

## **4.3 AIR QUALITY**

This section describes the air quality setting of the 65th Street Redevelopment Plan Project Area. Whereas the Redevelopment Plan does not directly propose new development but would encourage development consistent with the General Plan by funding incentives, programs and public improvements in the Project Area, this section summarizes data and analyses in the Sacramento City General Plan Update EIR (SGPU EIR) and the 65<sup>th</sup> Street Transit Village General Plan amendment EIR, which are incorporated in this EIR by reference. Further information on existing conditions in the Project Area was collected from the State Air Resources Board.

### **4.3.1 EXISTING CONDITIONS**

#### **CLIMATE AND METEOROLOGY**

Climate and air quality are determined by the geographic location, topography, and urbanization of an area. This section describes pertinent characteristics of the air basin and provides an overview of the physical conditions affecting pollutant dispersion in the Project Area.

#### ***Climate***

The Project Area is located in the City of Sacramento, which lies within the Sacramento Valley Air Basin (SVAB). The climate of the SVAB is Mediterranean in character, with mild, rainy winter weather from November through March and warm to hot, dry weather from May through September. The physiographic features giving shape to the SVAB are the Coast Range to the west, the Sierra Nevada to the east, and the Cascade Range to the north. These ranges channel winds through the Sacramento Valley, but also inhibit dispersion of pollutant emissions.

The City is 55 miles northeast of the Carquinez Strait, a sea-level gap between the Coast Range and the Diablo Range. The intervening terrain between Sacramento and the strait is flat. The prevailing wind is from the south, primarily because of marine breezes through the Carquinez Strait. During winter, sea breezes diminish and winds blow from the north more frequently.

#### ***Meteorological Influences on Air Quality***

Vertical dispersion of air pollutants in the Project Area is often hampered by the presence of a persistent temperature inversion in the atmospheric layers of the earth's surface. The net input of cumulative pollutants into the atmosphere from mobile and stationary sources does not vary substantially by season. The duration of an inversion layer increases the concentration of pollutants in the inversion layer. Strong winds or daytime warming of the surface air layer is required to disperse the pollutants horizontally. During the winter, motor vehicle emissions such as carbon monoxide (CO) and nitrogen dioxide (NO<sub>2</sub>) are of concern because of low inversions and stagnant air that prevent them from dispersing. Ozone is less prevalent in the winter due to the lack of intense sunlight needed to produce it from its chemical precursors, volatile organic compounds (VOCs) and oxides of nitrogen (NO<sub>x</sub>).

#### **CRITERIA AIR POLLUTANTS**

“Air Pollution” is a general term that refers to one or more chemical substances that degrade the quality of the atmosphere. Individual air pollutants may adversely affect human or animal health,

reduce visibility, damage property, and reduce the productivity or vigor of crops and natural vegetation.

Seven air pollutants have been identified by the U.S. Environmental Protection Agency (EPA) as being of concern nationwide: carbon monoxide (CO); ozone (O<sub>3</sub>); nitrogen dioxide (NO<sub>2</sub>); particulate matter sized 10 microns or less (PM<sub>10</sub>), also called respirable particulate and suspended particulate; fine particulate matter equal to or less than 2.5 microns in size (PM<sub>2.5</sub>); sulfur dioxide (SO<sub>2</sub>); and lead (Pb). These pollutants are collectively referred to as “criteria” pollutants. The sources of these pollutants, their effects on human health and the nation’s welfare, and their final deposition in the atmosphere vary considerably.

### ***Ozone (O<sub>3</sub>)***

O<sub>3</sub> is the principal component of smog, and is formed in the atmosphere through a series of reactions involving reactive organic gases (ROG) and nitrogen oxides (NO<sub>x</sub>) in the presence of sunlight. ROG and NO<sub>x</sub> are called precursors of O<sub>3</sub>; NO<sub>x</sub> includes various combinations of nitrogen and oxygen, including NO, NO<sub>2</sub>, NO<sub>3</sub>, etc. Ozone is a principal cause of lung and eye irritation in the urban environment. Significant O<sub>3</sub> concentrations are normally produced only in the summer, when atmospheric inversions are greatest and temperatures are high. ROG and NO<sub>x</sub> emissions are both considered critical in O<sub>3</sub> formation. Control strategies for O<sub>3</sub> have focused on reducing emissions from vehicles, industrial processes using solvents and coatings, and consumer products.

