4.6 AIR QUALITY

4.6.1 Environmental Setting

Meteorology

The project site is located in Santa Clara County, which lies within the San Francisco Bay Area Air Basin (BAAB). Temperatures at nearby San Jose Airport average 59^0F annually, ranging from the low-40s on winter mornings to near 80^0F on summer afternoons.

Daily and seasonal fluctuations in temperature are relatively minor because of the moderating effects of the nearby ocean. In contrast to the steady temperature regime, rainfall is highly variable and confined almost exclusively to the "rainy" period from early November to mid-April. San Jose averages 14 inches of precipitation annually, but because much of the area's rainfall is derived from the fringes of mid-latitude storms, a shift in the annual storm track of a few hundred miles can mean the difference between a very wet year and near-drought conditions. Santa Clara County is shielded from strong daytime sea breezes by the intervening hills to the west. Daytime airflow across the project site is mainly air that has moved southward from San Mateo County along the western shores of San Francisco Bay. Winds in the project area are typically out of the northwest, north-northwest, and north (about 40% of the time). All other wind directions occur no more than 10% of the time. Decreasing wind speeds and the origin of the incoming air over populated areas creates elevated air pollution levels in Santa Clara County. Annual average wind speeds are approximately seven miles per hour (CARB 1984). However, light daytime winds, especially until mid-afternoon, and near-calm nocturnal conditions limit the dispersion potential of the local atmosphere. Santa Clara County typically experiences higher air pollution levels than do better-ventilated portions of the BAAB.

Ambient Air Quality

The Bay Area Air Quality Management District (BAAQMD) operates a regional monitoring network which measures the ambient concentrations of six criteria air pollutants: ozone (O_3), carbon monoxide (CO), inhalable particulate matter (PM10), lead (Pb), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2). Existing and probable future levels of air quality in the project area can be generally inferred from ambient air quality measurements conducted by the BAAQMD at its Santa Clara County air monitoring stations. Table 4.6-1 is a five-year summary of monitoring data (1999-2003) from the BAAQMD's monitoring stations in San Jose (4^{th} Street) and Los Gatos. Table 4.6-1 compares measured pollutant concentrations with state ambient air quality standards, which are more stringent than the corresponding federal or national standards. These data indicate that the South Bay continues to experience air pollution problems with both atmospheric pollution potential and emissions continuing to be high in this area. Monitored values for ozone, PM10 and PM2.5 have exceeded the more stringent state air quality standards during the last five years of published data. Since 1999, all other pollutants have remained within allowable levels.

Table 4.6-1

Project Area Ambient Air Quality Monitoring Summary, 2000 – 2004

Pollutant	2000	2001	2002	2003	2004
Ozone					
1-hour > 0.09 ppm*	0	2	4	7	0
1-hour > 0.12 ppm**	0	0	0	0	0
8-hour > 0.08 ppm**	0	1	2	2	0
Max. 1-hour Conc. (ppm)	0.08	0.118	0.113	0.124	0.093
Carbon Monoxide					
1-hour > 20 ppm*, > 35 ppm**	0	0	0	0	0
8-hour > 9 ppm*,**	0	0	0	0	0
Max. 8-hour Conc. (ppm)	7.0	5.1	4.5	4.0	2.6
Nitrogen Dioxide					
1-hour > 0.25 ppm*	0	0	0	0	0
Max. 1-hour Conc. (ppm)	0.114	0.108	0.069	0.09	0.073
Respirable Particulates (PM_{10})					
24-hour > 50 $\mu g/m^3$*	7	4	0	3	0
24-hour > 150 $\mu g/m^3$**	0	0	0	0	0
Max. 24-hourConc. ($\mu g/m^3$)	80.0	81.8	48.1	59.5	40.3
Fine Particulates ($PM_{2.5}$)					
24-hour > 65 $\mu g/m^3$**	0	0	0	0	0
Max. 24-hour Conc. ($\mu g/m^3$)	64.2	63.3	44.1	56.1	40.8

Notes: Entries expressed as ratios = samples exceeding standard/samples taken.
* Number of Days Above California Ambient Air Quality Standards
** Number of Days Above National Ambient Air Quality Standards
- - No Data
Source: CO (1-hour): BAAQMD 2000-2004. San Jose Air Monitoring Station (4th Street) (http://www.baaqmd.gov/pio/aq_summaries/index.asp). California Air Resources Board 2000-2004, Los Gatos Air Monitoring Station for ozone and San Jose (4th Street for 2000-2002 and Jackson Street for 2003-2004) Station for all other pollutants. http://www.arb.ca.gov/adam/welcome.html (Top 4 Summary)

Ozone (O_3). O_3 is not emitted directly into the atmosphere but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving hydrocarbons (HC) and nitrogen oxides (NO_X). O_3 is a regional pollutant because its precursors are transported and diffused by wind concurrently with O_3 production by the photochemical reaction process. O_3 causes eye and respiratory irritation, reduces resistance to lung infection, and may aggravate pulmonary conditions in persons with lung disease. Table 4.6-1 shows that exceedance of the state standard occurred on 13 days in Los Gatos between 2000 and 2004. The less stringent federal standard of 0.12 ppm for one hour has not been exceeded, while the eight-hour standard of 0.08 ppm has been exceeded on five days, according to published data.

Carbon Monoxide (CO). CO is an odorless, invisible gas usually formed as the result of incomplete combustion of organic substances. Approximately 80% of the CO emitted in the BAAB comes from on-road motor vehicles (CARB, 1999). High levels of CO can impair the transport of oxygen in the bloodstream and thereby aggravate cardiovascular disease and cause fatigue, headaches, and dizziness. Table 4.6-1 shows that no exceedances of state CO standards were recorded between 2000 and 2004. Measurements of carbon monoxide (CO) show that the average maximum one-hour CO levels are approximately 20% to 30% of state and federal one-hour standards, while eight-hour CO levels are approximately 50% of the eight-hour state and federal standard. CO concentrations in Los Gatos are expected to be similar to those measured in San Jose.

Suspended and Inhalable Particulate Matter (PM_{10} and $PM_{2.5}$). Particulate matter is a class of air pollutants that consists of solid and liquid airborne particles in an extremely small size range. Particulate matter is measured in two size ranges: PM_{10} for particles less than 10 microns in diameter and $PM_{2.5}$, for even smaller particles which are less than 2.5 microns in diameter. Motor vehicles generate about half of Bay Area particulates, through tailpipe emissions as well as brake pad and tire wear. Wood burning in fireplaces and stoves, industrial facilities, and ground-disturbing activities such as construction are other sources of fine particulates. Fine particulates are small enough to be inhaled into the deepest parts of the human lung can cause adverse health effects. Among the criteria pollutants that the BAAQMD regulates, particulates appear to represent the most serious overall health hazard. Studies have shown that elevated particulate levels contribute to the death of approximately 200 to 500 people per year in the Bay area. High levels of particulates have also been known to exacerbate chronic respiratory ailments, such as bronchitis and asthma, and have been associated with increased emergency room visits and hospital admissions (BAAQMD 1996).

