3.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES
3.4 AIR QUALITY

INTRODUCTION

This section addresses the air emissions generated by the construction and operation of the proposed project. The analysis also addresses the consistency of the project with respect to the air quality policies set forth by the Great Basin Unified Air Pollution Control District (GBUAPCD) and Mono County. The air quality analysis focuses on whether the project would cause an exceedance of an ambient air quality standard.

GREAT BASIN VALLEYS AIR BASIN

The State of California is divided into multiple air basins, which are grouped into geographic areas with similar topographical and meteorological conditions. Mono County is located in the Great Basin Valleys Air Basin, which also encompasses Alpine and Inyo Counties. The area is defined by the Sierra Nevada mountain range to the west, the White, Inyo, and Coso ranges to the east, Mono Lake to the north, and Little Lake to the south.

CLIMATE

The Town of Mammoth Lakes is located in the eastern Sierra Mountains, within Mono County, California. Mono County's climate is characterized by large fluctuations in diurnal temperatures, clear skies, excellent visibility and relatively hot summers. The project area is located at an elevation of approximately 8,000 feet above mean sea level (amsl), and receives an average of 14 inches of rainfall and 66 inches of snowfall per year. Typically, the majority of precipitation occurs between November and March as recorded at Lee Vining and Mono Lake Climate Monitoring Stations. The average minimum temperature is approximately 35°F and the average maximum temperature is approximately 62°F. Table 19 on page 150 provides the recorded summary data from the Mammoth Lakes Ranger Station. The station is located within 10 miles of the project site. Data from this station are considered to be representative of the project area, because of the proximity and similarity in elevation (6,800 feet amsl).

Spring is the windiest season with fast-moving northerly weather fronts. Summer winds blow out of the north at night as a result of cool air draining off the sides of the mountains. Southerly winds during the day result from strong solar heating of the mountain slopes causing

Table 19

Local Average Temperatures and Precipitation

Month	Temperature (°F)		Precipitation (inches)	
	Maximum	Minimum	Total	Snow
January	40.3	16.6	4.88	45.4
February	39.5	15.8	4.06	44.9
March	44.9	20.6	2.62	33.3
April	48.9	24.3	1.37	16.2
May	60.3	33.0	1.33	4.6
June	69.8	39.9	0.58	0.7
July	77.9	45.7	0.52	0.0
August	77.1	44.9	0.37	0.0
September	70.6	37.2	0.46	0.0
October	60.9	28.2	1.20	8.1
November	47.8	21.3	2.31	15.2
December	41.7	15.7	4.05	42.9
Annual (Average/Total)	56.7	28.6	23.76	211.3

[a] *Period of record is from December 1, 1993 to December 31, 2005*
Source: Western Regional Climate Center www.wrcc.dri.edu accessed August 2006

up-slope circulation. The mean annual wind speed in the Town is less than 11 miles per hour (mph). Mean annual wind speeds measured just outside of Town, at elevations of 8,900 feet amsl and 7,800 feet amsl, average 21.7 mph and 11.5 mph, respectively.

Wind patterns in the San Joaquin Valley region continually transport air into the GBVAB. Daily wind patterns blow air through the warmer valleys and up the western side of the Sierras. The transported air cools at night and falls down the eastern slopes of the mountains. This pattern occurs throughout the year and is the source of transported air pollutants including ozone.

3.4.1 REGULATORY FRAMEWORK

Criteria air pollutants are defined as those for which the Federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health. The project site and surrounding areas are subject to air quality regulations developed and implemented at the Federal, State, and local levels. At the Federal level, the United States Environmental Protection Agency (USEPA) is responsible for implementation of the Federal Clean Air Act (CAA). Some portions of the CAA (e.g., certain mobile sources and other requirements) are implemented directly by the USEPA. Other portions of the CAA (e.g.,

stationary source requirements) are implemented by State and local agencies. Plans, policies and regulations that are relevant to the proposed project are discussed below.

Federal Standards

The CAA establishes Federal air quality standards, known as National Ambient Air Quality Standards (NAAQS) and specifies future dates for achieving compliance. The CAA also mandates that the State submit and implement a State Implementation Plan (SIP) for areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards would be met.

The 1990 Amendments to the CAA identify specific emission reduction goals for areas not meeting the NAAQS. These amendments require both a demonstration of reasonable further progress toward attainment and an incorporation of additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA that are most applicable to the proposed project include Title I (Nonattainment Provisions) and Title II (Mobile Source Provisions).

Title I of the CAA identifies attainment, nonattainment, and unclassifiable areas with regard to the criteria pollutants and sets deadlines for all areas to reach attainment for the following criteria pollutants: ozone, nitrogen dioxide, sulfur dioxide, fine particulates, carbon monoxide, and lead. The NAAQS were amended in July 1997 to include the 8-hour Ozone standard and a NAAQS for $PM_{2.5}$. Table 20 on page 152 shows the NAAQS currently in effect for each criteria pollutant.

Title II of the CAA contains a number of provisions with regard to mobile sources, including requirements for reformulated gasoline, new tailpipe emissions standards for cars and trucks, nitrogen oxides standards for heavy-duty vehicles, and a program for cleaner fleet vehicles. Identification and regulation of hazardous air pollutants (HAPs) are addressed in Title III. Under Title V, conditions for operating permits are specified.

In 1978 the Federal EPA published final regulations implementing the Prevention of Significant Deterioration (PSD) Program. This program, contained under part C of the CAA, requires major stationary sources to formally demonstrate that operations of a new or modified source would not cause an exceedance of applicable NAAQS. A major source is defined as emitting 250 tons per year of any criteria or precursor pollutant for which the basin is in attainment.[37]

[37] *www.EPA.gov*

Table 20

Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [a]		Federal Standards [b]		
		Concentration [c]	Method [d]	Primary [c,e]	Secondary [c,f]	Method [g]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.08 ppm (157 µg/m^3) [h]		
Respirable Particulate Matter (PM_{10})	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		50 µg/m^3		
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No Separate State Standard		65 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	15 µg/m^3		
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10mg/m^3)	Non-Dispersive Infrared Photometry NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	—
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	—	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m^3)	Same as Primary Standard	Gas Phase Chemiluminescence
	1 Hour	0.25 ppm (470 µg/m^3)		—		
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	—	Ultraviolet Fluorescence	0.030 ppm (80 µg/m^3)	—	Spectrophotometry (Pararosaniline Method)
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (365 µg/m^3)	—	
	3 Hour	—		—	0.5 ppm (1300 µg/m^3)	
	1 Hour	0.25 ppm (655 µg/m^3)		—	—	—
Lead	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	—
	Calendar Quarter	—		1.5 µg/m^3	Same as Primary Standard	High Volume Sampler and Atomic Absorption

Table 20 (Continued)

Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [a]		Federal Standards [b]		
		Concentration [c]	Method [d]	Primary [c,e]	Secondary [c,f]	Method [g]
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer — visibility of ten miles or more (0.07 — 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		**No Federal Standards**		
Sulfates	24 Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride [i]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

[a] *California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter—PM_{10}, $PM_{2.5}$, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.*

[b] *National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone 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_{10}, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, 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. Contact U.S. EPA for further clarification and current federal policies.*

[c] *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 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.*

[d] *Any equivalent procedure which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.*

[e] *National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.*

[f] *National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.*

[g] *Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.*

[h] *New federal 8-hour ozone and fine particulate matter standards were promulgated by U.S. EPA on July 18, 1997. Contact U.S. EPA for further clarification and current federal policies.*

[i] *The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.*

Source: California Air Resources Board, 2006

State Standards

In 1988, the State legislature adopted the California Clean Air Act (CCAA), which established a statewide air pollution control program. The CCAA requires all areas of the State to achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest practical date. The CAAQS incorporate additional standards for most of the criteria pollutants and has set standards for other pollutants recognized by the State. In general, CAAQS are more stringent than corresponding NAAQS. Table 20 lists the current CAAQS.

Toxic Air Contaminants

The EPA regulates emissions of the 189 designated HAPs under Federal Title III of the CAA. The CARB regulates additional hazardous pollutants, designated as Toxic Air Contaminants (TACs), including those with predicted carcinogenic and non-carcinogenic health-effects. The Air Toxics Hot Spots Information and Assessment Act (AB 2588) requires inventories and public notices for facilities that emit TACs above established thresholds.

The CARB has created 35 local air agencies throughout California, responsible for promulgating and enforcing rules and regulations governing most stationary sources of emissions. Each air district not in attainment of a NAAQS must develop a Plan, commonly called an Air Quality Management Plan (AQMP). An AQMP demonstrates the effectiveness of proposed measures to bring the air basin into attainment of the standard by the applicable deadline. The local regulations are discussed in detail below.

REGIONAL RULES AND REGULATIONS

The GBUAPCD has promulgated numerous rules and regulations[28] governing the construction and operation of new or modified sources of air pollutant emissions within the Great Basin Valleys Air Basin. The following provides a discussion of the applicable GBUAPCD rules for the proposed project.

