4.10 AIR QUALITY

This section includes a discussion of existing air quality conditions, a summary of applicable regulations, and an analysis of potential short-term and long-term air quality impacts that could result from buildout of the project. The method of analysis for short-term construction, long-term regional (operational), and local mobile sources and toxic air emissions is consistent with the recommendations of the Placer County Air Pollution Control District (PCAPCD), the California Air Resources Board (CARB), and the U.S. Environmental Protection Agency (EPA).

4.10.1 Affected Environment

4.10.1.1 ENVIRONMENTAL SETTING

The project site is located in a portion of eastern Placer County that is part of the Mountain Counties Air Basin (MCAB). The MCAB comprises portions of eastern Placer County; portions of El Dorado County; and all of Plumas, Sierra, Nevada, Amador, Calaveras, Tuolumne, and Mariposa Counties. Some vehicle activity associated with operation of the project, particularly visitor trips, would also occur in the Lake Tahoe Air Basin, other portions of Placer and El Dorado Counties, and other parts of California and Nevada.

The ambient concentrations of air pollutant emissions in an air basin are determined by the amount of pollutants emitted and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and the presence of sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as climate, meteorology, and topography, in addition to the level of emissions by existing air pollutant sources. These factors are discussed separately below.

The Desolation Wilderness is an EPA-designated Class I National Wilderness Area, located approximately 16 kilometers (km) south of the project site. In accordance with EPA guidance, new major sources associated with project development must consider air quality effects on Class I areas. Further details are provided in Section 4.10.1.3, "Regulatory Setting." Existing air quality conditions for the project area are described below. The federal and state attainment status for the project area and the Desolation Wilderness is presented in Section 4.10.1.3.

Climate, Meteorology, and Topography

The MCAB includes the central and northern Sierra Nevada. Elevations range from several hundred feet in the foothills to more than 10,000 feet above mean sea level along the Sierra crest.

The MCAB generally experiences warm, dry summers and wet winters. During summer, in the portion of the MCAB where the project site is located, maximum temperatures often exceed 85 degrees Fahrenheit (˚F) and are coupled with clear sky conditions, which is favorable for ozone formation. Local climatology of the project site is best represented by ambient temperature measurements at the Squaw Valley Lodge and wind measurements at Truckee Airport. Maximum temperatures occur during July and reach 80˚F on average. Minimum temperatures can be as low as 15˚F during winter months (WRCC 2012a). Average annual precipitation of approximately 51 inches (247 inches of snowfall) occurs primarily during the months of November through March (WRCC 2012a), although in recent years, between 93 and 422 inches and between 233 and 728 inches of snow have accumulated at the base and peaks, respectively, by the end of the season. Average annual wind speed is approximately 4 miles per hour from the south (WRCC 2012b, 2012c).

Criteria Air Pollutants

Concentrations of ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter with an aerodynamic diameter of 10 micrometers or less (PM_{10}), fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less ($PM_{2.5}$), and lead are used as indicators of ambient air quality conditions and are referred to as criteria air pollutants (CAPs). CAPs are air pollutants for which acceptable levels of exposure can be determined and for which an ambient air quality standard has been set by EPA and CARB.

A brief description of each CAP's source types and health effects is provided in Table 4.10-1. Additional information, including future trends and monitoring data at those monitoring stations located closest to the project site, is provided for ozone, NO_2, and PM, the key CAPs associated with the project analysis.

Table 4.10-1 Sources and Health Effects of Criteria Air Pollutants

Pollutant	Sources	Acute[1] Health Effects	Chronic[2] Health Effects
Ozone	Secondary pollutant resulting from reaction of ROG and NO_X in presence of sunlight. ROG emissions result from incomplete combustion and evaporation of chemical solvents and fuels; NO_X results from the combustion of fuels	Increased respiration and pulmonary resistance; cough, pain, shortness of breath, lung inflammation	Decreased permeability of respiratory epithelia, possibility of permanent lung impairment
Carbon monoxide (CO)	Incomplete combustion of fuels; motor vehicle exhaust	Headache, dizziness, fatigue, nausea, vomiting, death	Permanent heart and brain damage
Nitrogen dioxide (NO_2)	Combustion devices (e.g., boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines)	Coughing, difficulty breathing, vomiting, headache, eye irritation, chemical pneumonitis or pulmonary edema; breathing abnormalities, cough, cyanosis, chest pain, rapid heartbeat, death	Chronic bronchitis, decreased lung function
Sulfur dioxide (SO_2)	Coal and oil combustion, steel mills, refineries, and pulp and paper mills	Irritation of upper respiratory tract, increased asthma symptoms	Insufficient evidence linking SO_2 exposure to chronic health impacts
Respirable particulate matter (PM_{10}), Fine particulate matter ($PM_{2.5}$)	Fugitive dust, soot, smoke, mobile and stationary sources, construction, fires and natural windblown dust, and formation in the atmosphere by condensation and/or transformation of SO_2 and ROG	Breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, premature death	Alterations to the immune system, carcinogenesis
Lead	Metal processing	Reproductive/developmental effects (fetuses and children)	Numerous effects, including neurological, endocrine, and cardiovascular effects