Diesel exhaust is a growing concern in the Bay Area and throughout California. The CARB identified diesel engine particulate matter as a toxic air contaminant. The exhaust from diesel engines includes hundreds of different gaseous and particulate components, many of which are toxic. Many of these toxic compounds adhere to the particles, and because diesel particles are very small, they penetrate deeply into the lungs. Diesel engine particulate matter has been identified as a human carcinogen. Mobile sources such as trucks, buses, and automobiles are some of the primary sources of diesel emissions. Studies show that diesel particulate matter concentrations are much higher near heavily traveled highways and intersections. District analysis shows that the cancer risk from exposure to diesel exhaust is much higher than the risk associated with any other toxic air pollutant routinely measured in the region (BAAQMD 1999).

Table 4.6-1 shows that exceedances of the state PM_{10} standard occur relatively infrequently in San Jose. State PM_{10} standards were exceeded on 14 measurement days in the last five years (PM_{10} is not monitored everyday). Federal PM_{10} standards have never been exceeded at the San Jose monitoring station.

In 1997, the U. S. Environmental Protection Agency adopted a new standard for $PM_{2.5}$, which represents the fine fraction of particulate matter; this standard was subject to legal challenge but was upheld by the U.S. Supreme Court in February 2001. California has adopted an annual state standard for $PM_{2.5}$ that is more stringent than the federal standard. The new state standard is an annual average standard of 12 $\mu g/m^3$, not to be exceeded. This standard went into effect in July 2003. The BAAQMD began monitoring $PM_{2.5}$ concentrations in 1999 in Fremont, Livermore, Concord, San Francisco, Redwood City, San Jose, Vallejo and Santa Rosa. $PM_{2.5}$ data collected at the San Jose station indicate that $PM_{2.5}$ concentrations have not exceeded the federal $PM_{2.5}$ standard since 1999.

Other Criteria Air Pollutants. The standards for NO_2, SO_2, and lead are being met in the Bay Area, and the latest pollutant trends information suggests that these standards will not be exceeded in the foreseeable future (ABAG and BAAQMD 1994).

Toxic Air Contaminants. Toxic air contaminants (TACs) are air pollutants that may lead to serious illness or increased mortality, even when present in relatively low concentrations. Potential human health effects of TACs include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs with varying degrees of toxicity. Individual TACs vary greatly in the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another.

TACs do not have ambient air quality standards, but are regulated by the BAAQMD using a risk-based approach. This approach uses a health risk assessment to determine what sources and pollutants to control as well as the degree of control. A health risk assessment is an analysis where human health exposure to toxic substances is estimated, and considered together with information regarding the toxic potency of the substances, to provide quantitative estimates of health risks.

In addition to criteria pollutants, both the BAAQMD and the California Air Resources Board (CARB) operate TAC monitoring networks in the San Francisco Bay Area. These stations measure 10 to 15 TACs, depending on the specific station. The TACs selected for monitoring are those that have traditionally been found in the highest concentrations in ambient air, and therefore tend to produce the most significant risk. The BAAQMD operates two ambient TAC monitoring stations in San Jose at 1020-B North 4th Street and 158-B East Jackson Street, which is about eight miles to the northeast of the project area. Using data from these two monitoring stations as well as data from the Fremont and San Francisco stations, it is estimated that estimated average lifetime cancer risk in the Bay Area was 162 in one million in 2002 for all Bay Area TACs (BAAQMD 2004). Since this estimate is based, in part, on data from the San Jose stations, this cancer risk would be indicative of the current risks in the project area. These levels

can be compared to the much higher background cancer incidence rate in the United States from all causes, which is 42%, or 400,000 in one million (National Cancer Institute 2005).[1]

West Valley College Toxic Air Contaminant Emission Sources

There are various hazardous materials stored and used on the West Valley College campus. According to the college's Hazardous Materials Management Plan (West Valley College 2003), hazardous materials include: gasoline, diesel fuel, and various maintenance-related chemicals in the Facilities Building, various chemicals stored in the chemistry and biology laboratories of the Science and Math Building, photo processing chemicals in the photo lab of the Language Arts and Social Sciences Building, various art supplies in the art labs and scene shop of the Fine Arts & Theatre Building, pool supplies in the Pool Equipment Room, photo solution in the Administrative of Justice Building, copy supplies in the Print Shop, diesel fuel for emergency generators in the Health Center and Information Systems Buildings. These hazardous materials are discussed in detail in Section 4.4, Hazards and Hazardous Materials. Of these materials, seven are identified by the CARB in the Toxic Hot Spots Program as toxic air contaminants (TACs):

- Diesel Particulate Matter: Diesel fuel is stored in aboveground tanks at the Facilities Building, Health Center Building (for emergency generator), and Information Systems Building (for emergency generator)
- Formaldehyde: Stored in containers (up to 15 gallons) in the Science Building, Biology Department.
- Hydrochloric Acid: Stored in containers (up to 1 gallon) in the Science Building, Chemistry Department and contained in muriatic acid, which is stored in containers (up to 1 gallon) at the pool equipment room.
- Dimethylaniline: Stored in containers (up to 0.1 gallons) in Science Building, Chemistry Department.
- Hydroquinone: Contained in Lauder formula 76 and Lauder paper developer and stored in containers (up to 5 gallons) in the Language Arts Building, Photo Labs.
- Ethylene Glycol: Contained in latex paint stored at the Facilities Building.
- Methanol: Stored in containers (up to 1 gallon) in the Science Building, Chemistry Department.

West Valley College is not included on the BAAQMD's TAC Emissions Inventory (2004), and the BAAQMD indicates that facilities whose emissions are below the BAAQMD TAC thresholds are not included in the inventory.

[1]It is generally believed that a large portion of the total background cancer risk in the United States comes from smoking and other personal habits, genetic susceptibilities, diet, natural radiation including radon, and other lifestyle factors.

Odors

There are no odor complaints on file with the BAAQMD for the West Valley College over the past five years.[2] BAAQMD Regulation 7 places general limitations on odorous substances and specific emission limitations on certain odorous compounds. The limitations of this regulation limit the "discharge of any odorous substance which causes the ambient air at or beyond the property line…to be odorous and to remain odorous after dilution with four parts of odor-free air." The BAAQMD must receive odor complaints from ten or more complainants within a 90-day period in order for the limitations of this regulation to go into effect. If this criterion has been met, an odor violation can be issued by the BAAQMD if a test panel of people can detect an odor in samples collected periodically from the facility.