The AQMP for the Town (adopted by the Town Council and GBUAPCD Board of Directors in November and December 1990) established that Mammoth Lakes is susceptible to air pollution episodes during the winter ski season. This condition is due to the increased use of both mobile sources and stationary sources including wood burning stoves and fireplaces. The resulting action taken by the GBUAPCD was the implementation of air quality control regulations to curtail PM_{10} emissions. Additionally, the Town of Mammoth Lakes has

[28] *www.GBUAPCD.org*

implemented numerous guidelines that govern the design of development projects, and are provided in Section 3.2, Land Use, of this Draft EA/EIR. The following are rules enforced by the GBUAPCD as well as municipal code sections specific to the Town of Mammoth Lakes.

a. GBUAPCD Rule 200-A and 200-B. Permits Required

Before any individual builds or operates anything which may cause the issuance of air contaminants or the use of which may eliminate, reduce or control the issuance of air contaminants, such person must obtain a written *authority to construct* and *permit to operate* from an Air Pollution Control Officer.

b. GBUAPCD Rule 209-A. Standards for Authority to Construction

Under Rule 209-A, new stationary sources with air emissions above applicable thresholds must be constructed with Best Available Control Technologies (BACT).

c. GBUAPCD Rule 216-A. New Source Review Requirements for Determining Impact on Air Quality Secondary Sources

Rule 216-A states a person shall not initiate, modify, construct or operate any secondary sources that will cause the emission of any air pollutant without first obtaining a permit. A secondary source is defined by the GBUAPCD as any structure, building, facility, equipment, installation, or operation which is located on one or more bordering properties within the District and which is owned, operated, or under shared entitlement to use by the same person.

d. GBUAPCD Rules 401 and 402. Fugitive Dust and Nuisance

Rule 401 requires that airborne particles remain on the site they originate from under normal wind conditions. Proper mitigation techniques approved by the GBUAPCD must be implemented to ensure that fugitive dust is contained. This does not apply to dust emissions discharged through a stack or other point source.

Rule 402 states that any air discharge that may cause injury or detriment, nuisance or annoyance, or damage to any public property or considerable number of people is regulated. This rule discusses all the health and safety issues that may interfere with public and private areas surrounding the site.

e. GBUAPCD Rules 404-A and Rule 404-B. Particulate Matter and Oxides of Nitrogen

Rule 404-A states that a person shall not discharge from any source whatsoever, particulate matter in excess of 0.3 grains per standard dry cubic foot of exhaust gas. Rule 404-B states that a person shall not discharge from fuel burning equipment having a maximum heat input rate of more than 1.5 billion BTU per hour (gross), flue gas having a concentration of nitrogen oxides calculated as Nitrogen Dioxide (NO_2) in parts per million of flue gas by volume at 3 percent oxygen: 125 ppm with natural gas fuel, or 225 ppm with liquid or solid fuel. Additionally, a person shall not discharge from sources other than combustion sources, nitrogen oxides, calculated as nitrogen dioxide, 250 parts per million (ppm) by volume.

f. GBUAPCD Rule 416. Sulfur Compounds and Nitrogen Oxides

A person shall not discharge sulfur compounds from any single source calculated as sulfur dioxide at 0.2 percent by volume.

g. GBUAPCD Rule 431; Town of Mammoth Lakes Municipal Code Section 8.30.030. Standards for Regulation of Solid Fuel Appliances and Section 8.30.110. Road Dust Reduction Measures

Both the GBUAPCD and the Town of Mammoth Lakes AQMP discuss the following rules on PM reduction control measures.

Rule 431 and Section 8.30.030: Wood burning stoves must comply with 1991 EPA Phase II Certified Stoves standards. Hotel/Condominium common areas are limited to no more than one wood burning stove or fireplace.

Rule 431 and Section 8.30.110: Requirements include vacuum street sweeping of volcanic cinders, requires vehicle miles traveled (VMT) reduction measures for new developments, and limits peak VMT in the Town to 106,600 VMT.

h. GBUAPCD Toxic Risk Assessment Policy

The GBUAPCD regulates new toxic air emission sources under a new source assessment policy. The policy requires that all new sources emitting TACs must apply for a permit. Once the application is received, the GBUAPCD performs a screening risk assessment based on the following: If an individual is exposed to a lifetime carcinogenic risk of greater than one in one million, then the permit will be granted; if exposed to a risk between one and 10 in one million, then mitigation measures must be implemented before the permit is granted; if exposed to a risk greater than 10 in one million the permit will not be granted.

3.4.2 AFFECTED ENVIRONMENT

Existing uses on the site include a surface parking lot for skiers utilizing Mammoth Mountain. Existing conditions for the air quality analysis include the VMT associated with the current uses of the project site. The impact analyses for both construction and operation are net increases resulting from the difference between the project conditions and existing conditions.

Under the provisions of the Federal Clean Air Act, the Environmental Protection Agency is required to classify each air pollution control district as attainment or nonattainment status determined by the Federal standards. The CARB has similar responsibilities related to the State standards. Areas that violate Federal or State ambient air quality standards are referred to as nonattainment areas for the respective pollutants.

As shown in Table 21 on page 158, Mono County is classified as attainment for all CAAQS, except ozone and PM_{10}, and all NAAQS except PM_{10}. However, there is no ozone implementation plan for attainment in Mono County, nor is one required as outlined in the 2001 CARB Ozone transport review (CARB 2001, page 45). Under State law, the CARB determines the contribution of transported pollution as overwhelming, significant, inconsequential, or some combination of the three. The CARB Ozone Transport Review states that; "Transport from the central portion of the (San Joaquin) Valley is responsible for ozone violations in Mammoth Lakes . . ." and that the resulting impacts on the Town's air quality were classified as "overwhelming".

a. Local Area Conditions

The GBUAPCD operates several air quality monitoring stations within the GBVAB. One air quality monitoring station is located within the Town of Mammoth Lakes. Air quality monitoring is performed by the APCD at the corner of Highway 203 and Old Mammoth Road. The site is equipped with a state of the art continuous-reading Tapered Element Oscillating Microbalance PM_{10} monitor. Additionally, the APCD continues to use a co-located Partisol PM_{10} monitor operated every third day to demonstrate compliance with the ambient standards. Ozone and CO concentrations were monitored in the past, but these monitoring programs have been discontinued. A summary of the air quality data from 2000 to 2005 for the Mammoth Lakes Monitoring Station is provided in Table 22 on page 159.

Discussions of each pollutant, including emission sources, historical ambient levels recorded at the Mammoth Lakes Monitoring Station, and recent trends in ambient conditions are presented below.

Table 21

Mono County Area Designation

Pollutant	California Status	National Status
Ozone	Non-Attainment	Attainment
$PM_{2.5}$	Unclassified	Attainment
PM_{10}	Non-Attainment	Non-Attainment[a]
CO	Attainment	Attainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
SO_4	Attainment	Attainment
Lead	Attainment	Attainment
H_2S	Attainment	Attainment
Visibility Reducing Particles	Unclassified	Unclassified

[a] *PM_{10} nonattainment does not represent all of Mono County, only a subset including Mammoth Lakes: http://www.arb.ca.gov/desig/adm/fed_pm10_desig.pdf*

Source: CARB 2004

b. Carbon Monoxide

CO is a colorless and odorless gas. Motor vehicles are the primary source of CO in the GBVAB. CARB and the EPA classify Mono County in attainment of the CO standards. CO monitoring in the Town was discontinued in 2002. The State one-hour standard for CO is 20.0 parts per million (ppm), while the Federal standard is 35 ppm. The maximum one-hour concentration per calendar year has fluctuated at the Mammoth Lakes Monitoring Station from 4.2 ppm in 2000 to 15.4 ppm in 2001. Both the State and Federal eight-hour standard for CO is 9.0 ppm. CO concentrations, as recorded in the Mammoth Lakes station, have not exceeded the State or National standards since 1991 (Table 22).

c. Ozone

Ozone is categorized as a photochemical oxidant. Oxidants are formed when nitrogen oxides, hydrocarbons, related compounds called volatile organic compounds and reactive organic compounds interact in the presence of ultraviolet sunlight.

In 2001 CARB published an O_3 transport review, which discussed the movement of O_3 among the various air basins contained within the State. CARB is responsible for classifying the contribution of transported O_3 in a given area based on the level of significance. CARB's

Table 22

Mono County Air Quality Levels

Pollutant	Averaging Time	California Standard	Federal Primary Standard	Year	Maximum Concentration	Days Above State/Federal Standard[a]
Carbon Monoxide (CO)	1-Hour	20 ppm	35 ppm	2000	4.2[b]	0/0
				2001	15.4	0/0
				2002	--[c]	-/-
				2003	--[c]	-/-
				2004	--[c]	-/-
				2005	--[c]	-/-
	8-Hour	9 ppm	9 ppm	2000	2.5[b]	0/0
				2001	2.5	0/0
				2002	--[c]	-/-
				2003	--[c]	-/-
				2004	--[c]	-/-
				2005	--[c]	-/-
Ozone (O_3)	1-Hour	0.09 ppm	0.12 ppm	2000	--[b]	-/-
				2001	0.10[b]	4/0
				2002	0.07[b]	0/0
				2003	--[c]	-/-
				2004	--[c]	-/-
				2005	--[c]	-/-
	8-Hour	No State Standard has been promulgated	0.08 ppm	2000	--[b]	-/-
				2001	0.09	-/2
				2002	0.07	-/0
				2003	--[c]	-/-
				2004	--[c]	-/-
				2005	--[c]	-/-
PM_{10}	24 Hour	50 mg/m^3	150 mg/m^3	2000	70[d]	2/0
				2001	134	4/0
				2002	129[b]	4/0
				2003	62	1/0
				2004	73	3/0
				2005	70	6/0
	Annual	20 mg/m^3	50 mg/m^3	2000	27[b,d]	1/0
				2001	26	1/0
				2002	30[b]	1/0
				2003	--[b]	-/-
				2004	19.6	0/0
				2005	19.5	0/0