### ***Respirable Particulate Matter (PM<sub>10</sub>)***

Particulate matter includes both liquid and solid particles of a wide range of sizes and composition. While some PM<sub>10</sub> comes from automobile exhaust, the principal source in Sacramento County is dust from construction, and from the action of vehicle wheels on paved and unpaved roads. In other areas, agriculture, wind-blown sand, and fireplaces can be important sources. PM<sub>10</sub> can cause increased respiratory disease, lung damage, and premature death. Control of PM<sub>10</sub> is through the control of dust at construction sites, the cleaning of paved roads, and the wetting or paving of frequently used unpaved roads.

### ***Fine Particulate Matter (PM<sub>2.5</sub>)***

The sources, health effects, and control of PM<sub>2.5</sub> are similar to those of PM<sub>10</sub>. In 1997, the EPA determined that the health effects of PM<sub>2.5</sub> were severe enough to warrant an additional standard. The Sacramento Metropolitan Air Quality Management District (SMAQMD) started testing for this constituent in 1999 and 2001.

### ***Carbon Monoxide (CO)***

CO is a colorless and odorless gas which, in the urban environment, is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. Relatively high concentrations are typically found near crowded intersections and along heavily used roadways carrying slow-moving traffic. Even under the severest meteorological and traffic conditions, high concentrations of CO are limited to locations within a relatively short distance (300 to 600 feet) of heavily traveled roadways. Overall CO emissions are decreasing as a result of the Federal Motor Vehicle Control Program, which has mandated increasingly lower emission levels for vehicles manufactured since 1973. CO

concentrations are typically higher in winter. As a result, California has required the use of oxygenated gasoline in the winter months to reduce CO emissions.

### ***Nitrogen Dioxide (NO<sub>2</sub>)***

NO<sub>2</sub> is a product of combustion, and is generated in vehicles and in stationary sources, such as power plants and boilers. NO<sub>2</sub> can cause lung damage. As noted above, NO<sub>2</sub> is part of the NO<sub>x</sub> family, and is a principal contributor to ozone and smog.

### ***Sulfur Dioxide (SO<sub>2</sub>)***

SO<sub>2</sub> is a combustion product, with the primary source being power plants and heavy industry that use coal or oil as fuel. SO<sub>2</sub> is also a product of diesel engine combustion. The health effects of SO<sub>2</sub> include lung disease and breathing problems for asthmatics. SO<sub>2</sub> in the atmosphere contributes to the formation of acid rain. In the SVAB, there is relatively little use of coal and oil, and SO<sub>2</sub> is of lesser concern than in many other parts of the country.

### ***Lead (Pb)***

Lead is a stable compound which persists and accumulates both in the environment and in animals. The lead used in gasoline anti-knock additives represented a major source of lead emissions to the atmosphere. However, lead emissions have significantly decreased due to the near elimination of the use of leaded gasoline.

## **4.3.2 REGULATORY SETTING**

Air quality in the Project Area is regulated by several jurisdictions including the EPA, State of California Air Resources Board (CARB), and the SMAQMD. Each jurisdiction develops rules, regulations, policies, and/or goals to attain the goals or directives imposed upon them through legislation. Although EPA regulations may not be superseded, both state and local regulations may be more stringent.

Local air quality management districts have been given authority by the state to manage their own stationary source emissions. The CARB requires that local air quality management districts develop their own strategies for achieving compliance with the National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS), but maintains regulatory authority over these strategies, as well as all mobile source emissions throughout the state.

### **FEDERAL REQUIREMENTS**

The Federal Clean Air Act (42 U.S.C. §§ 7401-7671q) requires the adoption of NAAQS to protect the public health and welfare from the effects of air pollution. Pollutants subject to the NAAQS are referred to as “criteria” pollutants, as discussed above. The federal and state standards for the criteria pollutants and other regulated air pollutants are shown in Table 4.3-1.

### **STATE REQUIREMENTS**

The State of California, for purposes of air quality classification, has divided the state into meteorologically and geographically similar areas called air basins. Each air basin is responsible for