Sensitive Receptors

Land uses such as schools, children's day care centers, hospitals, and convalescent homes are considered to be more sensitive than the general public to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. Residential areas are considered more sensitive to air quality conditions than commercial and industrial areas, because people generally spend longer periods of time at their residences, resulting in greater exposure to ambient air quality conditions. Recreational uses are also considered sensitive, due to the greater exposure to ambient air quality conditions, and because the presence of pollution detracts from the recreational experience. Residential uses surround the project site with residences to the south and east located closest to campus facilities. Recreational uses are located on the West Valley College campus, with sports facilities located on the southern portion of the campus. Redwood Middle School is located west of the campus, across Fruitvale Avenue. Land uses are described in more detail in Section 4.1, Land Use.

4.6.2 Conformance with Air Quality Regulations

Ambient Air Quality Standards

The federal Clean Air Act Amendments of 1970 established national ambient air quality standards, and individual states retained the option to adopt more stringent standards and to include other pollution sources. California had already established its own air quality standards when federal standards were established, and because of the unique meteorological problems in the state, there is considerable diversity between state (SAAQS) and federal or national (NAAQS) standards currently in effect in California, as shown in Table 4.6-2.

[2] Email communication dated January 31, 2005 from Rochelle Henderson, Public Records Coordinator, Bay Area Air Quality Management District, to Valerie Geier regarding odor complaint record search for West Valley College.

Table 4.6-2
State and Federal Ambient Air Quality Standards and Attainment Status

Pollutant	Averaging Time	(State) SAAQS[a] Standard	(State) SAAQS[a] Attainment Status	(Federal) NAAQS[b] Standard	(Federal) NAAQS[b] Attainment Status
Ozone	1-hour	0.09 ppm	**N**	0.12 ppm	**N**
	8-hour	NA	NA	0.08 ppm	U
Carbon Monoxide	1 hour	20 ppm	A	35 ppm	A
	8 hour	9.0 ppm	A	9 ppm	A
Nitrogen Dioxide	1 hour	0.25 ppm	A	NA	NA
	Annual	NA	NA	0.053 ppm	A
Sulfur Dioxide	1 hour	0.25 ppm	A	NA	NA
	24 hour	0.04 ppm	A	0.14 ppm	A
	Annual	NA	NA	0.03 ppm	A
Particulate Matter (PM_{10})	24 hour	50 $\mu g/m^3$	**N**	150 $\mu g/m^3$	U
	Annual[c]	20 $\mu g/m^3$	**N**	50 $\mu g/m^3$	A
Fine Particulate Matter ($PM_{2.5}$)	24 hour	NA	NA	65 $\mu g/m^3$	U
	Annual	12 $\mu g/m^3$ [d]	NA	15 $\mu g/m^3$	U
Sulfates	24 hour	25 $\mu g/m^3$	A	NA	NA
Lead	30 day	1.5 $\mu g/m^3$	A	NA	NA
	Cal. Quarter	NA	NA	1.5 $\mu g/m^3$	A
Hydrogen Sulfide	1 hour	0.03 ppm	U	NA	NA
Visibility Reducing Particles	8 hour	see note e	U	NA	NA

Notes: A = Attainment; **N** = Non-Attainment; U = Unclassified; NA = Not Applicable; ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.

a SAAQS = State Ambient Air Quality Standards (California). SAAQS for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, particulate matter, and visibility reducing particles are values that are not to be exceeded. All other state standards shown are values not to be equaled or exceeded.

b NAAQS = National Ambient Air Quality Standards. NAAQS, other than ozone and particulates, and those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The 1-hour ozone standard is attained if, during the most recent three-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one. The 8-hour ozone standard is attained when the 3-year average of the 4th highest daily concentration is 0.08 ppm or less. The 24-hour PM10 standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than the standard. The 24-hour PM2.5 standard is attained when the 3-year average of 98th percentiles is less than the standard.

c State Standard = Annual Geometric Mean; National Standard = Annual Arithmetic Mean.

d State PM2.5 standard went into effect in July 2003.

e Statewide VRP Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70%. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

Source: Bay Area Air Quality Management District 2005

The ambient air quality standards are intended to protect the public health and welfare, and they incorporate an adequate margin of safety. They are designed to protect those segments of the public most susceptible to respiratory distress, known as sensitive receptors, including asthmatics, the very young, the elderly, people weak from other illness or disease, or persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollution levels somewhat above the ambient air quality standards before adverse health effects are observed.

Federal Standards

The 1977 Clean Air Act required that regional planning and air pollution control agencies prepare a regional Air Quality Plan to outline the measures by which both stationary and mobile sources of pollutants can be controlled in order to achieve all standards within the deadlines specified in the Clean Air Act. For the Bay Area air basin, the Association of Bay Area Governments (ABAG), the Metropolitan Transportation Commission (MTC), and the BAAQMD jointly prepared a *Bay Area Air Quality Plan* in 1982 which predicted attainment of all Federal Clean Air standards within the air basin by 1987. This forecast was somewhat optimistic in that attainment of federal Clean Air standards did not occur throughout the entire air basin until 1991. The plan, which is referred to as the State Implementation Plan (SIP), must contain control strategies that demonstrate attainment with national ambient air quality standards by deadlines established in the federal CAA.

The Bay Area Air Basin attainment status with respect to federal standards is summarized in Table 4.6-2. In general, the Bay Area experiences low concentrations of most pollutants when compared to federal standards, except for O_3 and particulate matter, for which standards are exceeded periodically. In 1995, after several years of minimal violations of the Federal one-hour ozone standard, the EPA revised the designation of the Bay Area air basin from "non-attainment" to "attainment" for this standard. However, with less favorable meteorology in subsequent years, violations of the federal one-hour ozone standard were again observed in the basin. Effective August 1998, the EPA downgraded the Bay Area's classification for this standard from a "maintenance" area to an "unclassified non-attainment" area. In 1998, after many years without violations of any carbon monoxide (CO) standards, the attainment status for CO was upgraded to "attainment."