Table 22 (Continued)

Mono County Air Quality Levels

Pollutant	Averaging Time	California Standard	Federal Primary Standard	Year	Maximum Concentration	Days Above State/Federal Standard[a]
$PM_{2.5}$	24 Hour	No separate State Standard	65 mg/m^3	2000	31[b]	-/0
				2001	41[b]	-/0
				2002	--[b]	-/-
				2003	34	-/0
				2004	27	-/0
				2005	27[b]	-/0
	Annual	12 mg/m^3	15 mg/m^3	2000	18.0[b]	-/-
				2001	10.3[b]	-/-
				2002	--[b]	-/-
				2003	--[b]	-/-
				2004	--[b]	-/-
				2005	--[b]	-/-

[a] *The number of days above the standard is not necessarily the number of violations of the standard for the year. Data from CARB (http://www.arb.ca.gov/adam/welcome.html) unless otherwise noted.*

[b] *Years with incomplete data.*

[c] *Mono County stopped monitoring for CO and Ozone in 2002. Data not available*

[d] *2002 Values posted from EPA (http://www.epa.gov/air/data/).*

Source: PCR Services Corporation, 2006

research has proven that seasonal and diurnal variations in weather patterns play an important role in determining the fate of O_3, especially in the San Joaquin Valley Air Basin.[29]

The San Joaquin Air Basin is the primary source for transported O_3 entering the Town of Mammoth Lakes. Precursor pollutants, NOx and VOCs, emitted in the San Joaquin Valley react in the presence of sunlight, creating ozone. Recirculating air patterns and warmer temperatures, which are frequently experienced in the San Joaquin Valley, increase the photochemical production of O_3. As discussed in Section 3.4, diurnal wind patterns carry O_3 eastward to the crest of the Sierras during the day. As the air cools, O_3 flows down the eastern slopes into Mammoth Lakes, which accounts for the O_3 violations occurring late at night and in the early morning. Nearly all of the O_3 responsible for the violations in Mammoth Lakes has been

[29] *CARB 2001= Austin, J. and Gouze, S. Ozone Transport: 2001 Review. California Air Resource Board, April 2001*

transported from the west. This process is intensified in the summer months when photochemistry significantly increases production of O_3 in the San Joaquin Valley.[30]

The maximum 1-hour O_3 concentration recorded at the Mammoth Lakes Station during the 2000 to 2005 period was 0.1 ppm, which was recorded in 2001. During the reported period, the California standard of 0.09 ppm was exceeded 4 times in 2001; the Federal standard of 0.12 ppm was not exceeded during this time. The maximum 8-hour O_3 concentration was 0.09 ppm, which was recorded in 2001. During the same period, the Federal standard of 0.08 ppm was exceeded two times in 2001.

d. Particulate Matter

PM_{10} arises from sources such as road dust, diesel soot, combustion products, construction operations, and dust storms. The maximum recorded concentration during 2000 to 2005 at the Mammoth Lakes Monitoring Station was 134 micrograms per cubic meter ($\mu g/m^3$), recorded in 2001. During this time period, the California standard was exceeded between two and six times (three percent to 10 percent of the time) annually, with the highest number of exceedances in 2005 and the lowest number of exceedances recorded in 2000.[31] PM_{10} is monitored every six days coincident to a national schedule; therefore, PM_{10} exceedances are based on the number of sampling days. California is in non-attainment for PM_{10} under both National and State designations.

As of June 5, 2003, the State annual PM_{10} standard is 20 $\mu g/m^3$, which is based on the geometric mean of the monitored one-hour values. This is a reduction from the previous State annual standard of 30 $\mu g/m^3$. The Federal standard is 50 $\mu g/m^3$ based an average of the one-hour concentrations. The State standard has been exceeded in the years 2000, 2001, and 2002. There have been no exceedances of the Federal annual standard during this monitoring period.

e. Fine Particulate Matter

$PM_{2.5}$ is primarily a result of combustion. Combustion products emitted into the atmosphere as well as those particles that are formed in the atmosphere from gaseous pollutants are $PM_{2.5}$ precursors. As a result of atmospheric chemistry (secondary formation) the primary particles from combustion eventually form $PM_{2.5}$. Generally, $PM_{2.5}$ poses a greater health risk than larger particulates. This is due to the more toxic chemical composition of smaller particles and their ability to deposit deep into the human lung, which results in more absorption into the

[30] *Ibid.*

[31] *http://www.arb.ca.gov/aaqm/partic.htm*

blood stream and an increased risk of associated health affects. In addition to health impacts, these particles can reside in the atmosphere for long periods of time and are the main contributors to reduced visibility and regional haze.[32]

The State established a 24-hour $PM_{2.5}$ standard in 2003, coincident with the Federal standard of 65 $\mu g/m^3$. However, while the State standard is not to be exceeded, the Federal standard's criteria allows for some exceedances as long as the three-year average of the annual 98^{th} percentile concentration distributions at each monitoring site meet the standard.

The APCD began monitoring for $PM_{2.5}$ in 2000. With monitoring data through 2004, no exceedance of the State standard has been reported. The State $PM_{2.5}$ annual standard is 12 $\mu g/m^3$ (not to be exceeded); while the Federal standard is 15 $\mu g/m^3$ (averaged over three years). No full year of data collected from the monitoring station in the Town violates the State standard. EPA issued official designations for the $PM_{2.5}$ standard in December 2004 and made modifications in April 2005. Mono County is designated as unclassifiable/attainment.

f. Odor

Potential sources of odors related to the project include restaurant operations, chlorination of spas and pools, and on-site laundry services. In addition, smoke from wood burning stoves and fireplaces, vehicle exhaust from tour buses, RVs, and other diesel powered vehicles may be generated with implementation of the project.

g. Sensitive Receptors

Sensitive populations are more susceptible to the effects of air pollution than the general population. Sensitive populations that are in close proximity to localized sources of toxics and CO are of particular concern and are termed sensitive receptors. Land uses considered to be sensitive receptors with regard to air quality include residences, schools, playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes.

The closest sensitive receptors to the site include single family residences located to the north, the Summit Condominiums located to the south, and the Juniper Springs Lodge located to the southwest. The closest residences are located approximately 70 feet to the north of the project site boundary. Other potentially sensitive uses in the more distant area include multi-family residential development to the west of Juniper Springs Lodge.

[32] *Ibid.*

3.4.3 ENVIRONMENTAL CONSEQUENCES

Significance Criteria

Significance criteria used in this analysis are based on NEPA criteria and CEQA guidelines (for determining the significance of environmental impacts).

a. NEPA Significance Criteria

NEPA guidance suggests the evaluation of whether a Proposed Action threatens a violation of Federal, State, local law, or any established requirements protecting the environment. For attainment pollutants PSD major source thresholds, of 250 tons per year, would be used to determine significance of potential impacts. Mobile sources, the primary source of air pollutant emissions from the proposed project, are exempt from PSD permitting. The stationary source PSD applicability emission levels are being used only as mass based significance levels under NEPA, since no similar emission levels have been established for hotel/residential/retail projects.

b. CEQA Significance Criteria

Based on Appendix G in the CEQA Guidelines, implementation of the Eagle Base Lodge Development project would be considered to have a significant impact on air quality if the project would

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project's region is categorized as nonattainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors, for example NOx);
- Expose sensitive receptors to substantial pollutant concentrations, or;
- Create objectionable odors affecting a substantial number of people.

Air Pollution Control Districts commonly establish mass-based significance criteria against which to measure a project's potential impacts. Projects resulting in emissions below these mass-based criteria are presumed to result in less than significant impact on the basin's

ability to obtain or maintain ambient air quality standards. This method provides an acceptable alternative to performing refined demonstrations. However, the GBUAPCD has not established mass-based significance criteria.

For this project, CEQA significance criteria for attainment pollutants would be the Federal PSD applicability thresholds used under NEPA. Applicability with rules, regulations, control measures, and limits contained in the AQMP for PM_{10} are used to determine significance. Projects that incorporate BMPs to control PM_{10} emissions during construction would be considered to have a less than significant impact. Furthermore, projects that would contribute to an exceedance of the Town's maximum allowed 106,600 VMT would contribute to a significant air quality impact. The VMT control measure, contained under the Mammoth Lakes AQMP, is a combined maximum for the Town. Vehicle miles traveled associated with the project are combined with the existing numbers.

c. Methodology

The evaluation of potential impacts on local and regional air quality that may result from construction and long-term operations of the proposed project are based on the following methodological approach:

(1) Construction Phase

Construction of the proposed project would generate air pollutant emissions from the following activities: the commute of workers to and from the project site; delivery and hauling of construction materials and supplies to and from the project site; fuel combustion by on-site construction equipment; dust generating activities from soil disturbance; and the application of architectural coatings and other building materials.

As mentioned previously in Chapter 2, Proposed Action, two options are proposed for the project. The first option is the construction of 83 condo units, and the second option is a 213-room hotel. Although two different types of land uses are proposed, the construction activities (equipment mix, duration, intensity) for both options would be the same. Construction of either option would occur within the proposed building envelope in terms of construction activity. Thus, the most conservative option would be applied to construction phase emissions.