**Table 4.3-1  
National and California Ambient Air Quality Standards**

| Pollutant   | Averaging Time                              | NAAQS <sup>1</sup>                      |                                   | CAAQS <sup>2</sup>   |
|---|---|---|-----------------------------------|--|
|   |   | Primary <sup>3</sup>                    | Secondary <sup>4</sup>            | Concentration <sup>5</sup>   |
| Ozone (O <sub>3</sub> ) <sup>6</sup>                      | 1 Hour                                      | 0.12 ppm<br>(235 : g/ m <sup>3</sup> )  | Same as Primary Standard          | 0.09 ppm (180 : g/ m <sup>3</sup> )  |
|   | 8 Hour                                      | 0.08 ppm                                |                                   | -  |
| Carbon Monoxide (CO)                                      | 8 Hour                                      | 9.0 ppm<br>(10 : g/ m <sup>3</sup> )    | None                              | 9.0 ppm (10 : g/ m <sup>3</sup> )  |
|   | 1 Hour                                      | 35 ppm (40 : g/ m <sup>3</sup> )        |                                   | 20 ppm (23 : g/ m <sup>3</sup> )   |
| Nitrogen Dioxide (NO <sub>2</sub> )                       | Annual Average                              | 0.053 ppm<br>(100 : g/ m <sup>3</sup> ) | Same as Primary Standard          | -  |
|   | 1 Hour                                      | -                                       |                                   | 0.25 ppm (470 : g/ m <sup>3</sup> )  |
| Sulfur Dioxide (SO <sub>2</sub> )                         | Annual Average                              | 80 : g/m <sup>3</sup><br>(0.03 ppm)     | -                                 | -  |
|   | 24 Hour                                     | 365 : g/ m <sup>3</sup><br>(0.14 ppm)   | -                                 | 0.04 ppm (105 : g/ m <sup>3</sup> )  |
|   | 3 Hour                                      | -                                       | 1300 : g/m <sup>3</sup> (0.5 ppm) | -  |
|   | 1 Hour                                      | -                                       | Same as Primary Standard          | 0.25 ppm (655 : g/ m <sup>3</sup> )  |
| Annual Geometric Mean                                     | -   | 30 : g/ m <sup>3</sup>                  |                                   |  |
| Suspended Particulate Matter (PM <sub>10</sub> )          | 24 Hour                                     | 150 : g/m <sup>3</sup>                  | -                                 | 50 : g/ m <sup>3</sup>   |
|   | Annual Arithmetic Mean                      | 50 : g/ m <sup>3</sup>                  |                                   | -  |
| Fine Particulate Matter (PM <sub>2.5</sub> ) <sup>6</sup> | 24 Hour                                     | 65 : g/ m <sup>3</sup>                  | Same as Primary Standard          | -  |
|   | Annual Arithmetic Mean                      | 15 : g/ m <sup>3</sup>                  |                                   | -  |
| Lead (Pb)   | 30 Day Average                              | -                                       | -                                 | 1.5 : g/ m <sup>3</sup>  |
|   | Calendar Quarter                            | 1.5 : g/ m <sup>3</sup>                 | Same as Primary Standard          | -  |
| Hydrogen Sulfide (HS)                                     | 1 Hour                                      | No Federal Standards                    |                                   | 0.03 ppm (42 : g/ m <sup>3</sup> )   |
| Sulfates (SO <sub>4</sub> )                               | 24 Hour                                     |   |                                   | 25 : g/ m <sup>3</sup>   |
| Visibility Reducing Particles                             | 8 Hour (10 am -6 pm, Pacific Standard Time) |   |                                   | In sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent. |

| Pollutant   | Averaging Time | NAAQS <sup>1</sup>   |                        | CAAQS <sup>2</sup>         |
|---|----------------|----------------------|------------------------|----------------------------|
|   |                | Primary <sup>3</sup> | Secondary <sup>4</sup> | Concentration <sup>5</sup> |
| : g/ m <sup>3</sup> - micrograms per cubic meter; ppm - parts per million   |                |                      |                        |                            |
| Source: California Air Resources Board (CARB) 1999  |                |                      |                        |                            |
| <sup>1</sup> National Ambient Air Quality Standards (other than O <sub>3</sub> , particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The O <sub>3</sub> standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM <sub>10</sub> , the 24-hour standard is attained when 99 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. For PM <sub>2.5</sub> , the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. |                |                      |                        |                            |
| <sup>2</sup> California Ambient Air Quality Standards for O <sub>3</sub> , CO (except Lake Tahoe), SO <sub>2</sub> (1 and 24 hours), NO <sub>2</sub> , PM <sub>10</sub> , and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded.  |                |                      |                        |                            |
| <sup>3</sup> National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.  |                |                      |                        |                            |
| <sup>4</sup> National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.  |                |                      |                        |                            |
| <sup>5</sup> Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 mm of mercury. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 mm of mercury (1,013.2 millibar), and ppm in this table refers to ppm by volume or micromoles of pollutant per mole of gas.  |                |                      |                        |                            |
| <sup>6</sup> New federal 8-hour O <sub>3</sub> and fine particulate matter standards were promulgated by EPA on July 18, 1997. The federal 1-hour O <sub>3</sub> standard continues to apply in areas that violated the standard.   |                |                      |                        |                            |

meeting NAAQS and CAAQS for criteria pollutants and is classified by U.S. EPA and CARB as an attainment or nonattainment area for each pollutant.