In response to the EPA's redesignation of the basin for the one-hour federal ozone standard, the BAAQMD, ABAG, and MTC were required to develop an ozone attainment plan to meet this standard. The *1999 Ozone Attainment Plan* was prepared and adopted by these agencies in June 1999. However, in March 2001, the EPA proposed and took final action to approve portions of the 1999 OAP and disapprove other portions, while also making the finding that the Bay Area had not attained the national one-hour ozone standard. As a result, a revised OAP was prepared and adopted in October 2001. The 2001 Plan amends and supplements the 1999 Plan, and provides for attainment by 2006. In April 2004, the U.S. EPA made a final finding that the Bay Area has attained the national one-hour ozone standard. Because of this finding, the previous planning commitments in the 2001 Ozone Attainment Plan are no longer required. The finding of attainment does not mean the Bay Area has been reclassified as an

attainment area for the one-hour standard. The region must submit a redesignation request to EPA in order to be reclassified as an attainment area. Therefore, the portion of the 2004 Ozone Strategy addressing national ozone planning requirements includes: (1) a redesignation request, and (2) a maintenance plan to show the region will continue to meet the one-hour ozone standard.

State Standards

In 1988, California passed the California Clean Air Act (AB2595) which, like its federal counterpart, called for designations of areas as attainment or non-attainment, based on state Ambient Air Quality Standards rather than federal or national standards. The Bay Area Air Basin attainment status with respect to state and federal standards is summarized in Table 4.6-2. In general, this table indicates the Bay Area experiences low concentrations of most pollutants when compared to state standards, except for ozone and particulate matter, for which standards are exceeded periodically.

The California Air Resources Board (ARB) is the state agency responsible for regulating air quality. ARB responsibilities include establishing state Ambient Air Quality Standards, emissions standards and regulations for mobile emissions sources (e.g., autos, trucks, etc.), and overseeing the efforts of county-wide and multi-county air pollution control districts, which have primary responsibility over stationary sources. The emission standards most relevant to the proposed project are those related to automobiles, light- and medium-duty trucks, and California heavy-duty truck engines. The CARB also regulates vehicle fuels, with the intent to reduce emissions, and has set emission reduction performance requirements for gasoline (California reformulated gasoline), and limited the sulfur and aromatic content of diesel fuel to make it burn cleaner. The CARB also sets the standards used to pass or fail vehicles in smog check and heavy-duty truck inspection programs.

The Bay Area Air Quality Management District (BAAQMD) is the regional agency responsible for air quality regulation within the San Francisco Bay Area Air Basin. The BAAQMD regulates air quality through its planning and review activities. The BAAQMD has permit authority over most types of stationary emission sources and can require stationary sources to obtain permits, and can impose emission limits, set fuel or material specifications, or establish operational limits to reduce air emissions. The BAAQMD regulates new or expanding stationary sources of toxic air contaminants.

For state air quality planning purposes, the Bay Area is classified by the CCAA as a *serious* non-attainment area for ozone. The *serious* classification triggers various plan submittal requirements and transportation performance standards. One such requirement is that the Bay Area update the Clean Air Plan (CAP) every three years to reflect progress in meeting the air quality standards and to incorporate new information regarding the feasibility of control measures and new emission inventory data. The Bay Area's record of progress in implementing previous measures must also be reviewed. The most recent CAP was completed in 2000. The *2000 CAP* includes a control strategy review to ensure that the plan continues to include: “all feasible measures” to reduce ozone; an update of the District’s emissions; estimates of emission reductions achieved by the plan; and an assessment of air quality trends. The 2004

Ozone Strategy contains measures to bring the basin into compliance with the state one-hour ozone standard. Adoption of that plan will satisfy the requirement for a triennial update of the *2000 CAP*.

4.8.3 Potential Impacts and Mitigation Measures

Significance Criteria

Based upon the criteria presented in Appendix G of the *CEQA Guidelines*, a project normally would have a significant effect on the environment if it would:

- conflict with or obstruct implementation of the applicable air quality plan.;
- violate any ambient air quality standard or contribute substantially to an existing or projected air quality violation;
- result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors);
- expose sensitive receptors to substantial pollutant concentrations; or
- create objectionable odors affecting a substantial number of people.

For construction-related impacts, BAAQMD recommends that significance should be based on a consideration of the control measures to be implemented (BAAQMD 1999). If appropriate mitigation measures are implemented to control PM10 emissions, the impact would be less than significant.

For operational impacts, the BAAQMD provides the guidelines to determine whether total emissions from project operations could exceed one of the following thresholds of significance:

- 80 pounds of NO_x, ROG, and PM10 per day
- 550 pounds of CO per day (a trigger level for which a "hot spot" analysis should be performed)

Projects approaching or exceeding these guidelines should undergo a more detailed analysis. The District generally does not recommend a detailed air quality analysis for projects generating less than 2,000 vehicle trips per day, unless warranted by the specific nature of the project or project setting.

Construction Impacts

Impact 4.6-1: Construction and demolition activities associated with project implementation would generate short-term emissions of criteria pollutants, including suspended and inhalable particulate matter and equipment exhaust emissions. (Temporarily Significant)

The 143-acre project site is currently developed with college facilities. Plan implementation would result in construction of a variety of planned projects including site infrastructure projects (reconfiguration of project accesses, realignment of existing campus roadways and walkways), demolition of seven buildings

and replacement of four of them, remodeling of eight existing buildings, renovation and expansion of four buildings, and construction of one new building. The extent of surface disturbance at any given time during the next ten years would depend on the timing of planned projects. The potential for surface disturbance would be greatest when site infrastructure and new building construction occurs. Building expansions would also result in some surface disturbance, while remodeling projects would have the lowest potential for surface disturbance.

To evaluate worst-case conditions, dust emissions were estimated for the Fox Center, the largest new construction project proposed in the LRDP, the Science and Math Building expansion project, and the new Information Systems Building. All three projects are scheduled to occur in 2005 or 2006. These three projects could result in surface disturbance of approximately one acre, although the surface disturbance phase of all three projects may not overlap. As indicated in Table 3-1, all other projects or combination of scheduled projects would result in smaller areas of surface disturbance in any given year. Combining this construction disturbance area with a dust generation factor of 51 pounds per day per acre (BAAQMD 1999) would result in daily PM_{10} (inhalable particulates) generation rate of 51 pounds per day without any dust control measures. PM_{10} emissions can be reduced by approximately 50% with the application of typical dust control measures such as watering unpaved areas and street cleaning at points of site access. Daily PM_{10} emissions would be reduced to 25.5 pounds per day per acre (California Air Resources Board 1997), or 25.5 pounds per day on the West Valley College campus with standard dust control measures. When compared to the BAAQMD significance threshold for PM_{10} of 80 pounds per day, project-related construction would be regionally less than significant without dust control measures. However, given the variable number of different demolition, remodeling, renovation, and construction projects that could occur in any given year as well as the Bay Area's current non-attainment status for PM_{10}, implementation of dust control measures will be required to ensure that project-related construction emissions are maintained at a less-than-significant level.