Emission levels from construction activities would vary based on the type of equipment, duration of use, operation schedules, and number of construction workers. Construction emissions were estimated using the URBEMIS2002 emissions inventory model which incorporates calculation formulas and emissions factors prescribed by the California Air Resources Board (CARB), various local air quality management districts and the USEPA AP-42.

(2) Operational Phase - Regional

Project operation emissions were calculated using the URBEMIS 2002 emissions inventory model, which multiplies an estimate of daily vehicle miles traveled by applicable EMFAC2002 emission factors. Emissions predicted under Existing Conditions are calculated using 2006 estimates of VMT, while emissions resulting from the proposed Project are assumed to occur in 2009, using predicted VMT. VMT is a daily combined total for the Town of Mammoth Lakes, which includes all existing Town VMT as an existing condition. As mentioned previously, either a hotel option or and a condo option are under consideration for the project. The numbers of trips generated and total VMT for both options are expected to be similar for both options. However, stationary and area emissions which include consumer products usage, natural gas consumption and electricity usage may vary slightly between the two options, due to the difference in land use types. Under the condo option, residential uses may be occupied for a longer duration than the hotel option resulting in a slight increase in operational emissions. As a result, both options are considered in the operational emissions analysis. Also, to account for the differing seasonal visitation patterns and emission factors, the model was run separately for summer and winter seasons, then compiled onto one table to encompass yearly emissions.

Pollutant emissions associated with energy demand (i.e., electricity generation and natural gas consumption) are classified as regional stationary source emissions. Electricity is considered an area source since it is produced at various locations within, as well as outside of, Mono County. Because it is not possible to isolate the exact location of electricity production, these emissions are conservatively considered to occur within the GBVAB, and are regional in nature.

(3) Operational Phase - Localized

There are two potential localized impacts to air quality from operation of the proposed project: ambient PM_{10} levels in the Town and CO hotspots at roadway intersections. Each is discussed below.

(a) Particulate Matter

Based on data provided in the traffic study (Appendix B), PM_{10} emissions were calculated using URBEMIS2002 for operational emissions. PM_{10} emissions from electricity generation were calculated using a spreadsheet methodology and is accounted for in the total operational emissions inventory. The GBUAPCD has also developed a spreadsheet model which accounts for emissions from vehicle miles traveled (VMT) throughout the Town and use of fireplaces or stoves to determine whether the PM_{10} AAQS would be exceeded. Project-related

VMT data provided in the traffic study (Appendix X) and the number of proposed fireplaces or stoves was incorporated into the spreadsheet model to determine if the project would contribute to an exceedance of the PM_{10} AAQS.

(b) Carbon Monoxide

Within the Town of Mammoth Lakes, vehicle exhaust is the primary source of CO. Consequently, the highest CO concentrations are generally found within close proximity of congested intersection locations on the weekends. Proposed project traffic, during the operational phase of the project, would have the potential to create local area CO impacts. Under typical meteorological conditions, CO concentrations tend to decrease as the distance from the emissions source (i.e., congested intersection) increases. For purposes of providing a conservative impact analysis, CO concentrations are typically analyzed at congested intersection locations. A conservative approach would be conducted on the following premise: if impacts are less than significant in close proximity of the congested intersections, then impacts would also be less than significant at more distant sensitive receptor locations.

Local area CO concentrations for roadways were evaluated using the CALINE4 traffic pollutant dispersion model, developed by Caltrans with EMFAC 2002 emission factors. The analysis of roadway CO impacts followed the protocol recommended by Caltrans and published in the document titled *Transportation Project-Level Carbon Monoxide Protocol*, December 1997.

Although the GBUAPCD does not have specific requirements for analyzing CO hotspots, most air quality management districts within California recommend a hotspot evaluation of potential localized CO impacts when volume-to-capacity ratios increase by two percent at intersections with a level of service (LOS) of C or worse. In order to conform to the Caltrans CO protocol, all four corners of each intersection were analyzed with receptor locations positioned three meters from each intersection for the 1-hour analysis and seven meters for the 8-hour analysis. The estimated CO concentrations from the CALINE4 modeling results were then compared to State and Federal CO standards to determine whether the project would have a significant air quality impact.

d. Environmental Consequences of the Proposed Action

Construction of the project is expected to start in spring of 2007 and would take approximately 24 months to complete. During this time, construction would continue throughout the year including the winter months. As mentioned previously, two possible options are considered for the project. Both options would occur within the proposed building envelope in terms of duration and construction activities required. Thus, the construction emissions analysis

would take into consideration the worst case option and would apply to either option. Construction-related emissions include on-site and off-site emissions. On-site construction emissions are associated with a variety of activities including: (1) earthwork activities such as grading, excavation, blasting, transporting fill material on paved and unpaved roads, and paving activities; (2) exhaust emissions from diesel and gasoline-powered construction equipment such as bulldozers and excavators; (3) architectural coatings; and (4) asphalt paving emissions. Off-site emissions would mainly result from travel by workers commuting to and from the project site, in addition to construction equipment and haul trucks delivering materials (e.g., excavated soil, concrete and building material) to and from the construction site. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation, and, for dust, the prevailing weather conditions. The assessment of construction air quality impacts considers each of these potential sources.

Emissions were calculated for all phases of construction, and results are presented in Table 23 on page 168. Detailed discussions for each pollutant are provided below.

(1) Ozone Precursor Emissions

Emissions of VOCs and NO_x result from the combustion of fossil fuels in on- and off-road vehicles and construction equipment. In addition, activities such as architectural coating, welding, and asphalt operations would generate VOC emissions during construction of the project.

The air quality of the project site and surrounding area is currently classified as non-attainment of the State standard for ozone, but is in attainment of the NAAQS. As discussed previously, CARB has determined that local ozone violations are the result of pollutant transport from the San Joaquin Valley. Ozone levels should improve in the GBVAB when substantial mitigation measures are more fully implemented in upwind air basins.

Once created and transported, ground level ozone would dissipate both spatially and temporally as winds disperse the pollutant. It is unlikely that ozone precursor pollutants emitted within the Town would contribute toward local ground level ozone levels. Local conditions as described in Section 3.4 are much less conducive for the formation of photochemical ozone. Cold windy conditions experienced on the eastern slopes of the Sierras quickly transport any precursor pollutants out of the area before they can impact the ambient environment. During calm mornings, the prevailing cold temperatures are not favorable to the formation of ozone. As discussed in Section 3.4.3, Affected Environment, ozone exceedances in Mono County are attributable to upwind sources. Local sources are not considered to have a considerable impact on ambient levels.

Table 23

Pollutant Emissions from Construction Activities (Total Tons Emitted)

Construction Phase	VOC	NOx	SO_2	CO	PM_{10}
Year 1					
Demolition (1 month)	<0.1	0.6	<0.1	0.5	0.1
Site Preparation (8 months)	1.3	9.8	<0.1	10.3	4.5
Building Construction (3 months)	0.2	1.0	<0.1	1.2	<0.1
Year 1 Total	**1.6**	**11.3**	<0.1	**12.0**	**4.6**
Year 2					
Building Construction (12 months)	5.0	6.9	<0.1	8.8	0.3
Year 2 Total	**5.0**	**6.9**	<0.1	**8.8**	**0.3**
Grand Total	**6.5**	**18.2**	<0.1	**20.8**	**4.9**

[a] *Construction emissions calculated using URBEMIS2002 v. 8.7*
[b] *PM_{10} emissions assume water is applied to exposed surfaces 2x daily during construction activities for a 50% control of fugitive dust emissions*
Note: Numbers may not add up exactly due to rounding

Source: PCR Services Corporation, 2006

Ambient levels of NO_x in the air basin are below the applicable CAAQS and NAAQS. The County-wide estimate of NO_x is approximately 986 tons per year for 2005. The maximum annual emissions of NO_x predicted to be generated occur as a result of construction are estimated to be approximately 11 tpy, one percent of the GBVAB total. Additionally, NO_x emissions are below the PSD applicability threshold of 250 tons/year. Therefore, emissions are not likely to contribute to a violation of applicable NO_x standards. Impacts are considered less than significant for VOCs as an ozone precursor, and less than significant for NO_x as an ozone precursor and as a primary pollutant.

(2) Sulfur Dioxide Emissions

As shown in Table 23, the emissions of SO_x from construction activities are fairly negligible. SO_2 emissions would not result in a violation of ambient air quality standards. The County-wide estimate of SO_x is 10.95 tons per year for 2005. The maximum annual emissions of SO_x predicted to occur as a result of construction are estimated to be approximately one percent of the GBVAB total. It should be noted that sulfur levels in liquid fossil fuels are regulated under California State law. Effective June 2006, sulfur levels in diesel fuel are now limited to 15 parts per million as opposed to the previous regulation of 500 parts per million. URBEMIS2002 applies the outdated state controls for fuel sulfur levels, which suggests that actual emission of SO_x would be lower than the data shown in Table 23. Maximum SO_x emissions of <0.1 tons per year is below the 250 tons/year PSD threshold and are unlikely to

threaten regional ambient air quality. Based on this data SO_x emissions are predicted to result in a less than significant impact.

