enforce the idling limit of five minutes as set forth in the California Code of Regulations.
- Use diesel-fueled construction equipment to be retrofitted with after treatment products (e.g. engine catalysts) to the extent they are readily available and feasible.
- Use heavy duty diesel-fueled equipment that uses low NO_X diesel fuel to the extent it is readily available and feasible.
- Use construction equipment that uses low polluting fuels (i.e. compressed natural gas, liquid petroleum gas, and unleaded gasoline) to the extent available and feasible.
- Maintain construction equipment in good operating condition to minimize air pollutants.
- All diesel-powered construction equipment shall meet US Environmental Protection Agency Tier 2 or higher emissions standards according to the following schedule:
  - **January 1, 2012 to December 31, 2014**: All off-road diesel-powered construction equipment greater than 50 horsepower shall meet Tier 3 off-road emissions standards. In addition, all construction equipment shall be outfitted with Best Available Control Technology (BACT) devices certified by California Air Resource Board (CARB). Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.
  - **Post-January 1, 2015**: All off-road diesel-powered construction equipment greater than 50 horsepower shall meet the Tier 4 emission standards, where available. In addition, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.
- Construction contractors shall use electricity from power poles rather than temporary gasoline or diesel power generators, as feasible.
- Use building materials, paints, sealants, mechanical equipment, and other materials that yield low air pollutants and are nontoxic.
- Construction contractors shall utilize super-compliant architectural coatings as defined by the South Coast Air Quality Management District (VOC standard of less than ten grams per liter).
- Construction contractors shall utilize materials that do not require painting, as feasible.
- Construction contractors shall use pre-painted construction materials, as feasible.

Localized

Refer to Mitigation Measure **AQ1**.

Odors

Impacts related to construction odors would be less than significant. No mitigation measures are required.

Consistency with the Air Quality Management Plan

Impacts related to consistency with the AQMP would be less than significant. No mitigation measures are required.

OPERATIONS

Regional

Impacts related to regional operational emissions would be less than significant. No mitigation measures are required.

Localized

Impacts related to operational localized concentrations would be less than significant. No mitigation measures are required.

Toxic Air Contaminants

AQ2 As a condition of approval for any Discretionary or "*Active Change Area Project*", as defined in Section 3.4 of the Project Description, that contains sensitive receptors, the City shall require the consideration of the guidelines in the California Air Resources Board's *Air Quality and Land Use Handbook: A Community Health Perspective*. This includes projects constructing uses sensitive to air pollution (e.g., residences, schools, medical facilities, elderly housing, etc.) and projects that may expose existing sensitive receptors to new pollution (e.g., warehouses). For projects with sensitive receptors located within 500 feet of the Santa Monica Freeway, a health risk assessment shall be completed that demonstrates that indoor and outdoor sensitive receptors would not be exposed to significant levels of toxic air contaminants in accordance with South Coast Air Quality Management District (SCAQMD) guidelines. The health risk assessments shall be circulated to the SCAQMD for review and comment.

In order to lessen the levels of indoor toxic air contaminants, the City of Los Angeles may condition approval of private projects located in the vicinity of major transportation corridors (within 500 feet of a freeway for commercial and industrial uses and residential uses that front on a Major Highway or are located adjacent to an active heavy rail line) to install and maintain an air filtration system having efficiency equal to or exceeding American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 52.2 Minimum Efficiency Reporting Value (MERV 13) (excluding storage/warehouse areas or garages). In addition, windows facing freeways may be conditioned inoperable and the property perimeter nearest the freeway may be required to be landscaped with a dense mixture of shrubs and trees to maximize passive filtration of particulate air contaminants.

Odors

Impacts related to operational odors would be less than significant. No mitigation measures are required.

Consistency with the Air Quality Management Plan

Impacts related to consistency with the AQMP would be less than significant. No mitigation measures are required.

SIGNIFICANCE OF IMPACTS AFTER MITIGATION

CONSTRUCTION

Regional

Mitigation Measure **AQ1** would reduce construction emissions within the West Adams CPA. Regional emissions would still exceed the SCAQMD significance thresholds. Therefore, the proposed project would result in a significant and unavoidable impact related to regional construction air emissions.

Localized

Mitigation Measure **AQ1** would reduce construction emissions within the West Adams CPA. Localized concentrations would still exceed the SCAQMD significance thresholds. Therefore, the proposed project would result in a significant and unavoidable impact related to localized construction air emissions.

Odors

Impacts related to construction odors were determined to be less than significant without mitigation.

Consistency with the Air Quality Management Plan

Impacts related to consistency with the Air Quality Management Plan were determined to be less than significant without mitigation.

OPERATIONS

Regional

Impacts related to regional emissions were determined to be less than significant without mitigation.

Localized

Impacts related to localized emissions were determined to be less than significant without mitigation.

Toxic Air Contaminants

Impacts related to toxic air contaminants were determined to be significant without mitigation. Mitigation Measure **AQ2** would reduce the impacts to less than significant.

Odors

Impacts related to operational odors were determined to be less than significant without mitigation.

Consistency with the Air Quality Management Plan

Impacts related to consistency with the Air Quality Management Plan were determined to be less than significant without mitigation.