The CARB is responsible for enforcing the California Clean Air Act of 1988 (26 California Health and Safety Code [CH&SC ] § 10000 et seq.) which established the CAAQS for criteria pollutants as well as additional state standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility reducing particles. These CAAQS are generally more restrictive than the NAAQS.

### **SACRAMENTO METROPOLITAN AIR QUALITY MANAGEMENT DISTRICT**

The Project Area is under the jurisdiction of the Sacramento Metropolitan Air Quality Management District (SMAQMD). The SMAQMD is responsible for implementing emissions standards and other air quality regulations governing activities in the Project Area.

The CCAA requires non-attainment areas (for O<sub>3</sub>) to develop air quality plans that contain strategies for achieving attainment. For this purpose, the *1991 Sacramento Air Quality Attainment Plan (AQAP)* and the *1994 Regional Ozone Attainment Plan* were developed. The most recent update is the *1997 Triennial Report and 1998 Rulemaking Schedule*, which calls for a continuation of the strategies outlined in earlier plans. These plans address the requirement to attempt to bring the district into compliance with federal and state standards. The plans include carefully planned strategies for progressive reduction of air pollutants by promoting active public involvement, by encouraging compliance through positive influence and behavior, and through public education in both the public and private sectors.

### **EXISTING AIR QUALITY MONITORING DATA**

The SMAQMD and CARB currently operate air quality monitoring stations throughout the SVAB and Sacramento County. The monitoring station nearest the Project Area is the T Street Station. The 1-hour ozone standard and the 24-hour PM<sub>10</sub> standard were exceeded during the years of 1998-

2002. The federal ozone 1 hour standard has not been exceeded since 1998, although the state 1 hour standard for ozone was exceeded a total of 25 days at this station. The federal ozone 8 hour standard was exceeded a total of 14 days at this station over this five year period. The state standard for PM<sub>10</sub> was exceeded from 1998-2002 a total of 24 days, but the federal standard for PM<sub>10</sub> was not exceeded during that period. The annual PM<sub>2.5</sub> Federal standard, a new measurement, was exceeded from 1998-2002 a total of 17 days. The state and federal standards for CO have not been exceeded at this station since 1993.<sup>1</sup>

## **EXISTING ATTAINMENT STATUS**

EPA and CARB have designated the SVAB as a “severe” nonattainment area for ozone, with special requirements for the attainment of NAAQS. These requirements include use of reasonably available control technology (RACT), vapor recovery on fuel systems, motor vehicle inspection and maintenance programs, emission offsets, transportation control measures, and other reductions in VOCs and NO<sub>x</sub>. Ozone attainment must be reached by the year 2005. In order to meet the federal requirement, the region must average no more than one violation per year for three years at any one station. The region is also classified “moderate” nonattainment area for PM<sub>10</sub>. The region is designated as an attainment area for SO<sub>2</sub> and NO<sub>2</sub>, and a maintenance area for CO.

### **4.3.3 ENVIRONMENTAL IMPACTS**

#### **METHODOLOGY**

Redevelopment of the Project Area and implementation of the Redevelopment Plan is intended to eliminate blight and blighting conditions within the Project Area that currently prevent the full and effective use of the land, consistent with the General Plan as amended over time. Impacts of implementing the Redevelopment Plan were evaluated based on anticipated redevelopment actions throughout the effective life of the Plan, including property acquisition; land assemblage; demolition or rehabilitation of structures; installation of streets, utilities and other public facilities and infrastructure; funding, construction and development assistance for community centers, recreation centers, child-care centers, parks, urban design plans, master plans, streetscapes and facility improvements; and construction of small public or private facilities and affordable housing.

The criteria pollutants that are most important for this air quality impact analysis are those that can be traced principally to motor vehicles. Of these pollutants, CO, ROG, NO<sub>x</sub>, and PM<sub>10</sub> are evaluated on a regional or “mesoscale” basis. CO is often analyzed on a localized or “microscale” basis in cases of congested traffic conditions. Although PM<sub>10</sub> has very localized effects, there is no EPA approved methodology to evaluate microscale impacts of PM<sub>10</sub>. Methods for analysis of PM<sub>2.5</sub> are anticipated within the next few years, as implementation of the new standard progresses.