The BAAQMD's *CEQA Guidelines* (1999) acknowledges that construction activity emissions vary markedly from project to project, from day to day, and from one contractor to another. Rather than focus on a quantification of project-related emissions, the BAAQMD has developed a menu of mitigation options to control construction activity dust emissions. The BAAQMD (1999) considers implementation of all applicable dust control measures (which vary according to project magnitude) as reducing project-related particulate (PM_{10}) emissions to less-than-significant levels. These measures are grouped into three categories as follows:

- "Basic Control Measures" apply to all construction sites.
- "Enhanced Control Measures" apply to sites greater than four acres.
- "Optional Control Measures" apply to larger sites near sensitive receptors.

Based on the project's size, implementation of the Basic and Enhanced Control Measures listed below would maintain project construction-related impacts at a less-than-significant level. Due to the proximity

of existing residential uses, applicable optional control measures are also recommended to maintain impacts at a less-than-significant level when construction occurs adjacent to project boundaries.

Construction equipment emits carbon monoxide and ozone precursors during combustion of diesel fuel. The BAAQMD's determination, however, is that these emissions have been included in the emissions inventory, which was the basis for the '97 CAP and subsequent air quality plans. Since the BAAQMD does not consider construction-related exhaust emissions to be "new" emissions, they would not impede attainment or maintenance of ozone or CO standards in the air basin (BAAQMD 1999). Therefore, their impact would be considered less than significant. However, since diesel emissions have been identified by the CARB as a toxic air contaminant (TAC), there are residential uses located in proximity and downwind of the site, and variable levels of construction activities would occur on-campus over the next ten years, efforts should be made to reduce construction-related diesel emissions to the extent feasible.

Mitigation Measure 4.6-1: Construction activities must comply with the "Basic Control Measures" and "Enhanced Control Measures" and applicable "Optional Control Measures" for dust emissions and recommendations for exhaust emissions as outlined in the BAAQMD *CEQA Guidelines*. The appropriate level of mitigation shall be determined based on the total area of disturbance resulting from all planned projects occurring simultaneously. These requirements include:

Basic Dust Control Measures *(apply to all construction sites)*

a. Water all active construction areas at least twice daily.

b. Cover all trucks hauling soil, sand, and other loose debris *or* require all trucks to maintain at least two feet of freeboard.

c. Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites.

d. Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites.

e. Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.

Enhanced Dust Control Measures *(apply to construction sites greater than four acres)*

f. Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more).

g. Enclose, cover, water twice daily or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.).

h. Limit traffic speeds on unpaved roads to 15 mph.

i. Install sandbags or other erosion control measures to prevent silt runoff to public roadways.

j. Replant vegetation in disturbed areas as quickly as possible.

Optional Dust Control Measure *(apply to construction sites that are large in area, located near sensitive receptors, or which for any other reason may warrant additional emissions reductions)*

k. Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph.

Equipment Exhaust Control Measures *(apply to all construction projects to the extent feasible)*

l. Use alternative-fueled construction equipment.

m. Minimize idling time of construction equipment.

n. Maintain properly tuned equipment.

o. Limit the hours of operation of heavy-duty equipment and/or the amount of equipment in use.

Impact Significance After Mitigation: Less than significant

Operational Impacts

Impact 4.6-2: Mobile emissions generated by project-related traffic would increase local and regional vehicular emissions. (Less than Significant)

Regional emissions associated with implementation of project implementation were calculated using the ARB's URBEMIS 2002 computer model. The results are presented in Table 4.6-3. This table indicates that pollutant emissions associated with project-related traffic increases would not exceed BAAQMD thresholds of significance in 2010 or 2015. The BAAQMD thresholds address the impacts of mobile source emissions on local and regional air quality. Therefore, the project's contribution to the total pollution burden in the region would have a less-than-significant impact on regional air quality. [3]

In addition to the regional contribution to the total pollution burden, traffic generated by project implementation could result in localized "hot spots," or areas with high concentrations of carbon monoxide (CO) emissions around stagnation points such as major intersections and heavily traveled and congested roadways. Traffic associated with project implementation could add more cars as well as cause existing non-project traffic to travel at slower travel speeds, which could cause increased emissions and more localized hot spots.

[3] Regional mobile source emissions estimates reflect a combination of average trip lengths ranging from 5.0 to 11.8 miles, which accounts for project-related trips originating in surrounding communities.

Table 4.6-3

Project Daily Regional Emissions (2010 and 2015)

	Project-Related Mobile Source Emissions (Pounds per Day)				
Project Buildout Year	**ROG**	**NO_X**	**CO[1]**	**SO_X**	**PM_{10}**
2010	28.0	11.3	113.3	0.1	13.4
2015	20.5	6.9	70.5	0.1	13.4
	Project-Related Area Source Emissions (Pounds per Day)				
Addition of 94,528 gsf	0.1	1.1	0.2	Negligible	Negligible
Total Emissions	20.6	8.0	70.7	0.1	13.4
BAAQMD Threshold	80	80	550	-	80

NOTES:
ROG: Reactive Organic Gases NO_x: Nitrogen Oxides CO: Carbon Monoxide
PM_{10}: Inhalable Particulates SOx: Sulfur Oxides gsf: gross square feet
[1] Requires a microscale impact analysis, if exceeded.
SOURCE: Geier & Geier Consulting, Inc. 2005

A microscale air quality analysis of CO is warranted if daily project-related CO emissions exceed 550 pounds per day. Although emissions would not exceed this criterion, as shown in Table 4.6-3, a microscale screening analysis was completed for the proposed project. The results of the analysis are shown in Table 4.6-4. This table indicates that the project would result in a less-than-significant impact on all study intersections under existing and future conditions. The state one-hour CO standard (more stringent than the federal standard) is 20 ppm. Any change in CO of less than 1 ppm is considered a non-reportable change. As indicated in Table 4.6-4, the project's maximum one- and eight-hour CO contributions would be 0.1 ppm, which would be a less-than-significant change. Therefore, implementation of the proposed project would not have a significant effect on local air quality.

In addition to an increase in the number of passenger vehicles, the number of buses and delivery trucks serving the campus could also increase, thereby increasing exhaust pollutant emissions. Increased student enrollments could increase demand for bus service and supply deliveries. Buses and delivery vehicles are typically diesel-fueled, and diesel particulate matter emissions are listed by the CARB as a TAC. However, increased demand for bus service would increase ridership and would not necessarily increase the number of buses operating. In addition, increasing numbers of parcel delivery trucks are using alternative fuels such as compressed natural gas, and newer diesel engines for trucks and buses are required to meet increasingly stringent emission levels by the CARB and the U.S. EPA. Therefore, diesel particulate emissions from these types of vehicles are expected to continue to decrease in the future as bus and truck fleets are updated.

Mitigation Measure 4.6-2: None required.