Notes: NO_X = oxides of nitrogen; ROG = reactive organic gases.
[1] "Acute" refers to effects of short-term exposures to criteria air pollutants, usually at fairly high concentrations.
[2] "Chronic" refers to effects of long-term exposures to criteria air pollutants, usually at lower, ambient concentrations.
Source: EPA 2017a

Ozone

Ozone is a photochemical oxidant (a substance whose oxygen combines chemically with another substance in the presence of sunlight) and the primary component of smog. Ozone is not directly emitted into the air in large amounts but is formed through complex chemical reactions between precursor emissions of reactive organic gases (ROG) and oxides of nitrogen (NO_X) in the presence of sunlight (EPA 2017a). ROG are volatile organic compounds that are photochemically reactive. ROG emissions result primarily from incomplete combustion and the evaporation of chemical solvents and fuels. NO_X are a group of gaseous compounds of nitrogen and oxygen that result from the combustion of fuels. Emissions of the ozone precursors ROG and NO_X have decreased over the past two decades because of more stringent motor vehicle standards and cleaner burning fuels (CARB 2014a:3-4 and 4-46).

Nitrogen Dioxide

NO_2 is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO_2 are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO_2. The combined emissions of NO and NO_2 are referred to as NO_X and are reported as equivalent NO_2. Because NO_2 is formed and depleted by reactions associated with photochemical smog (ozone), the NO_2 concentration in a particular geographical area may not be fully representative of the local sources of NO_X emissions (EPA 2017a).

Particulate Matter

Respirable particulate matter with an aerodynamic diameter of 10 micrometers or less is referred to as PM_{10}. PM_{10} consists of particulate matter emitted directly into the air, such as fugitive dust, soot, and smoke from mobile and stationary sources, construction operations, fires and natural windblown dust, and particulate matter formed in the atmosphere by reaction of gaseous precursors (CARB 2014a:1-13 and 3-6; EPA 2017a). $PM_{2.5}$ includes a subgroup of smaller particles that have an aerodynamic diameter of 2.5 micrometers or less. PM_{10} emissions are dominated by emissions from area sources, primarily fugitive dust from vehicle travel on unpaved and paved roads, farming operations, construction and demolition, and particles from residential fuel combustion. Direct emissions of PM_{10} have increased slightly over the last 20 years and are projected to continue to increase slightly through 2035 (CARB 2014a:3-7). $PM_{2.5}$ emissions have remained relatively steady over the last 20 years and are projected to decrease slightly through 2035 (CARB 2014a:3-6).

Monitoring Station Data

Concentrations of CAPs are measured at several monitoring stations in and near the MCAB. The measurements at the Truckee Fire Station, Tahoe City Fire Station, South Lake Tahoe Airport Station, and the South Lake Tahoe-Sandy Way Station are presented here and are generally representative of ambient air quality in the project area. Table 4.10-2 summarizes the air quality data from these stations for 2014–2016 (the most recent data available at the time of preparation of this analysis).

Table 4.10-2 Summary of Annual Air Quality Data (2014–2016)[1]

Ozone[2]	2014	2015	2016
Maximum concentration (1-hour/8-hour, ppm)	0.076/0.069	0.077/0.068	0.073/0.069
Number of days state standard exceeded (1-hour/8-hour)	0/0	0/0	0/0
Number of days national standard exceeded (1-hour/8-hour)	0/0	0/0	0/0
Respirable Particulate Matter (PM_{10})[3]	**2014**	**2015**	**2016**
Maximum Concentration ($\mu g/m^3$) (California)	58.6	100.9	35.0
Number of days state standard exceeded (measured [4])	2	*	0
Number of days national standard exceeded (measured [4])	*	0	0
Fine Particulate Matter ($PM_{2.5}$)[5]	**2014**	**2015**	**2016**
Maximum Concentration ($\mu g/m^3$) (California)	145.5	71.5	26.5
Annual Average ($\mu g/m^3$) (California)	8.0	8.9	*
Number of days national standard exceeded (measured[4])	*	*	*

Notes: $\mu g/m^3$ = micrograms per cubic meter; ppm = parts per million; * = data insufficient to determine the value.