Short-term air quality impacts during construction and long-term impacts during operation were considered, including intermittent demolition/construction-related impacts from fugitive dust (PM<sub>10</sub>) and mobile or stationary construction equipment emissions, and construction and vehicular emissions. The specific location and intensity of the development which could cause such impacts over the extended period of the Redevelopment Plan is for the most part unknown, except that all development must be consistent with the General Plan. Air quality impacts in this section are therefore based upon General Plan and Transit Village Plan EIR analyses.

## THRESHOLDS OF SIGNIFICANCE

Significance criteria are the basis for determining whether the Redevelopment Plan would result in significant short-term or long-term impacts to local and regional air quality conditions. The direct and indirect emissions from redevelopment activities would be significant if they would meet or exceed the SMAQMD thresholds, as shown in Table 4.3-2. The SMAQMD also sets qualitative emission thresholds. The qualitative emission thresholds are used as screening criteria to indicate the need for further analysis involving other air quality issues, such as hazardous and toxic emissions. Qualitative emissions thresholds are applied primarily during the long-term operational aspects of a proposed project. Listed below are the SMAQMD qualitative emission thresholds:

- Potential to create or be near an objectionable odor;
- Potential for accidental release of toxic air emissions or acutely hazardous material;
- Potential to emit toxic air contaminants regulated by the SMAQMD or on a federal or state air toxic list;
- Burning of hazardous, medical, or municipal waste at waste-to-energy facilities;
- Potential to produce a substantial amount of wastewater or potential for toxic discharge;
- Sensitive receptors located within 0.25 mile of toxic air emissions or near CO hotspots; and
- Carcinogenic or air toxic contaminant emissions that exceed or contribute to an exceedance of the SMAQMD's action level for cancer (1 in 1 million), chronic (1), and acute (1) risks.

**Table 4.3-2  
SMAQMD CEQA Air Quality Significance Criteria**

| <b>Mass Emission Thresholds</b>  |                                  |                       |                  |                                  |                       |                  |
|--|----------------------------------|-----------------------|------------------|----------------------------------|-----------------------|------------------|
| <b>Project Type</b>  | <b>Ozone Precursor Emissions</b> |                       |                  |                                  |                       |                  |
|  | <b>Pounds per day</b>            |                       |                  | <b>Tons per year<sup>1</sup></b> |                       |                  |
|  | <b>ROG</b>                       | <b>NO<sub>x</sub></b> |                  | <b>ROG</b>                       | <b>NO<sub>x</sub></b> |                  |
| Short-term effects – Construction  | None                             | 85                    |                  | None                             | 15.5                  |                  |
| Long-Term effects - Operation  | 65                               | 65                    |                  | 11.9                             | 11.9                  |                  |
| <b>Emission Concentration Thresholds</b>   |                                  |                       |                  |                                  |                       |                  |
| California Ambient Air Quality Standards (CAAQS). The CAAQS significance criteria are applied to all phases of a project in addition to the above mass emission thresholds.  |                                  |                       |                  |                                  |                       |                  |
| <b>Substantial Concentration Threshold</b>   |                                  |                       |                  |                                  |                       |                  |
| A project is considered to contribute substantially to an existing or projected violation of a CAAQS if it emits pollutants at a level equal to or greater than five (5) percent of the CAAQS.   |                                  |                       |                  |                                  |                       |                  |
| <b>CRITERIA IN EFFECT PRIOR TO MARCH 28, 2002</b>  |                                  |                       |                  |                                  |                       |                  |
| Phase One Construction-Grading; Phase Two construction-Roads, Facilities and Structures; Operations-Long-term  | Pounds per day                   |                       |                  | Tons per year                    |                       |                  |
|  | ROG                              | NO <sub>x</sub>       | PM <sub>10</sub> | ROG                              | NO <sub>x</sub>       | PM <sub>10</sub> |
|  | 85                               | 85                    | 275              | 15.5                             | 15.5                  | 50.2             |
| Note: The revised criteria/thresholds became effective on March 28, 2002. To allow a reasonable transition to the revised criteria/thresholds, agencies may apply either the previous or revised criteria/thresholds for CEQA determinations made prior to May 17, 2002. |                                  |                       |                  |                                  |                       |                  |

Source: SMAQMD 2002. 1 – Thresholds promulgated in pounds per day; the tons per year equivalent are shown for convenience in comparing thresholds to project-related emissions.

The SMAQMD has also determined development projects are considered cumulatively significant if:

- The project requires a change in the existing land use designation (i.e., general plan amendment, rezone), and
- Projected emissions (ROG, NO<sub>x</sub> or PM<sub>10</sub>) of the proposed project are greater than the emissions anticipated for the site if developed under the existing land use designation.