(3) CO Analysis

CO is the result of incomplete combustion of fossil fuels. Circumstances that lead to increased CO emissions are cold wintertime conditions, and vehicles idling. The emissions shown on Table 23 represent emissions produced by equipment directly involved in the construction of the project and commuting construction workers. The 2005 county-wide emission inventory calculated by CARB in Mono County was 19,199 tons per year of CO. The incremental increase in emissions resulting from construction activities is approximately 0.1 percent of the County totals and are below the 250 tons per year PSD threshold. These emission levels are unlikely to threaten ambient air quality in the surrounding areas. Therefore, predicted inputs from the emissions of CO during construction would be less than significant.

(4) Fugitive dust (PM_{10}) Emissions

Best Management Practices (BMPs) would be implemented during construction of the project to minimize emissions of fugitive dust. These practices include: use of water or chemicals for control of dust in the demolition of existing structures, construction operations, the grading of roads or the clearing of land; application of asphalt, oil, water, or suitable chemicals on dirt roads, material stockpiles, and other surfaces which can give rise to airborne dusts; use of water, chemicals, venting, or other precautions to prevent particulate matter from becoming airborne in handling dusty materials to open stockpiles and mobile equipment; and maintenance of roadways in a clean condition.

Even with the implementation of these BMPs, fugitive dust emissions would be generated during ground disturbing activities such as clearing, excavation, blasting, grading and trenching, hauling on paved and unpaved surfaces, in addition to wind blowing over disturbed surface areas. According to the project development schedule (Appendix X), the most intensive earthwork activities would occur during the 3rd quarter of 2007. During this phase, site clearing, blasting and mass excavation activities would be performed simultaneous with the parking garage construction activities, including excavation of footings and structural work for the garage foundation. Emission values could vary depending on soil moisture, silt content, wind speed, and other factors. PM_{10} emissions also would result from the combustion of fossil fuels, such as diesel in construction equipment and on-road vehicles, and brake and tire wear from on-road mobile sources.

As discussed above, BMPs would be implemented during construction of the project to minimize emissions of fugitive dust. Therefore, the proposed project would result in a less than

significant impact for PM_{10} emissions during construction. As described in Table 24, fugitive dust emissions relevant to the construction of the project would have a less than significant impact.

e. Operation Impacts

Project operations include all of the daily activities of the project that may generate pollutant emissions. For projects containing indirect sources such as office parks, shopping centers, and residential subdivisions, motor vehicles traveling to and from the project site represent the primary source of air pollutant emissions. The proposed project is a mixed use development, which contains a hotel condominium and numerous ski-related uses (e.g., food service, retail shops, ski-school, and a day care). It should be noted that this project does include VMT reducing measures as part of the operational plan. The project promotes the use of shuttle buses for travel around town and encourages walking by locating people close to the mountain and by providing a convenience market within the neighborhood to limit additional trips to the existing commercial area for groceries (Vons).

Predicted annual emissions in tons per year for both the hotel and condo options are summarized in Table 24 and Table 25 on pages 171 and 172, respectively.

(1) Ozone Precursor Emissions

Emissions of VOCs and NO_x result from the combustion of fossil fuels in on-road vehicles and stationary sources such as generators, heaters, and boilers. In addition, wood burning in fireplaces, application of architectural coatings for continuous maintenance, and consumer products usage contribute to VOC emissions during operations of the project.

As described in Section 3.4.3, Construction Impacts, there is an overwhelming amount of transported ozone from the San Joaquin Valley impacting the Town of Mammoth Lakes. As a result of this, the air quality of the project site and surrounding area is currently classified as non-attainment of the state standard for ozone, but is in attainment of the NAAQS. The CARB has discussed local ozone violations as the result of pollutant transport from the San Joaquin Valley in the 2001 Ozone Transport Review. Ozone levels should improve in the air basin only when substantial mitigation measures are more fully implemented in upwind air basins.

The incremental increase in emission of VOCs is estimated to be approximately 2 tpy, below the 250 tpy threshold. Local sources are not considered to have a considerable impact on ambient levels due to the climactic patterns located on the eastern slopes of the Sierras discussed under Construction Impacts.

Table 24

Proposed Project-Related Operational Emissions (Hotel Option)
(Tons/Year)

Emission Source	CO	NO_x	PM_{10}	VOC	SO_x
Existing Condition					
On-Road Mobile Sources	25	3	2	2	< 1
Area Sources[a]	< 1	< 1	0	< 1	0
Stationary Sources[b]	0	0	0	0	0
Total Existing Emissions	25	3	2	2	0
Proposed Project					
On-Road Mobile Sources	48.2	6.6	6.0	4.0	<0.1
Area Sources[a]	0.5	0.4	<0.1	0.4	<0.1
Stationary Sources[b]	0.4	<0.1	2.4	<0.1	0.2
Total Project Emissions	**49.2**	**7.1**	**8.3**	**4.4**	**0.3**
Net Emissions	**77.8**	**11.2**	**14.5**	**8.4**	**0.5**

[a] *Examples of area sources include: architectural coatings and consumer products.*
[b] *Based on electricity and usage obtained from the GBUAPCD*

Source: PCR Services Corporation, 2006

Ambient levels of NO_x in the air basin are below the applicable CAAQS and NAAQS. The County-wide inventory of NO_x is approximately 986 tons per year. The incremental increase in NO_x emissions predicted to occur as a result of project operations is estimated to be 4 tpy, less than one percent of the basin-wide inventory. In addition, this level of NO_x emissions is below the PSD permitting threshold of 250 tons per year. Impacts are considered less than significant for VOCs as an ozone precursor, and less than significant for NO_x as an ozone precursor and as a primary pollutant.

(2) Sulfur Dioxide Emissions

As shown in Tables 24 and 25 above, the project would contribute small amounts of SO_2 emissions from combustion sources. It is not anticipated that SO_2 emissions would result in a violation of the standards. It should be noted that sulfur levels in liquid fossil fuels is regulated under California State law. Effective June 2006, sulfur levels in diesel fuel are now limited to 15 parts per million as opposed to the previous regulation of 500 parts per million. URBEMIS2002 applies the outdated state controls for fuel sulfur levels, which suggests that actual emission of SO_x would be lower than the data shown in Tables 24 and 25. Maximum SO_x emissions of less than 0.1 tons per year is below the 250 tons per year PSD threshold and, therefore, is unlikely to threaten regional ambient air quality. Based on this data the predicted impact to SO_x from the incremental increase in project-related emissions would be less than significant

Table 25

Proposed Project-Related Operational Emissions (Condo Option)
(Tons/Year)

Emission Source	CO	NO_x	PM_{10}	VOC	SO_x
Existing Condition					
On-Road Mobile Sources	25	3	2	2	< 1
Area Sources[a]	< 1	< 1	0	< 1	0
Stationary Sources[b]	0	0	0	0	0
Total Existing Emissions	25	3	2	2	0
Proposed Project					
On-Road Mobile Sources	115.3	15.9	14.5	9.3	<0.1
Area Sources[a]	4.3	0.6	0.5	3.4	<0.1
Stationary Sources[b]	0.3	<0.1	1.5	<0.1	0.2
Total Project Operation Emissions	**119.9**	**16.4**	**16.5**	**12.7**	**0.2**
Net Emissions	94.4	13.0	13.6	10.6	0.2

[a] *Examples of area sources include: landscaping emissions, architectural coatings, and consumer products.*
[b] *Based on electricity and usage obtained from the GBUAPCD*

Source: PCR Services Corporation, 2006

(3) CO Emissions

CO is the result of incomplete combustion of fossil fuels, and emissions are greatest in the cold winter months and when vehicles are idling and accelerating. At roadway intersections, queuing and departure of vehicles could increase CO concentrations at nearby sensitive receptors, potentially contributing to an exceedance of the 1-hour State standard of 9.0 ppm or the 8-hour State standard of 20 ppm. In order to analyze intersection CO impacts on nearby sensitive receptors, a CO hotspots analysis was performed for the following potentially impacted intersections:

- Meridian Boulevard and East Majestic Pines Road North
- Meridian Boulevard and West Majestic Place
- Minaret Road and Meridian Boulevard
- Old Mammoth Road and Meridian Boulevard

As shown in Tables 26 and 27 on pages 173 and 174, respectively, emissions resulting from project-generated traffic volumes are forecasted to have a negligible effect on the projected

Table 26

Local Area Carbon Monoxide Dispersion Analysis (2009)

Intersection	Peak Period [a]	Maximum 1-Hour 2009 Base Concentration [b] (ppm)	Maximum 1-Hour 2009 w/ Project Concentration [c] (ppm)	Significant 1-Hour Impact [d]	Maximum 8-Hour 2009 Base Concentration [e] (ppm)	Maximum 8-Hour 2009 w/ Project Concentration [f] (ppm)	Significant 8-Hour Impact [d]
Meridian Boulevard and East Majestic Place	WKND	3.04	3.54	NO	1.92	2.20	NO
Meridian Boulevard and West Majestic Place	WKND	3.04	4.84	NO	1.36	1.36	NO
Minaret Road and Meridian Boulevard	WKND	3.74	4.04	NO	1.92	2.55	NO
Old Mammoth Road and Meridian Boulevard	WKND	4.44	4.74	NO	1.36	1.36	NO

ppm = parts per million.