[1] The ambient air quality standards and attainment status for these pollutants are presented in Table 4.10-3.

[2] Ozone data are from the Tahoe City Station.

[3] PM_{10} measurements are from the monitoring stations in South Lake Tahoe.

[4] Measured days are those days that an actual measurement was greater than the level of the state daily standard or the national daily standard.

[5] $PM_{2.5}$ data are from the Tahoe City Station.

Sources: EPA 2012; CARB 2014b

Toxic Air Contaminants

Concentrations of toxic air contaminants (TACs), or in federal terminology, hazardous air pollutants (HAPs), are also used to indicate the quality of ambient air. A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. Unlike CAPs, TACs are pollutants of local concern because they can present harmful effects when they are emitted close to sensitive receptors.

Most of the estimated health risks from TACs can be attributed to relatively few compounds, the most prominent being diesel PM (CARB 2005:9). Diesel PM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emissions control system is being used. Unlike the other TACs, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. However, CARB has made preliminary concentration estimates based on a PM exposure method. This method uses the CARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of diesel PM. In addition to diesel PM, the TACs for which data are available that pose the greatest existing ambient risk in California are benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene.

Regarding emissions of diesel PM, emissions from diesel mobile sources are projected to continue to decrease after 2010 following implementation of various emission control regulations. Overall, statewide emissions are forecasted to decline by 71 percent between 2000 and 2035 (CARB 2014a:3-8). Sources of diesel PM at and around the project site include diesel trucks, backup diesel generators, and diesel-powered snow removal equipment and gondola maintenance vehicles.

4.10.1.2 SENSITIVE LAND USES AND RECEPTORS

Land uses considered sensitive to air quality are generally those that include uses where exposure to pollutants could result in health-related risks to individuals. Sensitive receptors are people, or facilities that generally house people (e.g., schools, hospitals, residences), that may experience adverse effects from unhealthful concentrations of, or extended periods of exposure to, air pollutants. Existing sensitive land uses near the project site are the resort residences in the vicinity of the Squaw Valley Ski Area base terminal and residences in the vicinity of the Alpine Meadows Ski Area mid-station under Alternatives 3 and 4.

4.10.1.3 REGULATORY SETTING

Air quality in the project area is regulated by EPA, CARB, and PCAPCD. Each of these agencies develops rules, regulations, policies, and/or goals to comply with applicable legislation. Although EPA regulations may not be superseded, state and local regulations may be more stringent.

Federal

EPA has been charged with implementing national air quality programs. EPA air quality mandates are drawn primarily from the federal Clean Air Act (CAA), which was enacted in 1970. The most recent major amendments made by Congress were in 1990.

New Major Sources and Prevention of Significant Deterioration

In 1977, Congress amended the CAA to provide for a Prevention of Significant Deterioration (PSD) program. The PSD program protects air quality by requiring all major new and modified sources located in areas in which air quality has been designated under CAA Section 107 either as being in attainment of the National Ambient Air Quality Standards (NAAQS) or as unclassifiable to undergo a preconstruction review for each air pollutant regulated under the PSD program that the new major stationary source or major modification will emit or increase in significant amounts. Areas that are in attainment of the NAAQS are categorized as Class

I, Class II, or Class III areas. The different classes indicate the increment of air quality deterioration allowed in the areas. Under the PSD program, all international parks, national wilderness areas, and national memorial parks that exceed 5,000 acres and all national parks that exceed 6,000 acres are designated as mandatory federal Class I areas to preserve, protect, and enhance air quality. All other areas that attain the NAAQS are initially designated as Class II areas (EPA 2017b).