## **IMPACTS OF THE PROPOSED PROJECT**

### **Impact 4.3-1: Short-Term Construction Increases in Regional Criteria Pollutants**

With future development and infrastructure construction in the Project Area, air pollutants would be emitted by construction equipment, and fugitive dust (particulate matter) would be generated during interior grading and site preparation and by wind erosion over exposed earth surfaces and material stockpiles. Fugitive dust can be a nuisance at neighboring properties, soiling exposed surfaces and requiring more frequent washing. Fuel combustion from heavy-duty equipment operation can also generate particulate emissions.

Construction activities are regulated by the City and the SMAQMD. Construction in the Project Area over the life of the Redevelopment Plan will include demolition of some structures and grading preparation for all new construction. PM<sub>10</sub> emissions in the form of fugitive dust would vary from day to day, depending on the level and type of construction activity (demolition and grading), silt content of the soil, and prevailing weather. Emissions from construction equipment (i.e., graders, backhoes, haul trucks etc.) would generate PM<sub>10</sub>, NO<sub>x</sub>, and ROG emissions.

The largest source of construction-related PM<sub>10</sub> emissions would be associated with the demolition of existing structures as properties are recycled. Demolition activities are required to conform to the rules and guidelines outlined in the SMAQMD Rule 403 concerning fugitive dust associated with construction activities, including demolition. Rule 403 requires the application of water or chemicals for the control of fugitive dust associated with demolition, clearing of land, construction of roadways, and any other construction operation that may potentially generate dust, including the stockpiling of dust-producing materials. Although PM<sub>10</sub> emissions associated with demolition can be quite large, these emissions will be reduced by Rule 403, and will take place over a very short period of time.

The SMAQMD significance criteria that became effective in March 2002 (Table 4.3-1) have no quantitative emissions threshold for PM<sub>10</sub>. The previous criteria included a PM<sub>10</sub> emissions threshold of 275 pounds per day. The current criteria state that a project would have a significant impact if it would emit pollutants at a level equal to or greater than five percent of the CAAQS if there were an existing or projected violation. The Project Area is in a state nonattainment area for PM<sub>10</sub>. SMAQMD has not published guidance for relating project PM<sub>10</sub> emissions to the CAAQS; therefore, evaluation of potential redevelopment related PM<sub>10</sub> emissions for significance relative to the CAAQS is not done.

Preliminary modeling information obtained by the SMAQMD (Greg Tholen, SMAQMD, June 2002) indicates that construction projects that meet the following criteria are not expected to exceed the CAAQS for PM<sub>10</sub>:

- Project is less than 10 acres in size;
- Project employs standard dust control measures contained in SMAQMD Fugitive Dust Rule 403 (described in Mitigation Measure 4.3.1b below); and
- Project employs standard SMAQMD recommended mitigation for reducing emissions from heavy-duty construction vehicles (described in Mitigation Measure 4.3.1a below).

The region is currently non-attainment for PM<sub>10</sub>, with regular and frequent violations of the 24-hour State standard occurring over the past five years, and the State 24-hour PM<sub>10</sub> standard is sometimes exceeded in the vicinity of construction sites during construction. Air pollution-sensitive land uses and activities adjacent to construction sites may also be exposed more frequently to ambient dust concentrations that exceed the ambient standards. In order to reduce construction-phase dust emissions, standard dust abatement measures are routinely required by the City as a part of the development permit process. Such measures typically include watering all construction sites as necessary to reduce dust emissions, covering stockpiles and haul trucks, sweeping dirt from paved surfaces, and suspending earthmoving activities on very windy days. Because development in the Project Area greater than 10 acres would be consistent with the General Plan and could be engendered by redevelopment, PM<sub>10</sub> emissions generated by individual projects within the Project Area could potentially exceed the SMAQMD thresholds, and therefore would be considered a short-term **significant** impact.

Ambient pollutant concentrations from combustion emissions of construction equipment would also increase from implementation of the Redevelopment Plan, as infrastructure is constructed and new development occurs over time in the Project Area. The SMAQMD significance criteria that became effective in March 2002 (Table 4.3-1) have a quantitative emissions threshold for NO<sub>x</sub> but not for ROG. The City of Sacramento and the SMAQMD require assessment of all construction operations on a case by case basis, and mitigation where warranted.