[a] *Peak hour traffic volumes are based on the Traffic Impact Study prepared for the Project by LSC traffic Associates, which is provided in Appendix C of this EA/EIR.*

[b] *GBVAB 2009 1-hour ambient background concentration (1.94 ppm) + 2009 Base traffic CO 1-hour contribution.*

[c] *GBVAB 2009 1-hour ambient background concentration (1.94 ppm) + 2009 w/ Project traffic CO 1-hour contribution.*

[d] *The most restrictive standard for 1-hour CO concentrations is 20 ppm and for 8-hour concentrations is 9.0 ppm.*

[e] *GBVAB 2009 8-hour ambient background concentration (1.36 ppm) + 2009 Base traffic CO 8-hour contribution.*

[f] *GBVAB 2009 8-hour ambient background concentration (1.36 ppm) + 2009 w/ Project traffic CO 8-hour contribution.*

Source: PCR Services Corporation, 2006

1-hour and 8-hour CO concentrations at these intersections. Since project build-out CO concentrations would remain below the 1-hour and 8-hour thresholds at the intersections which operate the highest V/C ratio, any other analyzed roadway intersection would also remain below the thresholds.

The 2005 county-wide emissions inventory calculated by CARB was 19,199 tons per year of CO. The emissions for operation of this project are approximately 0.1 percent of the county totals and are below the 250 tons per year PSD thresholds. These emission levels are unlikely to threaten ambient air quality in the surrounding areas. Therefore, predicted impacts from emissions of CO during operation would be less than significant.

Table 27

Local Area Carbon Monoxide Dispersion Analysis (2024)

Intersection	Peak Period [a]	Maximum 1-Hour 2024 Base Concentration [b] (ppm)	Maximum 1-Hour 2024 w/ Project Concentration [c] (ppm)	Significant 1-Hour Impact [d]	Maximum 8-Hour 2024 Base Concentration [e] (ppm)	Maximum 8-Hour 2024 w/ Project Concentration [f] (ppm)	Significant 8-Hour Impact [d]
Meridian Boulevard and East Majestic Place	WKND	2.34	2.54	NO	1.57	1.64	NO
Meridian Boulevard and West Majestic Place	WKND	2.24	2.64	NO	1.36	1.36	NO
Minaret Road and Meridian Boulevard	WKND	2.54	2.64	NO	1.50	1.64	NO
Old Mammoth Road and Meridian Boulevard	WKND	2.64	2.74	NO	1.36	1.36	NO

ppm = parts per million.

[a] *Peak hour traffic volumes are based on the Traffic Impact Study prepared for the Project by LSC Traffic Associates, which is provided in Appendix C of this EA/EIR.*

[b] *GBVAB 2024 1-hour ambient background concentration (1.94 ppm) + 2024 Base traffic CO 1-hour contribution.*

[c] *GBVAB 2024 1-hour ambient background concentration (1.94 ppm) + 2024 w/ Project traffic CO 1-hour contribution.*

[d] *The most restrictive standard for 1-hour CO concentrations is 20 ppm and for 8-hour concentrations is 9.0 ppm.*

[e] *GBVAB 2024 8-hour ambient background concentration (1.36 ppm) + 2024 Base traffic CO 8-hour contribution.*

[f] *GBVAB 2024 8-hour ambient background concentration (1.36 ppm) + 2024 w/ Project traffic CO 8-hour contribution.*

Source: PCR Services Corporation, 2006

(4) Fugitive Dust (PM_{10}) Emissions

As mentioned previously, the GBUAPCD has developed a spreadsheet model to characterize localized PM_{10} concentrations in the area based on VMT and fireplace or stove emissions. In situations where vehicle travel in the region is reduced, (i.e. off peak season, weekdays, etc.) wood burning emissions may be greater than road dust emissions. On the other hand, during peak season and weekends, road dust would be the main contributor to ambient PM_{10} emissions. As shown in Table 28 on page 175, this spreadsheet methodology analyzes situations where wood burning emissions are greater than road dust emissions and vice versa.

Table 28

Operational Emissions – Localized PM_{10} Analysis

			PM_{10} Concentrations ($\mu g/m^3$)			
Scenario	**Vehicle Miles Traveled (VMT)**	**Emissions (kg/day)[a]**	**Wood Burning Dominated Day[b]**	**Road Dust Dominated Day[c]**	**Federal 24-hr Standard**	**Exceed Standard?**
Existing - 2006	78,537	2,285	77.2	107.2	150.0	No
Future No Project - 2009	80,204	2,320	77.2	108.5	150.0	No
Future With Project - 2009	88,239	2,493	78.2	115.2	150.0	No

[a] *Existing (2006) PM_{10} emissions assume a 34% control factor for street sweeping. Future (2009) PM_{10} emissions assume 40% control factor for street sweeping.*

[b] *Wood burning dominated day represents worst case scenario in which wood burning emissions are greater than road dust emissions.*

[c] *Road dust dominated day represents worst case scenario in which road dust emissions are greater than wood burning emissions.*

Source: GBUAPCD, PCR Services Corporation, 2006

A majority of fugitive dust emissions would be generated as a result of entrained cinder dust resulting from vehicle travel on roads. Emission of fugitive dust from vehicle travel varies depending on the type of surface and whether the roads are paved or unpaved. It is expected that most roads in the project vicinity are paved and a regular street sweeping program is implemented to minimize generation of fugitive dust. Other sources of PM_{10} include wood burning in fireplaces, brake and tire wear, and combustion of fossil fuels from stationary sources such as generators. The project would not contain any wood burning or natural gas fireplaces that could increase airborne levels of PM_{10}. Also shown in Table 28, the cumulative town-wide VMT would remain below the 106,600 VMT limit with project buildout. Regional PM_{10} net project emissions are estimated at a maximum of 14.5 tpy, which is less than two percent of the basin totals. Therefore, the project would result in a less than significant impact for PM_{10} emissions.

Green Building Standards

As indicated in Chapter 2, Proposed Action and Alternatives, the facility would be developed in accordance with the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) standards. LEED provides a complete framework for assessing building performance and meeting sustainability goals, which emphasizes state-of-the-art strategies for sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality. There are no LEED strategies that directly address air pollutant emissions. However, LEED strategies that relate to sustainable sites (e.g., reduce

sprawl by developing in urban areas) and energy efficiency (e.g., reduce thermal loss by providing sufficient insulation) would have a secondary effect with respect to air pollutant emissions. For example, reduced sprawl leads to a reduction in vehicle miles traveled (when compared to sprawling development), which leads to a reduction in mobile-source air pollutant emissions. Reductions in thermal loss would reduce energy demands related to temperature control, thereby reducing the stationary-source emissions associated with energy production.

Operation of Stationary Sources

Certain stationary sources of air pollution (i.e., boilers, heaters and generators) may require permits from the GBUAPCD, and must be operated in accordance to the standards established in Rules 404, 416 and 431. Emission increases related to these sources may be subject to GBUAPCD Rule 209A, or 209B which, among other things, may require that Best Available Control Technology (BACT) be utilized to reduce pollutants.

The estimated emissions from the 1,000 KVa generator in tons per year would be approximately 2 tons of CO, 8 tons of NO_X, 3 tons of SO_x, and less than 1 ton of PM_{10}.[33] These emissions are incorporated into the daily operational emissions analysis for the project, shown in Tables 25 and 26. Prior to installation, permits from the GBUAPCD would need to be obtained. These estimates reflect BACT requirements that would be imposed by GBUAPCD, except for the estimate of sulfur dioxide, which is based on published emission factors for large stationary diesel engines (USEPA, 1996). In addition, new sources of diesel particulate matter (DPM) emissions, recognized by the state of California as a carcinogenic TAC, the generator may be subject to GBUAPCD's TAC screening policy.

Summary of Conclusions

Based on the operational impact analyses, the project would result in less than significant impacts to O_3, NOx, SO_2, and PM_{10}. As discussed previously, local ozone violations are the result of pollutant transport from the San Joaquin valley. Ozone levels should improve in the GBVAB when substantial mitigation measures are more fully implemented in upwind air basins. No project mitigation measures are required. To bring the area into attainment of the PM_{10} NAAQS, the Town and GBUAPCD have promulgated rules to limit total daily VMT. Although the project would result in an incremental increase in PM_{10} emissions, the impacts to ambient levels is considered less than significant because the cumulative VMT with implementation of this project would remain below the 106,600 VMT limit established.

[33] *http://www.epa.gov/ttn/chief/ap42/ch03/final/c03s04.pdf One year is based on 500 hours total usage. (AP42 Large Diesel Stationary Source Emission Factors)*

f. Environmental Consequences of Alternative 1 - Development in Accordance with Existing Regulations Alternative

Alternative 1 would result in development on approximately 50 percent of the project site and would contain 35,000 square feet of commercial space replacing the existing parking lot. The number of daily trips generated by this Alternative would be approximately 1,433 ADT.

(1) Ozone Precursor Emissions

The project site and surrounding area are currently classified as non-attainment of the State standard for ozone, but is in attainment of the NAAQS. The CARB has determined that local ozone violations are the result of pollutant transport from the San Joaquin Valley. Ozone levels should improve in the air basin when substantial mitigation measures are more fully implemented in upwind air basins. The incremental increase from existing conditions to future with project conditions in emission of VOCs is estimated to be negligible, below the 250 tons per year thresholds, during both construction and operation of Alternative 1.