Table 4.6-4

Localized Microscale Carbon Monoxide Emissions

	Project's Net Change in One-Hour CO Concentrations, in Parts Per Million (ppm)					
	Existing		Future (2015) – No Project		Future (2015) - With Project	
Intersection	**1-Hour**	**8-Hour**	**1-Hour**	**8-Hour**	**1-Hour**	**8-Hour**
1. SR 85 Northbound Ramps/Saratoga Avenue	4.8	3.4	4.2	3.0	4.2	3.0
2. SR 85 Southbound Ramps/Saratoga Avenue	4.7	3.4	4.2	3.0	4.2	3.0
3. Fruitvale Avenue/Saratoga Avenue	4.8	3.4	4.2	3.0	4.3	3.1
4. Fruitvale Avenue/Allendale Avenue	4.5	3.2	4.0	2.9	4.0	2.9
5. Fruitvale Avenue/Saratoga-Los Gatos Road	4.4	3.2	4.0	2.9	4.0	2.9
6. Quito Road/Allendale Avenue	4.4	3.2	3.9	2.9	4.0	2.9
7. Quito Road/Saratoga-Los Gatos Road	4.5	3.2	4.0	2.9	4.0	2.9
8. Theater Way/Allendale Avenue	4.1	3.0	3.7	2.7	3.7	2.7
9. Science Way/Allendale Avenue	4.1	3.0	3.7	2.7	3.7	2.7
10. Fruitvale Avenue/Main Entrance	4.4	3.2	4.0	2.9	4.1	2.9
11. Fruitvale Avenue/Admissions Way	4.2	3.1	3.8	2.8	3.5	2.6
12. Fruitvale Avenue/Athletics Way	4.3	3.1	3.8	2.8	3.5	2.6
13. Fruitvale Avenue/So. College Circle	4.1	3.0	3.7	2.7	3.8	2.8
Background Level (Included)	3.8	2.8	3.5	2.6	3.5	2.6
Clean Air Standard	20.0	9.0	20.0	9.0	20.0	9.0

SOURCE: Geier & Geier Consulting, Inc. 2005

Impact 4.6-3: The project's net addition of building space could increase the campus' area source emissions. (Less than Significant)

Additional floor space that would result from implementation of the LRDP would cause an increase in non-vehicular emissions from a variety of miscellaneous sources (area sources). Emissions-generating activities could include increased use of electricity and natural gas (for space heating, hot water or cooking), evaporative cleaning products used in maintenance, or paints and solvents used in periodic building upkeep. There are no published resource consumption data for a campus environment that would allow any meaningful estimate of the "area source" emissions associated with campus operations. The CARB computer model URBEMIS2002 has no provision for calculating non-residential area source emissions. Energy consumption is the one area source aspect that has a reasonably accurate correlation between floor space and energy use. Electrical energy, however, comes from a regional grid with no nexus between the points of generation (and emissions creation) and consumption (user). The only

project-related area source contribution that can be reliably quantified is therefore from natural gas combustion in heaters, boilers, stoves or similar equipment.

The average daily consumption rate in "office-type" uses is estimated to be 0.1 cubic foot per day per square foot of floor space (SCAQMD 1993). As indicated in Table 3-1, LRDP implementation would result in the net addition of approximately 94,528 gross square feet of space. The daily emissions associated with 9,452.8 cubic feet of natural gas are calculated as follows:

Carbon Monoxide	-	0.2 pounds/day
Reactive Organic Gases	-	0.1 pounds/day
Nitrogen Oxides	-	1.1 pounds/day
Inhalable Particulates, Sulfur Oxides	-	negligible

As shown in Table 4.6-3, addition of these area source emissions to the project's mobile source emissions burden for 2015 would not exceed the BAAQMD CEQA significance thresholds. Therefore, project area source and combined emissions would be less than significant.

In addition, the less-than-significant increases in area source emissions associated with the added space are expected to be offset by emissions reductions associated with equipment upgrades as part of planned interior remodeling projects. Implementation of the proposed LRDP would result in remodeling of approximately 15 buildings, which would include upgrading of mechanical equipment. Since all building remodeling would be subject to Title 24 energy conservation requirements, the more energy-efficient, upgraded equipment is expected to generate lower area source emissions.

Project implementation would increase use of paints (including ethylene glycol, a TAC, which is contained in latex paint) as part of planned maintenance activities. However, emissions associated with maintenance of existing buildings would occur whether or not the LRDP is implemented. The project's 18% incremental increase in space due to new construction or expansion projects would not significantly increase daily emissions of this TAC as painting occurs over the next ten years. New construction would likely require less on-going maintenance painting after initial construction than existing buildings since older materials generally require more frequent re-painting.

Mitigation Measure 4.6-3: None required.

Impact 4.6-4: The proposed project could result in increased stationary source emissions, which includes various toxic air contaminants (TACs) and associated odors. (Potentially Significant)

Stationary or point source emissions on the West Valley College campus include emergency generators as well as the science and photo labs. There are currently three diesel-fueled emergency generators and they are located at the Facilities, Health Center, and Information Systems buildings. Project implementation could result in the addition of at least one emergency generator for the proposed Fox Center. This generator would be a source of diesel particulates, a TAC and carcinogen, but this generator would only

operate during power failures and for brief (15-minute) monthly testing. Therefore, long-term exposure to diesel particulates from these sources would not occur. In addition, construction of any new emergency generators on campus would be subject to review by BAAQMD to determine if an Authority to Construct permit and a Permit to Operate are required. This permit review process would ensure that diesel exhaust emissions associated with the proposed generator(s) would comply with applicable BAAQMD standards.

Implementation of the LRDP would increase the number of chemistry labs from four to six and the number of biology labs from five to seven. Although the number of chemistry labs would increase, the Chemistry Department plans to reduce chemical use (including use of 37% hydrochloric acid solution, dimethylaniline, and generation of 20% methanol solution, all TACs) by implementing microscale experimentation and computer simulation techniques for lab experiments. However, the Biology Department anticipates a modest increase in the use and storage of chemicals (including formaldehyde, a TAC) for biology labs.[4] According to the College's Hazardous Materials Management Plan (West Valley College 2003), the Biology Department uses approximately 15 gallons of 10% formaldehyde solution per day on average (in addition to other listed chemicals), while the Chemistry Department uses approximately 35 gallons per day of the above-listed TACs on average. Based on these estimates, it is possible that reductions in chemical use by the Chemistry Department could offset anticipated increases in use of formaldehyde by the Biology Department. Therefore, project implementation is not expected to significantly increase existing overall, stationary source emissions (including TACs) that are associated with West Valley College. However, use of TACs on campus will continue to be subject to requirements of the BAAQMD Air Toxics Program. As indicated in Mitigation Measure 4.6-4b, this program requires that a Health Risk Screening be completed to determine the project's exemption status .