All anticipated redevelopment actions, and growth within the Project Area as a result of redevelopment activities, would be consistent with the General Plan land uses and subject to project by project permitting and mitigation consistent with City and SMAQMD requirements. When the specifications and timing of individual redevelopment projects are known, construction emissions will be assessed against the criteria and standards applicable at the time of construction. The SMAQMD provides a list of development types that typically trigger their significance criteria.<sup>2</sup> These include single family developments of 340 or more units, apartment complexes of 500 or more units, industrial parks of 465,000 s.f. or more, or shopping centers of 30,000 sf. or more. Because development of that size would be consistent with the General Plan and could be engendered by redevelopment, emissions generated by individual projects within the Project Area could potentially exceed the SMAQMD thresholds, and therefore would be considered a short-term **significant** impact.

### **Mitigation Measure**

**4.3.1a** Future development projects within the Project Area shall be evaluated in compliance with the California Environmental Quality Act and with SMAQMD thresholds of significance. All feasible mitigation measures recommended by the SMAQMD shall be incorporated to reduce short-term (construction) generation of criteria pollutants. Projects that generate

emissions in excess of SMAQMD thresholds shall implement the following mitigation measures in addition to other measures required by SMAQMD:

1. To reduce NO<sub>x</sub> emissions from off-road diesel powered equipment, the prime contractor shall provide a plan for approval by the City of Sacramento and SMAQMD demonstrating that the heavy-duty (> 50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, will achieve a project wide fleet-average 20 percent NO<sub>x</sub> reduction and 45 percent particulate reduction<sup>1</sup> compared to the most recent CARB fleet average at time of construction; and
2. The prime contractor shall submit to the City of Sacramento and SMAQMD a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project. The inventory shall include the horsepower rating, engine production year, and projected hours of use or fuel throughput for each piece of equipment. The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs.
3. For controlling visible emissions from off-road diesel powered equipment, the prime contractor shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40 percent opacity for more than three minutes in any one hour. Any equipment found to exceed 40 percent opacity shall be repaired immediately, and City of Sacramento and SMAQMD shall be notified within 48 hours of identification of non-compliant equipment. A visual survey of all in-operation equipment shall be made at least weekly, and a monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey. The SMAQMD and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this section shall supercede other SMAQMD or state rules or regulations.

**4.3.1b** Projects shall comply with SMAQMD Rule 403, Fugitive Dust, for demolition and construction phases to reduce emissions of fugitive dust. To ensure compliance with Rule 403, approval to commence project construction shall not be given until the contractor submits a construction dust mitigation plan deemed satisfactory by the City and the SMAQMD. This plan shall specify the methods of control that will be used to control dust and particulate matter, demonstrate the availability of needed equipment and personnel, and identify a responsible individual who, if needed, can authorize the implementation of additional measures. Mitigation measures shall, at a minimum, include the following or equally effective measures:

1. All disturbed areas, including storage piles, which are not being actively utilized for construction purposes, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, or vegetative ground cover. All onsite unpaved roads and offsite unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.

2. All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.
3. When materials are transported offsite, all material shall be covered, effectively wetted to limit visible dust emissions, or at least six inches of freeboard space from the top of the container shall be maintained.
4. All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring.
5. Following the addition of materials to, or the removal of materials from, the surfaces of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions utilizing sufficient water or chemical stabilizer/suppressant.
6. Onsite vehicle speeds on unpaved surfaces shall be limited to 15 mph.
7. Wheel washers shall be installed for all trucks and equipment exiting from unpaved areas, or wheels shall be washed to remove accumulated dirt prior to leaving the site.
8. Excavation and grading activities shall be suspended when winds exceed 20 mph.
9. Grading for multiple development projects at the same time shall be avoided to the fullest extent possible (so as to avoid compounding the level of air emissions in a short period of time).

### ***Significance after Mitigation***

Implementation of these mitigation measures would reduce short-term regional emissions (i.e., ROG, NO<sub>x</sub>, and PM<sub>10</sub>) to ***less-than-significant*** levels.

### **Impact 4.3-2: Project Specific Long-Term Increases in Regional Criteria Pollutants.**

In addition to construction-related emissions, the total emissions include mobile sources, non-permitted stationary or “area” sources, and permitted stationary devices. Project Area population and employment increases would generate vehicular trips and air pollutant emissions, consistent with those anticipated in the General Plan, as amended. Trip generation rates would vary by land use. Commuting vehicles and on-site motor vehicles/mobile equipment would represent the greatest proportion of emission sources in the Project Area.

The Redevelopment Plan would remove barriers to the development of General Plan land uses in the Project Area. It is anticipated that operational emissions from buildout of the Project Area could exceed the identified thresholds established by the SMAQMD and therefore result in a ***significant impact***. The SMAQMD requires site-specific potential air quality impacts be assessed and mitigated to the extent feasible at the project level, as new development is proposed over time in the Project Area.