Ambient levels of NO_x in the air basin are below the applicable CAAQS and NAAQS. The County-wide inventory of NO_x is approximately 986 tons per year. The incremental increase in NO_x emissions predicted to occur as a result of project operations is estimated to be three tons per year, which is less than one percent of the basin-wide inventory. NOx emissions resulting from construction are predicted to be less than one percent of basin-wide levels as well. NO_x emission levels are also below the PSD permitting threshold of 250 tons per year. Emissions of NO_x are predicted to result in a less than significant impact to ambient levels of NOx during both construction and operation of Alternative 1.

(2) Sulfur Dioxide Emissions

As shown in Table 29 on page 178, Alternative 1 would contribute small amounts of SO_2 emissions from combustion sources associated with both operations and construction activities. It is not anticipated that SO_2 emissions would result in a violation of the standards. Maximum SO_x emissions of less than 0.1 tons per year is below the 250 tons per year PSD threshold and, therefore, is unlikely to threaten regional ambient air quality. Based on this data, the predicted project-related SOx emissions would be less than significant.

(3) CO Emissions

The 2005 county-wide emissions inventory calculated by CARB was 19,199 tons per year of CO. The emissions for operation of Alternative 1 would be approximately 0.1 percent of the County totals and are below the 250 tons per year PSD threshold for CO. Emissions from

Table 29

Alternative 1-Related Operational Emissions
(Tons/Year)

Emission Source	CO	NO_x	PM_{10}	VOC	SO_x
Existing Condition					
On-Road Mobile Sources	25	3	2	2	< 1
Area Sources[a]	< 1	< 1	0	< 1	0
Stationary Sources[b]	0	0	0	0	0
Total Existing Emissions	25	3	2	2	< 1
Proposed Project					
On-Road Mobile Sources	23	3	3	2	< 1
Area Sources[a]	< 1	< 1	0	< 1	0
Stationary Sources[b]	< 1	< 1	3	< 1	< 1
Total Project Emissions	24	3	3	2	< 1
Net Emissions	< 1	< 1	1	< 1	< 1

[a] *Examples of area sources include: architectural coatings and consumer products.*
[b] *Based on electricity and usage obtained from the GBUAPCD*

Source: PCR Services Corporation, 2006

construction are estimated to be approximately the same as operations, which are below the PSD threshold. These emission levels are unlikely to threaten ambient air quality in the surrounding areas. Therefore, predicted impacts from emissions of CO during construction activities and operations would be less than significant.

Localized CO impacts are determined by evaluating the peak hour intersection traffic volumes. The most impacted roadway intersection analyzed is Meridian Boulevard and West Majestic Pines Street, which would not have a significant impact under this Alternative. Thus, Alternative 1 would result in less than significant impacts for localized CO levels.

(4) Fugitive Dust (PM_{10}) Emissions

Localized impacts are determined mainly by evaluating the peak hour intersection traffic volumes for local CO hotspots and daily VMT for localized PM_{10} impacts. This Alternative would generate 1,433 trips per day, which is within the daily total VMT threshold for the Town. The most impacted roadway intersection analyzed is Meridian Boulevard and West Majestic Pines Street, which would not have a significant impact. Regional PM_{10} emissions are estimated to be 1 tpy, which is less than one percent of the basin total. Thus, Alternative 1 would result in less than significant impacts for localized CO and PM_{10} hotspot emissions.

With respect to potential air toxic impacts, Alternative 1 is not expected to generate any substantial air toxics emissions.

g. Environmental Consequences of Alternative 2 -Reduced Intensity Alternative

The Reduced Intensity Alternative would consist of either 54 residential dwelling units or 138 hotel rooms and 52,000 square feet of commercial uses.

(1) Ozone Precursor Emissions

The site and surrounding area is currently classified as non-attainment of the State standard for ozone, but is in attainment of the NAAQS. The CARB has determined that local ozone violations are the result of pollutant transport from the San Joaquin Valley. Ozone levels should improve in the air basin when substantial mitigation measures are more fully implemented in upwind air basins. The incremental increase in emissions of VOCs is estimated to be approximately one ton per year, below the 250 tons per year threshold, and impacts to ozone would be less than significant under this Alternative.

Ambient levels of NOx in the air basin are below the applicable CAAQS and NAAQS. The County-wide inventory of NOx is approximately 986 tons per year. The incremental increase in NOx emissions predicted to occur as a result of Alternative 2 operations is estimated to be four tons per year, less than one percent of the basin-wide inventory. In addition, this level of NOx emissions is below the PSD permitting threshold of 250 tons per year. Emissions of NOx are predicted to result in a less than significant impact to ambient levels of NOx under Alternative 2.

(2) Sulfur Dioxide Emissions

As shown in Tables 30 and 31 on pages 180 and 181, respectively, the emissions of SOx from construction activities would be fairly negligible. SO2 emissions would not result in a violation of ambient air quality standards. The County-wide estimate of SOx is 10.95 tons per year for 2005. The maximum annual emissions of SOx predicted to occur as a result of construction are estimated to be approximately one percent of the GBVAB total, therefore, SOx impacts are considered less than significant.

(3) CO Emissions

The 2005 county-wide emissions inventory calculated by CARB was 19,199 tons per year of CO. The emissions for operation of this Alternative are approximately 0.1 percent of the county totals and are below the 250 tons per year PSD thresholds. CO emissions from

Table 30

Alternative 2 - Local Area Carbon Monoxide Dispersion Analysis (2009)

Intersection	Peak Period [a]	Maximum 1-Hour 2009 Base Concentration [b] (ppm)	Maximum 1-Hour 2009 w/ Project Concentration [c] (ppm)	Significant 1-Hour Impact [d]	Maximum 8-Hour 2009 Base Concentration [e] (ppm)	Maximum 8-Hour 2009 w/ Project Concentration [f] (ppm)	Significant 8-Hour Impact [d]
Meridian Boulevard and East Majestic Place	WKND	3.04	3.22	NO	1.92	2.02	NO
Meridian Boulevard and West Majestic Place	WKND	3.04	3.67	NO	1.36	1.36	NO
Minaret Road and Meridian Boulevard	WKND	3.74	3.85	NO	1.92	2.14	NO
Old Mammoth Road and Meridian Boulevard	WKND	4.44	4.55	NO	1.36	1.36	NO

ppm = parts per million.

[a] *Peak hour traffic volumes are based on the Traffic Impact Study prepared for the Project by LSC traffic Associates, which is provided in Appendix C of this EA/EIR.*

[b] *GBVAB 2009 1-hour ambient background concentration (1.94 ppm) + 2009 Base traffic CO 1-hour contribution.*

[c] *GBVAB 2009 1-hour ambient background concentration (1.94 ppm) + 2009 w/ Project traffic CO 1-hour contribution.*

[d] *The most restrictive standard for 1-hour CO concentrations is 20 ppm and for 8-hour concentrations is 9.0 ppm.*

[e] *GBVAB 2009 8-hour ambient background concentration (1.36 ppm) + 2009 Base traffic CO 8-hour contribution.*

[f] *GBVAB 2009 8-hour ambient background concentration (1.36 ppm) + 2009 w/ Project traffic CO 8-hour contribution.*

Source: PCR Services Corporation, 2006

construction are estimated to be approximately the same as operations, below the PSD threshold. These emission levels are unlikely to threaten ambient air quality in the surrounding areas. CO analyses for roadway segments are listed in Table 32 on page 182. Maximum 1-hour and 8-hour CO levels for both future conditions (2009 and 2024) would be less than significant. Therefore, predicted impacts from total project related emissions of CO would be less than significant under Alternative 2.

(4) Fugitive Dust (PM_{10}) Emissions

Localized impacts are determined mainly by evaluating the peak hour intersection traffic volumes for local CO hotspots and daily VMT for localized PM_{10} impacts. This Alternative

Table 31

Alternative 2 - Local Area Carbon Monoxide Dispersion Analysis (2024)

Intersection	Peak Period [a]	Maximum 1-Hour 2024 Base Concentration [b] (ppm)	Maximum 1-Hour 2024 w/ Project Concentration [c] (ppm)	Significant 1-Hour Impact [d]	Maximum 8-Hour 2024 Base Concentration [e] (ppm)	Maximum 8-Hour 2024 w/ Project Concentration [f] (ppm)	Significant 8-Hour Impact [d]
Meridian Boulevard and East Majestic Place	WKND	2.34	2.41	NO	1.57	1.595	NO
Meridian Boulevard and West Majestic Place	WKND	2.24	2.38	NO	1.36	1.36	NO
Minaret Road and Meridian Boulevard	WKND	2.54	2.58	NO	1.50	1.55	NO
Old Mammoth Road and Meridian Boulevard	WKND	2.64	2.68	NO	1.36	1.36	NO

ppm = parts per million.