In accordance with 40 CFR 51.307, New Source Review, written notification and, if applicable, an analysis of air quality and visibility in the federal Class I area must be provided to the applicable federal land manager for new major stationary sources or major modifications to major sources that may affect visibility in federal Class I areas. Notification requirements specify that permit applications of all new major or modified major sources within 100 km of a Class I area, and large sources located at distances greater than 100 km if there is reason to believe that such sources could affect the air quality in the Class I area, should be evaluated and included in the notification to the federal land manager. Federal Class II lands are all areas designated by the state as attainment or unclassifiable and not established as Class I lands.

Major sources are defined by 40 CFR 51.307, which identifies numerous limits for several pollutants and varying limit levels based on attainment designations. Based on the definitions in Section 51.307, a new major source relevant to the project would emit or have the potential to emit 70 tons per year of PM_{10}/$PM_{2.5}$, 10 tons per year of volatile organic compounds, 50 tons per year of carbon monoxide, or 25 tons per year of nitrogen oxides.

Criteria Air Pollutants

The CAA required EPA to establish NAAQS. As shown in Table 4.10-3, EPA has established primary and secondary NAAQS for the CAPs of primary concern in Placer County: ozone, CO, NO_2, PM_{10}, and $PM_{2.5}$. The primary standards protect the public health and the secondary standards protect public welfare. The CAA also required each state to prepare an air quality control plan, referred to as a state implementation plan (SIP), for areas that do not attain the NAAQS. The federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with areas that are not in attainment of all NAAQS to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA is responsible for reviewing all SIPs to determine whether they conform to the mandates of the CAA and its amendments, and whether implementation will achieve air quality goals. If EPA determines a SIP to be inadequate, a federal implementation plan that imposes additional control measures may be prepared for the nonattainment area. If an approvable SIP is not submitted or implemented within the mandated time frame, sanctions may be applied to transportation funding and permitting of stationary air pollution sources in the nonattainment air basin.

Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan

Under the CAA requirements, each nonattainment area throughout the state is required to develop a regional air quality management plan. Collectively, all regional air quality management plans throughout the state constitute the SIP. With jurisdiction over part of the Sacramento Federal Ozone Nonattainment Area (which covers the project area), PCAPCD worked with the other local air districts within the Sacramento region to develop a regional air quality management plan to describe and demonstrate how Placer County, as well as the Sacramento federal nonattainment area, would attain the required federal 8-hour ozone standard by the proposed attainment deadline. In accordance with the requirements of the CAA, PCAPCD, along with the other air districts in the region, prepared the *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (Ozone Attainment Plan) in December 2008. The PCAPCD adopted the Ozone Attainment Plan on February 19, 2009, and CARB determined that the plan meets CAA requirements and approved it on March 26, 2009, as a revision to the SIP. Accordingly, the *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* is the applicable air quality plan for the region.

Table 4.10-3 Ambient Air Quality Standards and Designations for Placer County

Pollutant	Averaging Time	California		National[1]	
		Standards[2,3]	Attainment Status[4]	Primary[3]	Attainment Status[5]
Ozone	1-hour	0.09 ppm (180 µg/m^3)	Nonattainment	N/A	N/A
	8-hour	0.070 ppm (137 µg/m^3)		0.070 ppm (147 µg/m^3)	Nonattainment
Carbon monoxide (CO)	1-hour	20 ppm (23 mg/m^3)	Unclassified	35 ppm (40 mg/m^3)	Unclassified/Attainment
	8-hour (Lake Tahoe)	6 ppm (7 mg/m^3)		9 ppm (10 mg/m^3)	
Nitrogen dioxide (NO_2)	Annual arithmetic mean	0.030 ppm (57 µg/m^3)	Attainment	0.053 ppm (100 µg/m^3)	Unclassified/Attainment
	1-hour	0.18 ppm (339 µg/m^3)		0.100 ppm	
Respirable particulate matter (PM_{10})	Annual arithmetic mean	20 µg/m^3	Nonattainment	N/A	N/A
	24-hour	50 µg/m^3		150 µg/m^3	Unclassified
Fine particulate matter ($PM_{2.5}$)	Annual arithmetic mean	12 µg/m^3	Unclassified	12.0 µg/m^3	Unclassified/Attainment
	24-hour	N/A	N/A	35 µg/m^3	

Notes: µg/m^3 = micrograms per cubic meter; ppm = parts per million, N/A = not applicable

[1] National standards (other than ozone, PM, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. The PM_{10} 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. The $PM_{2.5}$ 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact EPA for further clarification and current federal policies.