TACs stored and used at the Photo Lab and pool equipment room are not expected to change with the proposed project. The photo lab would not be expanded and therefore, there would be no increase in chemical storage or use (including hydroquinone, a TAC). Muriatic acid (also known as hydrochloric acid) is stored in the pool equipment room, and renovation of the pool as part of LRDP implementation is not expected to increase use of this TAC in the pool vicinity.

Project implementation would increase the potential for nuisance odor impacts. It is anticipated that project implementation would result in an incremental increase in formaldehyde use (which has a characteristic and pungent odor), while use of methanol (which has a spirituous odor) and dimethylaniline (which has a characteristic odor) are expected to decrease. Increased use of formaldehyde on campus would increase the potential for nuisance odor impacts at downwind locations (including adjacent residential uses to the east). Appropriate design of the ventilation systems for the science labs would minimize the potential for nuisance odor problems.

---

[4] Telephone communication with Dave Fishbaugh, Dean of Learning Resources, West Valley College, on January 24, 2005.

To reduce the risk of exposure of College faculty, staff and students to unacceptable levels established by the regulatory agencies, West Valley College implements health and safety plans and procedures, in conformance with federal, state and local requirements. Providing protection for employees and students on campus also serves to provide protection from exposure to chemicals or health hazards to persons living and working in the surrounding area. To minimize exposure to chemicals in the air, faculty and students are required to exercise standard procedural precautions, such as working under fume hoods when using volatile chemicals likely to present airborne exposure hazards (such as formaldehyde and methanol). Most fume hoods use fans to exhaust volatile chemicals to the outside, rather than allowing the fumes to build up inside a building where chemicals are being used. Mitigation measures below recommend that the design of remodeled science and photo labs not create odor nuisance problems or safety risks.

BAAQMD *CEQA Guidelines* (1999) indicate that in order for local plans to have a less-than-significant impact with respect to potential TACs and odors, buffer zones should be established around existing and proposed land uses that would emit these air pollutants. The project would maintain existing buffer zones between campus TAC/odor sources and adjacent residential uses. Therefore, the project would have a less-than-significant impact with respect to TAC and odor sources. Locations of the campus uses where TACs are stored (science labs, pool equipment room, storage area in the Facilities Building, and diesel-fueled emergency generators) would remain the same with project implementation. The photo lab would be relocated from the Language Arts Building to the Library/Television Building, approximately 400 feet away. The existing buffer zone of approximately 800 feet between the lab and nearby residences would be maintained (although the closest residences would be different). Although the existing Information Systems Building would be relocated to the south, the diesel-fueled emergency generator associated with this building would remain at the same location. Therefore, the existing buffer zone between the generator and nearby residences to the southeast would be maintained. The only exception would be a new diesel-fueled emergency generator that would be located at the proposed Fox Center, a new building. Provision of this generator would introduce a new TAC source, but would not increase project impacts since it would be located farther from adjacent residential receptors to the west than the existing emergency generators at the Facilities and Information Systems buildings. Therefore, the existing buffer zone would not be reduced.

Mitigation Measure 4.6-4: The following measures should be implemented as specified to minimize air quality impacts related to stationary sources:

a. Any proposed emergency generators should be subject to review by the BAAQMD to determine if an Authority to Construct permit and a Permit to Operate are required. This permit review process should ensure that diesel exhaust emissions associated with the proposed generator(s) would comply with applicable BAAQMD standards.

b. As part of the Science and Math Building remodel and expansion project, the following measures should be required:

- When the proposed quantities of TACs to be used at the Science Building have been determined, potential emissions should be estimated and compared to the BAAQMD trigger levels for TACs. The trigger level for formaldehyde is 33 pounds per year. No trigger levels are specified by the BAAQMD for other TACs used on campus. If estimated emissions of any TACs exceed these levels, a Health Risk Screening shall be completed.

- When labs are renovated, the fans should be designed to direct the exhaust to a minimum distance above the roof level to ensure effective dispersion of volatilized chemicals. In addition, ventilations fans should be designed to dilute the volatilized chemicals with considerable volumes of air to meet OSHA standards and reduce any potential hazards and nuisance odor problems to ground-level receptors and nearby residents.

Impact Significance After Mitigation: Less than significant.

Consistency with Air Quality Plans

Impact 4.6-5: Projected student enrollments at West Valley College are projected to increase at a rate greater than population growth rates assumed in the Clean Air Plan. (Less than Significant)

BAAQMD *CEQA Guidelines* (1999) distinguish between development projects and plans, recommending that the air quality impact assessment for a land use plan (e.g., general plan amendments, redevelopment plans, specific area plans, and other similar planning activities) provide an analysis of the plan's consistency with the Clean Air Plan (CAP). The proposed LRDP is a land use plan for the development of the campus over the next ten years. Therefore, air quality impacts associated with implementation of the LRDP are determined in part by evaluating the LRDP's consistency with the CAP. Consistency with the CAP is determined by comparing the LRDP's anticipated growth rates (defined by population growth and its associated increase in vehicle miles traveled [VMT]) with the growth rates used in the CAP. CAP growth rates are based on population projections by the Association of Bay Area Governments (ABAG).

The WVMCCD projects a growth rate of up to 2% per year (this rate was applied to the traffic impact analysis in this EIR). For the period between 2005 and 2015, ABAG estimates population growth of 1.8% per year for the Bay Area as a whole (ABAG 2005), 0.9% for Santa Clara County, and 0.35% for Saratoga (Santa Clara County Planning Office 2005). Since the Bay Area is currently non-attainment for ozone and PM_{10}, increases population in excess of the CAP could potentially hinder attainment efforts in the future. Although the project's anticipated growth rate would exceed the CAP growth rates and would not be consistent with the CAP, implementation of the LRDP would not constitute a significant air quality impact. Since West Valley College, like other community colleges, provides educational facilities for local residents and does not provide on-campus housing, it does not generate new population but accommodates population increases in the surrounding area. Therefore, any future increase in student enrollments at the college would not necessarily cause the population in Saratoga to increase, but rather,

Plan implementation would accommodate future growth that is anticipated by ABAG in Saratoga and other surrounding communities as well.