[a] *Peak hour traffic volumes are based on the Traffic Impact Study prepared for the Project by LSC Traffic Associates, which is provided in Appendix C of this EA/EIR.*

[b] *GBVAB 2024 1-hour ambient background concentration (1.94 ppm) + 2024 Base traffic CO 1-hour contribution.*

[c] *GBVAB 2024 1-hour ambient background concentration (1.94 ppm) + 2024 w/ Project traffic CO 1-hour contribution.*

[d] *The most restrictive standard for 1-hour CO concentrations is 20 ppm and for 8-hour concentrations is 9.0 ppm.*

[e] *GBVAB 2024 8-hour ambient background concentration (1.36 ppm) + 2024 Base traffic CO 8-hour contribution.*

[f] *GBVAB 2024 8-hour ambient background concentration (1.36 ppm) + 2024 w/ Project traffic CO 8-hour contribution.*

Source: PCR Services Corporation, 2006

would generate 1,103 daily VMT, which is below the Town's threshold of 106,600 VMT. Regional PM_{10} emissions are estimated to be one tpy, which is less than 1% of the basin total. Thus, Alternative 2 would result in less than significant impacts to regional and localized PM_{10} levels.

h. Environmental Consequences of Alternative 3 – Alternative Design Alternative

The following impact analysis is relevant to both construction and operational impacts associated with build-out of Alternative 3. Alternative 3 would contain the same amount and type of development as the Proposed Action.

Table 32

Alternative 2-Related Operational Emissions
(Tons/Year)

Emission Source	CO	NO_x	PM_{10}	VOC	SO_x
Existing Condition					
On-Road Mobile Sources	25	3	2	2	0.1
Area Sources[a]	0.1	0.1	0	0.1	0
Stationary Sources[b]	0.1	0.0	0.4	0.0	0.0
Total Existing Emissions	25.2	3.1	2.4	2.1	0.1
Proposed Project					
On-Road Mobile Sources	40.58	5.61	5.14	3.33	0.03
Area Sources[a]	2.99	0.55	0.34	2.4	0.01
Stationary Sources[b]	1	0	3	0	0
Total Project Emissions	44	6	9	6	0
Net Emissions	**19**	**3**	**9**	**4**	**< 1**

[a] *Examples of area sources include: architectural coatings and consumer products.*
[b] *Based on electricity and usage obtained from the GBUAPCD*

Source: PCR Services Corporation, 2006

Construction

(1) Ozone Precursor Emissions

The air quality of the project site and surrounding area is currently classified as non-attainment of the State standard for ozone, but is in attainment of the NAAQS. As discussed previously, CARB has determined that local ozone violations are the result of pollutant transport from the San Joaquin Valley. Ozone levels should improve in the GBVAB when substantial mitigation measures are more fully implemented in upwind air basins.

Ambient levels of NOx in the air basin are below the applicable CAAQS and NAAQS. The County-wide estimate of NOx is approximately 986 tons per year for 2005. The maximum annual emissions of NO_x predicted to occur as a result of construction are estimated to be approximately one percent of the GBVAB total. Additionally, NOx emissions are below the PSD permitting threshold of 250 tons/year as shown in Table 24.

Impacts would be less than significant for NOx and VOCs as a primary pollutants. Although this alternative would result in additional VOC and NOx emissions and the air basin is non attainment for the State ozone standard, the meteorological conditions are such that these emissions would not exacerbate the ozone exceedances. As discussed above, the ozone

exceedances are caused by pollutant transport from the San Joaquin Valley and are not related to Town emission sources.

(2) Sulfur Dioxide Emissions

As shown in Table 23, the emissions of SOx from construction activities are fairly negligible. SO_2 emissions would not result in a violation of ambient air quality standards. The County-wide estimate of SOx is 10.95 tons per year for 2005. The maximum annual emissions of SOx predicted to occur as a result of construction are estimated to be approximately one percent of the GBVAB total, therefore, SOx emissions are considered not significant.

(3) Fugitive dust (PM_{10}) Emissions

BMPs would be implemented during construction of the project to minimize emissions of fugitive dust. These practices include: use of water or chemicals for control of dust in the demolition of existing structures, construction operations, the grading of roads or the clearing of land; application of asphalt, oil, water, or suitable chemicals on dirt roads, material stockpiles, and other surfaces which can give rise to airborne dusts; use of water, chemicals, venting, or other precautions to prevent particulate matter from becoming airborne in handling dusty materials to open stockpiles and mobile equipment; and maintenance of roadways in a clean condition.

Even with the implementation of these BMPs, fugitive dust emissions would be generated during ground disturbing activities such as clearing, excavation, blasting, grading and trenching, in addition to wind blowing over disturbed surface areas. Emission values could vary depending on soil moisture, silt content, wind speed, and other factors. PM_{10} emissions also would result from the combustion of fossil fuels, such as diesel in construction equipment and on-road vehicles, and brake/tire wear from on-road mobile sources.

As shown in Table 24 above, BMPs would be implemented during construction of the project to minimize emissions of fugitive dust. Therefore, Alternative 3 would result in a less than significant impact for PM_{10} emissions during construction.

Operation Impacts

Predicted annual emissions in tons per year for both the hotel and condo options are summarized in Table 24 and Table 25 on pages 171 and 172, respectively.

(1) Ozone Precursor Emissions

The project site and surrounding area is currently classified as non-attainment of the State standard for ozone, but is in attainment of the NAAQS. The CARB has determined that local ozone violations are the result of pollutant transport from the San Joaquin Valley. Ozone levels should improve in the air basin when substantial mitigation measures are more fully implemented in upwind air basins. The incremental increase in emissions of VOCs is estimated to be approximately 2 tons per year, below the 250 tons per year threshold.

Ambient levels of NO_x in the air basin are below the applicable CAAQS and NAAQS. The County-wide inventory of NO_x is approximately 986 tons per year. As shown in Tables 25 and 26, the incremental increase in NO_x emissions predicted to occur as a result of project operations is estimated to be 4 tons per year, less than one percent of the basin-wide inventory. In addition, this level of NO_x emissions is below the PSD permitting threshold of 250 tons per year. Impacts are considered to be less than significant for NO_x and VOCs.

(2) Sulfur Dioxide Emissions

As shown in Table 24 and Table 25, the project would contribute small amounts of SO_2 emissions from combustion sources. It is not anticipated that SO_2 emissions would result in a violation of the standards. Based on this data the predicted impact to SO_x from the incremental increase in project-related emissions would be less than significant

(3) CO Emissions

In order to analyze intersection CO impacts on nearby sensitive receptors, a CO hotspots analysis was performed for the following potentially impacted intersections:

- Meridian Boulevard and East Majestic Pines Road North
- Meridian Boulevard and West Majestic Place
- Minaret Road and Meridian Boulevard
- Old Mammoth Road and Meridian Boulevard

As shown in Table 26 and Table 27 on pages 173 and 174, respectively, emissions resulting from project-generated traffic volumes are forecasted to have a negligible effect on the projected 1-hour and 8-hour CO concentrations at these intersections. The 2005 county-wide emissions inventory calculated by CARB was 19,199 tons per year of CO. The emissions for operation of this project are approximately 0.1 percent of the county totals and are below the 250 tons per year PSD thresholds. These emission levels are unlikely to threaten ambient air quality

in the surrounding areas. Therefore, predicted impacts from emissions of CO during operation would be less than significant.

(4) Fugitive Dust (PM_{10}) Emissions

As mentioned previously, the GBUAPCD has developed a spreadsheet model to characterize localized PM_{10} concentrations in the area based on VMT and fireplace or stove emissions. Emission of fugitive dust from vehicle travel varies depending on the type of surface and whether the roads are paved or unpaved. It is expected that most roads in the project vicinity are paved and a regular street sweeping program is implemented to minimize generation of fugitive dust. Other sources of PM_{10} include wood burning in fireplaces, brake and tire wear, and combustion of fossil fuels from stationary sources such as generators. Also shown in Table 10, the cumulative town-wide VMT would remain below the 106,600 VMT limit after project build-out. Regional PM_{10} net project emissions are estimated at a maximum of 14.5 tpy, which is less than 2% of the basin totals. Therefore, the project would result in a less than significant impact for PM_{10} emissions.

Based on the operational impact analyses, the project would result in less than significant impacts to O_3. This region is classified as nonattainment of the State ozone standard as a result of pollutant transport. Emissions of VOCs and NO_x are relatively minor, and they would not further exacerbate ozone nonattainment. As discussed previously, local ozone violations are the result of pollutant transport from the San Joaquin valley. Ozone levels should improve in the GBVAB when substantial mitigation measures are more fully implemented in upwind air basins. No project mitigation measures are required to reduce the impacts. To bring the area into attainment of the PM_{10} NAAQS, the Town and GBUAPCD have promulgated rules to limit total daily VMT. Although the project would result in an incremental increase in PM_{10} emissions, the impacts to ambient levels is considered less than significant because the cumulative VMT would remain below the 106,600 VMT limit established.

i. Environmental Consequences of Alternative 4 - No Action Alternative

Alternative 4 would include the removal of the existing tent facility and minor grading associated with its removal. Alternative 4 would result in a minimal amount of construction activity. Therefore, Alternative 4 would result in a less than significant impact with regard to construction emissions.

The No Action Alternative is not expected to generate any additional trips above existing conditions. The total contribution to regional emissions under this Alternative would be minimal since no land uses would be added. Localized air quality impacts are determined mainly by the peak hour intersection traffic volumes. This Alternative is not expected to increase localized CO

or PM_{10} concentrations within the project vicinity over existing conditions. The localized CO and PM_{10} hotspot emissions would be less than significant.

With respect to potential air toxic impacts, this Alternative is not expected to generate any additional air toxics emissions. With respect to air toxics, the no action alternative would result in a less than significant impact. In summary, impacts under this Alternative would not increase construction or operational emissions as compared to existing conditions, and Alternative 4 would result in less than significant impacts to air quality for both construction and operations.