[2] California standards for ozone, CO (except 8-hour Lake Tahoe), SO_2 (1- and 24-hour), NO_2, PM, 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 (CAAQS) are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[3] Concentration expressed first in units in which it was promulgated [i.e., parts per million (ppm) or micrograms per cubic meter (µg/m^3)]. Equivalent units given in parentheses are based upon a reference temperature of 25 degrees Celsius (°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. Secondary national standards are also available from EPA.

[4] Attainment: a pollutant is designated attainment if the state standard for that pollutant was not violated at any site in the area during a 3-year period.
Nonattainment: a pollutant is designated nonattainment if there was a least one violation of a state standard for that pollutant in the area. Nonattainment designations for ozone are classified as marginal, serious, severe, or extreme depending on the magnitude of the highest 8-Hour ozone design value at a monitoring site in a nonattainment area.
Nonattainment (transitional) is a subcategory of the nonattainment designation. An area is designated nonattainment (transitional) to signify that the area is close to attaining the standard for that pollutant.

[5] Attainment: any area that meets the national primary or secondary ambient air quality standard for the pollutant.
Attainment (maintenance): any area previously designated nonattainment pursuant to the CAAA of 1990 and subsequently redesignated to attainment subject to the requirement to develop a maintenance plan under Section 175A of the CAA, as amended.

Sources: CARB 2016, data compiled by Ascent Environmental in 2017

Since the adoption of the Ozone Attainment Plan in early 2009, and its subsequent revision in 2011, there were significant updates to emissions calculation methods, vehicle traveled activity data, and growth assumptions used to develop the plan.

The 2013 Ozone Attainment Plan revision shows that the region continues to meet federal progress requirements and demonstrates that the Sacramento Region will meet the 1997 NAAQS in 2018. The 2013 Ozone Attainment Plan updates the emissions inventory, provides a review of photochemical modeling results based on changes in the emissions inventories, updates the reasonable further progress and attainment demonstrations, revises adoption dates for control measures, and establishes new motor vehicle emissions budgets for transportation conformity purposes. The 2013 Ozone Attainment Plan also includes a vehicle miles traveled (VMT) offset demonstration that showed the emissions reduction from transportation control measures and strategies are sufficient to offset the emissions increase attributable to VMT growth.

The 2013 Ozone Attainment Plan was approved by CARB on November 21, 2013, and submitted to EPA as a revision to the SIP on December 31, 2013. EPA found the motor vehicle emissions budgets in the plan for the 1997 8-hour ozone NAAQS to be adequate for attainment goals. The finding became effective on August 25, 2014. EPA approved the Sacramento Region SIP for the 1997 8-hour ozone standard in 2015.

The 2013 Ozone Attainment Plan contains regional and local control measures that address both ROG and NO_X. A single NO_X pollutant strategy is not appropriate because, even though ROG (and volatile organic compound) control measures are not as effective as NO_X control measures, ROG-reducing measures still provide needed reductions in ozone formation (SMAQMD et al. 2013:1-5).

Hazardous Air Pollutants

EPA and CARB regulate HAPs and TACs, respectively, through statutes and regulations that generally require the use of the maximum available control technology or best available control technology for TACs to limit emissions. These, in conjunction with additional rules set forth by PCAPCD, described below in the subsection on local laws and regulations, establish the regulatory framework for TACs.

EPA has programs for identifying and regulating HAPs. Title III of the CAA directed EPA to promulgate national emissions standards for HAPs (NESHAP). The national emissions standards for HAPs may differ for major sources and for area sources of HAPs. Major sources are defined as stationary sources with potential to emit more than 10 tons per year (TPY) of any HAP or more than 25 TPY of any combination of HAPs; all other sources are considered area sources. The emissions standards are to be promulgated in two ways. First, EPA has technology-based emission standards designed to produce the maximum emission reduction achievable. These standards are generally referred to as requiring maximum available control technology for toxics. For area sources, the standards may be different, based on generally available control technology. Second, EPA also has health risk–based emissions standards, where deemed necessary, to address risks remaining after implementation of the technology-based NESHAP standards.

The CAA also required EPA to issue vehicle or fuel standards containing reasonable requirements that control toxic emissions of, at a minimum, benzene and formaldehyde. Performance criteria were established to limit mobile-source emissions of toxics, including benzene, formaldehyde, and 1,3-butadiene. In addition, the CAA required the use of reformulated gasoline in selected areas with the most severe ozone nonattainment conditions to further reduce mobile-source emissions.