The rate of increase in VMT (vehicles miles traveled) for West Valley College must be equal to or lower than the rate of increase in population in Saratoga and Santa Clara County in order to be consistent with the Clean Air Plan. The project is estimated to increase the College's VMT by 2.2% per year over the next ten years. This would be roughly proportional to the projected student enrollment increases, and likewise would exceed projected annual population growth rates of 0.35% for Saratoga and 0.9% for Santa Clara County and San Francisco Bay Area region. Although planned growth at the College could hinder planned attainment efforts under the CAP, the projected increase in VMT would not constitute a significant air quality impact. Since West Valley College serves local communities, potential future increases in VMT could be avoided if the college could accommodate local student growth and needs. Without expanded or renovated facilities at West Valley College, local students might have to travel farther to other community colleges to find required classes or available space. Nevertheless, transportation control measures are recommended below for West Valley College to reduce future increases in VMT.

Mitigation Measure 4.6-5: None required.

Cumulative Impacts

Impact 4.6-6: Mobile emissions generated by project-related traffic in addition to growth in the surrounding communities would cumulatively increase local and regional emissions. (Potentially Significant for Regional Emissions; Less than Significant for Local Emissions)

Cumulative traffic increases of 1.0% per year was applied in this analysis to account for traffic increases associated with any background growth in surrounding communities. This growth rate would be commensurate with the projected annual population growth rate of 0 0.9% for Santa Clara County and San Francisco Bay Area region. When this same growth rate is applied to cumulative regional air emissions between 2005 and 2015, a 1.1% increase in regional air emissions would result from such cumulative growth.

Between 2005 and 2015, emissions rates are projected to decline by 53% for ROG, 60% for NO_x, 56% for CO, and 10% for SO_x due to retirement of high-emission, older vehicles and improvement of emissions technologies. However, PM_{10} levels are projected to increase by 8% during this same period. The CARB (2005) estimates regional increases of 8.4% in population (0.8% annually) and 17.2% in vehicle miles traveled (1.6% annually) between 2005 and 2015 within the San Francisco Bay Area Air Basin. Even when these increases are considered, regional emissions are still projected to decrease by 22% for ROG, 32% for NO_x, and 36% for CO between 2005 and 2015. However, PM_{10} levels (exhaust only) would still increase by 3%. Projected declines in certain regional emissions rates (ROG, NO_x and SO_x) will more than offset regional emissions increases associated cumulative growth in surrounding communities and the Bay Area region. Therefore, cumulative increases in these regional emissions (even with the project

increment included) would be less than significant. The one exception is PM10 where cumulative growth in surrounding communities and project implementation would exacerbate projected regional increases. Since the Bay Area is currently non-attainment for PM10, this would be a significant cumulative impact.

Since the San Francisco Bay Area air basin is a non-attainment area for PM10, the project's short-term construction-related emissions would contribute incrementally to cumulatively significant regional PM10 emissions. However, the project's incremental short-term contributions to regional PM10 emissions would be mitigated to a less-than-cumulatively-considerable (i.e., less-than-significant level) by implementation of dust and exhaust control measures required in Mitigation Measure 4.6-1.

Table 4.6-4 presents increases in local emissions (CO) associated with the projected 1% annual cumulative growth (2015 No Project Condition). This table indicates that as vehicle emissions rates decline in the future due to retirement of high-emission, older vehicles, these declines will more than offset regional emissions increases associated with cumulative growth. The net decline would be 36% between 2005 and 2015 and this effect is reflected in Table 4.6-4, which shows a decrease in CO emissions despite cumulative and project-related traffic increases. In addition, since cumulative local emissions increases would not exceed the BAAQMD threshold for potential significance, cumulative local emissions increases would be less than significant.

Mitigation Measure 4.6-6: In addition to the college's existing permit parking program, existing bicycle facilities, and proposed/recommended improvements to pedestrian access (see Impact and Mitigation Measure 4.5-5), the District should implement any of the following transportation control measures at West Valley College to reduce the college's contributions (approximately 20% to 24% over existing enrollments by 2015) to cumulative regional increases in PM10 emissions by promoting alternatives to the single-occupant vehicle:

- Increased permit parking fees in campus lots
- Preferentially located and/or financially discounted High-Occupancy Vehicle (carpool) parking (e.g. reduced or waived fees for carpools or vanpools)
- Transit subsidies such as the EcoPass Program for West Valley College staff and employees
- Transit passes for students
- Guaranteed ride home program
- Flexible work schedules
- Financial incentives (such as parking cash-out) to use alternative transportation modes such as biking, walking, and transit

Impact Significance After Mitigation: Less than significant. According to the BAAQMD (1999), provision of transit facilities and transit subsidies (EcoPasses) can reduce all trips by 0.5% to 2%, and

transit facilities are already provided on the campus. Implementation of parking fees (already required) in addition to transit subsidies and ridesharing programs could reduce work-related trips by 2% to 20%.

References - Air Quality

Association of Bay Area Governments (ABAG), 2005. *ABAG Projections 2005*. Information provided through the ABAG website (http://data.abag.ca.gov/p2005/regional.htm). Accessed on January 24, 2005.

ABAG and the Bay Area Air Quality Management District (BAAQMD), 1994. *Improving Air Quality Through Local Plans and Programs,* October.

BAAQMD, 2005. *Standards and Attainment Status*. Information provided through the BAAQMD Website (http://www.baaqmd.gov/pln/air_quality/ambient_air_quality.asp). Updated 11/23/04. Accessed on January 4, 2005.

_____, 2004. *Toxic Air Contaminant Control Program, Annual Report, 2002, Volume 1, and Appendix B, Emissions Inventory*. June.

_____, 1999. *BAAQMD CEQA Guidelines, Assessing the Air Quality Impacts of Projects and Plans*. Revised December, 1999.

_____, 1996. *BAAQMD CEQA Guidelines, Assessing the Air Quality Impacts of Projects and Plans, Appendices A-E*. April, 1996.

California Air Resources Board (CARB), 2005. *2005 Almanac, Chapter 4, Tables 4-13 and 4-14*. Information provided through the CARB Website (http://www.arb.ca.gov/aqd/almanac/almanac05/chap405.htm). Accessed on February 15, 2005.

_____, 1997. *Area Source Emissions, Section 7.7, Building Construction Dust*. August 1997.

_____, 1984. *California Surface Wind Climatology*.

National Cancer Institite. *Surveillance, Epidemiology, and End Results (SEER) Cancer Statistics Review, 1975-2000*. Information provided through the BAAQMD website (http://www.seer.cancer.gov/cgi-bin/csr/1975_2001/search.pl#results). Accessed on January 22, 2005.

Santa Clara County Planning Office, 2005. *Growth Projections 2000 – 2025*. Information provided through the SCC Website (http://www.sccgov.org/content/0,4745,ccid%253D630916,00.html). Accessed on January 23, 2005.

South Coast Air Quality Management District (SCAQMD), 1993. *CEQA Handbook*.

West Valley College, 2003. *Hazardous Materials Management Plan Renewal Package*. April 8.