The SMAQMD regulates air quality in the Project Area through its permit authority over most types of stationary emission sources and through its planning and review activities. The land use and transportation patterns established through the City General Plan, as well as state, federal, and regional regulations and transportation systems, determine to a large extent the severity and location

of mobile source air quality impacts. The scale, and timing, of individual projects will determine the need for mitigation measures. When the specifications and timing of individual redevelopment projects are known, long term emissions will be assessed against the criteria and standards applicable at the time of development.

Individual development projects, as they are defined over the life of the Redevelopment Plan, will be submitted to the City for various entitlements and for compliance with current air quality criteria during project review. Compliance with mandatory federal, State, and local requirements (including those of the SMAQMD, the City's Trip Reduction Ordinance; In-Lieu Parking Ordinance; Bicycle Parking Facilities Ordinance; Infill Incentives Program; and several adopted programs and policies to mitigate air quality impacts, primarily by promoting public transit and other alternatives to automobile travel) is required by the City. Recommended mitigation measures are updated regularly by the SMAQMD, based on the latest science and current conditions.

### ***Mitigation Measure***

- 4.3-2** Future development projects within the Project Area shall be evaluated in compliance with the California Environmental Quality Act and with SMAQMD thresholds of significance. All feasible mitigation measures recommended by the SMAQMD shall be incorporated to reduce long-term (operational) generation of criteria pollutants.

### ***Significance after Mitigation***

Implementation of these mitigation measures may reduce this impact to less than significant levels. However, since future projects over the life of the 30 year Redevelopment Plan cannot be defined or analyzed at this programmatic level, the impact on long-term operational emissions remains ***potentially significant and unavoidable***.

### **Impact 4.3-3: Potential to Violate the SMAQMD's Qualitative Emission Thresholds**

Large industrial facilities tend to have the most potential for resulting in odors or the release of air toxic contaminant emissions. The Redevelopment Plan Project Area is characterized primarily by industrial and commercial land uses, with some residential uses on the western edges (less than 6% of the Project Area). The Project Area has approximately 253 acres of land designated industrial and commercial/heavy warehouse, and residential zones are buffered from the industrial zones by intervening uses. There may be some potential to violate the qualitative thresholds as a result of existing land uses in the area. However, implementation of the Redevelopment Plan would be focused on activities that reduce blight and inconsistent land uses, and is not anticipated to result in significant odors, impacts to local climate and meteorological conditions, or subject sensitive receptors to significant concentrations of harmful pollutants. This impact would be ***less than significant***.

### ***Mitigation Measure***

None required.

#### **Impact 4.3-4: Cumulative Air Emissions**

The proposed Redevelopment Plan would remove barriers to efficient in-fill development close to the downtown core and in an area directly served by buses and light rail transit. The City's General Plan designates part of the Project Area specifically for increasing residential and commercial development next to the light rail station and bus transfer hub, and providing student housing next to the California State University Sacramento, and a General Plan amendment for the 65<sup>th</sup> Street South Area Plan is underway. The Redevelopment Plan would provide infrastructure improvements and development assistance for the implementation of City plans and policies for the Project Area.

Project Area population and employment increases would generate vehicular trips and air pollutant emissions consistent with those anticipated in the General Plan, as amended. As described in the Land Use Section 4.1 of this EIR, the Redevelopment Plan must be consistent with the City of Sacramento General Plan and zoning code. No development beyond that already provided for in the City land use plans is proposed as a part of the Redevelopment Plan.

The regional air quality plan is based on growth projections developed for the region on the basis of land use plans of local jurisdictions, including the City of Sacramento, and other information. Since the Redevelopment Plan is fully consistent with the City of Sacramento plans, it is also consistent with the regional air quality management plans. Whereas growth in the Project Area must be consistent with adopted plans, implementation of the Redevelopment Plan would not result in cumulative emissions beyond those planned for by the SMAQMD in their attainment date projections. Cumulative emissions would be less than significant.

#### ***Mitigation Measure***

None required.

#### **4.3.2 REFERENCES – AIR QUALITY**

- *City of Sacramento General Plan*, City of Sacramento, January 19, 1988.
- *65<sup>th</sup> Street Transit Village Project Draft Environmental Impact Report*, City of Sacramento, December 2001.
- *South 65<sup>th</sup> Street Area Plan*, Initial Study, November 2003

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<sup>1</sup> (<http://www.arb.ca.gov/adam/welcome.html>)

<sup>2</sup> *Air Quality Thresholds of Significance*, Sacramento Metropolitan Air Quality Maintenance District, Table A-4, 1994.