State

CARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA). California law authorizes CARB to set ambient (outdoor) air pollution standards (California Health and Safety Code Section 39606) in consideration of public health, safety, and welfare (California Ambient Air Quality Standards [CAAQS]) (see Table 4.10-3).

Criteria Air Pollutants

CARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the above-mentioned CAPs. In most cases the CAAQS are more stringent than the NAAQS. Differences in the standards are generally explained by the health effects studies considered during the standard-setting process and the interpretation of the studies. In addition, the CAAQS incorporate a margin of safety to protect sensitive individuals.

The CCAA requires that all local air districts in the state endeavor to achieve and maintain the CAAQS by the earliest date practical. The act specifies that local air districts should focus particular attention on reducing the emissions from transportation and area-wide emission sources and provides districts with the authority to regulate indirect sources.

Among CARB's other responsibilities are overseeing local air district compliance with federal and state laws, approving local air quality plans, submitting SIPs to EPA, monitoring air quality, determining and updating area designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

Toxic Air Contaminants

TACs in California are regulated primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807, Chapter 1047, Statutes of 1983) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588,

Chapter 1252, Statutes of 1987). AB 1807 sets forth a formal procedure for CARB to designate substances as TACs. Research, public participation, and scientific peer review are required before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs, including diesel PM, and adopted EPA's list of HAPs as TACs.

Once a TAC is identified, CARB then adopts an airborne toxics control measure for sources that emit that particular TAC. If a safe threshold standard exists for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold standard. If no safe threshold standard exists, the measure must incorporate best available control technology for toxics to minimize emissions.

CARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses, and off-road diesel equipment (e.g., tractors, generators). Recent milestones included the low-sulfur diesel fuel requirement and tighter emissions standards for heavy-duty diesel trucks (effective in 2007 and subsequent model years) and off-road diesel equipment (2011). Over time, replacing older vehicles will result in a vehicle fleet that produces substantially lower levels of TACs than under current conditions. Mobile-source emissions of TACs (e.g., benzene, 1-3-butadiene, diesel PM) in California have been reduced substantially over the last decade; such emissions will be reduced further through a progression of regulatory measures (e.g., low emission vehicle/clean fuels and Phase II reformulated-gasoline regulations) and control technologies.

The Hot Spots Act requires that existing facilities that emit toxic substances above a specified level prepare an inventory of toxic emissions, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures.

Local

California Health and Safety Code

California Health and Safety Code (HSC) Section 40920 establishes requirements that each air district within severe pollution designations shall meet and include in their attainment plants. Specifically, part (b) of the code includes the following requirement and emissions limit:

- A stationary source control program designed to achieve no net increase in emissions of nonattainment pollutants or their precursors from all new or modified stationary sources which emit, or have the potential to emit, 10 tons or more per year.

Placer County Air Pollution Control District

Criteria Air Pollutants

PCAPCD attains and maintains air quality conditions in Placer County through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. PCAPCD's clean air strategy includes preparing plans for the attainment of ambient air quality standards, adopting and enforcing rules and regulations concerning sources of air pollution, and issuing permits for stationary sources of air pollution. PCAPCD also inspects stationary sources of air pollution and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the CAA, CAAA, and CCAA.

All projects in the Placer County are subject to adopted PCAPCD rules and regulations in effect at the time of construction. Specific rules applicable to the construction of the project may include but are not limited to:

- PCAPCD Rule 202—Visible Emissions,
- PCAPCD Rule 207—Particulate Matter,
- PCAPCD Rule 217—Cutback and Emulsified Asphalt Paving Materials,
- PCAPCD Rule 228—Fugitive Dust, and
- PCAPCD Rule 501—Permit Requirements.

Toxic Air Contaminants

At the local level, air districts may adopt and enforce CARB's airborne toxic control measures. Under PCAPCD Rule 501 ("Permit Requirements") and PCAPCD Rule 502 ("New Source Review"), all sources that possess the potential to emit TACs are required to obtain permits from the district. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations, including new source review standards and air toxics control measures. PCAPCD limits emissions and public exposure to TACs through a number of programs.

Sources that require a permit are analyzed by PCAPCD (e.g., health risk assessment) based on their potential to emit TACs. If it is determined that the project will emit toxics in excess of a PCAPCD-established threshold standard of significance for TACs (i.e., 10 in 1 million or a hazard index greater than 1.0), sources have to implement the best available control technology (BACT) for TACs to reduce emissions. If a source cannot reduce the risk below the threshold standard of significance even after the BACT has been implemented, the air district will deny the permit required by the source. This helps to prevent new problems and reduces emissions from existing older sources by requiring them to apply new technology when retrofitting with respect to TACs.

Odors

PCAPCD and other air districts in California have determined some common types of facilities that have been known to produce odors: wastewater treatment facilities, chemical manufacturing plants, painting/coating operations, feed lots/dairies, composting facilities, landfills, and transfer stations. Because offensive odors rarely cause any physical harm, and federal and state air quality regulations do not contain any requirements for their control, PCAPCD has no rules or standards related to odor emissions other than its nuisance rule:

- **PCAPCD Rule 205—Nuisance.** A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons, or to the public, or which endanger the comfort, repose, health or safety of any such persons, or the public, or which cause to have a natural tendency to cause injury or damage to business or property. The provisions of Rule 205 do not apply to odors emanating from agriculture operations necessary for the growing of crops or raising of fowl or animals.

Any actions related to odors are based on citizen complaints to local governments and the air districts.

4.10.2 Analysis Methods

4.10.2.1 METHODS AND ASSUMPTIONS

This analysis uses quantitative modeling techniques primarily from CalEEMod to analyze impacts to air quality as a result of the project. The California Air Pollution Control Officers Association CalEEMod system provides a system to analyze air contaminants by considering both short-term construction emissions and long-term operational emissions. The results of the air quality modeling are presented in Appendix G.

As described in Section 2.2.6, "Resource Protection Measures," the project incorporates a number of Resource Protection Measures (RPMs) designed to avoid and minimize environmental effects. These RPMs are considered part of the project by the Forest Service and will be conditions of approval of the Placer County Conditional Use Permit (CUP). The text of all RPMs is provided in Appendix B. The potential effects of implementing the action alternatives are analyzed as follows: The effect of the action alternatives was determined, relevant RPMs were applied, and the effectiveness of reducing adverse effects was determined. If additional measures were needed to further reduce effects, they were identified.

As it relates to CEQA, the significance of impacts is determined before RPMs are implemented. The analysis then determines whether the RPMs would reduce significant impacts to a less-than-significant level. If significant impacts would remain, mitigation measures are added, as feasible, to further reduce the significant impact. All RPMs, as well as additional mitigation measures, would be included in the Placer

County mitigation monitoring and reporting program, and their implementation would be ensured by the CUP's conditions of approval. All RPMs are considered roughly proportional and have an essential nexus to the impacts they reduce. All applicable RPMs provided in Appendix B are considered in the air emissions analysis. Of particular importance are those in the air quality category (RPMs AQ-1 through AQ-26).

4.10.2.2 FEDERAL CONFORMITY ANALYSIS

A non-transportation project located in a nonattainment or maintenance area must undergo a general conformity analysis in accordance with 40 CFR 93 to ensure that the project does not:

- cause or contribute to new violations of any standard in any area;
- increase the frequency or severity of an existing violation of any standard; or
- delay timely attainment of any standard requiring interim emission reduction, or other milestones.

As a part of the general conformity process, a conformity analysis is required if a federal action satisfies one of the following two conditions:

- The action's direct and indirect emissions have the potential to emit one or more of the six criteria pollutants at or above emission rates shown below in Table 4.10-4.

- The action's direct and indirect emissions of any criteria pollutant represent 10 percent of a nonattainment or maintenance area's total emissions inventory for that pollutant.

If the total direct emissions associated with the action are below the de minimis levels indicated in Table 4.10-4, general conformity requirements do not apply; the action is considered in conformity and would not result in an adverse effect. Since the air basin in which the project site is located is in attainment (based on federal standards) for the criteria pollutants indicated in Table 4.10-4 except for ozone (severe nonattainment status), a conformity analysis for ozone must be completed for the alternatives. In addition, the Desolation Wilderness, located in El Dorado County south of the project area, has the same attainment status as Placer County. Thus, for purposes of PSD review, attainment designations shown in Table 4.10-4 would apply.

Table 4.10-4 Federal de Minimis Levels for Placer County and El Dorado County

Pollutant	Federal Attainment Classification	De Minimis Levels (tons/year)
O_3, (VOC)	Severe nonattainment	25[1]
O_3, (NO_X)	Severe nonattainment	25[1]
PM_{10}	Attainment	N/A
$PM_{2.5}$	Attainment	N/A
CO	Attainment	N/A
Lead (Pb)	Attainment	N/A

Note: N/A not applicable.
[1] Nonattainment status based on the Sacramento Metropolitan area designation and used for a conservative analysis.
Source: EPA 2018

4.10.2.3 EFFECTS ANALYSIS AND SIGNIFICANCE CRITERIA

NEPA Indicators

An environmental document prepared to comply with NEPA must consider the context and intensity of the environmental effects that would be caused by or result from the action alternatives. Under NEPA, impacts should be addressed in proportion to their significance (40 CFR 1502.2[b]), meaning that severe impacts

should be described in more detail than less consequential impacts. This is intended to help decision makers and the public focus on the project's key effects. The evaluation of effects considers the magnitude, duration, and significance of the changes. Changes that would improve the existing condition if they occur are noted and considered beneficial, and detrimental impacts are characterized as adverse. Where there would be no change, a "no effect" conclusion is used. The Forest Service has determined that the action alternatives could affect air quality. The following analytical indicators are used to inform the Forest Service's determination of impacts:

- Narrative description of existing air quality in the study area, including population centers and Class I and Class II areas in the vicinity **(Section 4.10.1.1, "Environmental Setting")**
- Compliance with local, state, and federal regulations regarding air quality **(Impacts 4.10-1, 4.10-2, and 4.10-3)**
- Estimated daily increase in number of vehicles associated with increased annual visitation and changes to circulation **(Impacts 4.10-1 and 4.10-2)**
- Estimated traffic and emissions associated with construction of the proposed project **(Impact 4.10-1)**
- Quantitative estimate of short-term construction-related emissions and long-term operational emissions through California Air Resources Board-approved California Emissions Estimator Model (CalEEMod) with project-specific details, PCAPCD-recommended input parameters, CalEEMod default settings, and specific data from the traffic analysis **(Impacts 4.10-1 and 4.10-2)**
- Estimated levels of ozone precursors and particulate matter will be compared to PCAPCD's recommended mass emission thresholds **(Impacts 4.10-1 and 4.10-2)**
- Qualitative analysis of potential exposure of sensitive receptors to toxic air contaminants (TAC) and odor sources **(Section 4.10.2.4, "Issues Not Discussed Further")**
- Discussion of any emissions reduction actions proposed to apply to the project as part of the Squaw Valley Ski Area's (Squaw Valley's) and Alpine Meadows Ski Area's (Alpine Meadow's) Environmental Programs **(Impacts 4.10-1 and 4.10-2)**
- Discussion of increases in criteria air pollutants, precursors, and exposure to TACs and odors (if applicable) during construction and operation of the project compared to applicable thresholds, and preparation of mitigation measures, as needed, that clearly identify timing, responsibility, and performance standards **(Impacts 4.10-1, 4.10-2, and 4.10-3 and Section 4.10.2.4, "Issues Not Discussed Further")**

CEQA Criteria

Based on the Placer County CEQA checklist and Appendix G of the State CEQA Guidelines, implementing any of the alternatives would result in a significant impact related to air quality if it would:

- conflict with or obstruct implementation of the applicable air quality plan **(Impacts 4.10-1 and 4.10-2)**;
- violate any air quality standard or contribute substantially to an existing or projected air quality violation **(Impacts 4.10-1, 4.10-2, and 4.10-3 and Section 4.10.2.4, "Issues Not Discussed Further")**;
- result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors) **(Impacts 4.10-1 and 4.10-2)**:
  - construction-generated criteria air pollutant or precursor emissions that exceed the PCAPCD-recommended threshold of 82 pounds per day (lb/day) for ROG, NO_X, or PM_{10} (PCAPCD 2017:21);

operation-related (regional) emissions of ROG or NO_X that exceed a mass emission threshold of 55 lb/day; and emissions of PM_{10} that exceed 82 lb/day (cumulative thresholds are identical);

- expose sensitive receptors to substantial pollutant concentrations **(Impacts 4.10-1, 4.10-2, and 4.10-3 and Section 4.10.2.4, "Issues Not Discussed Further")**; or
- create objectionable odors affecting a substantial number of people **(Section 4.10.2.4, "Issues Not Discussed Further")**.

4.10.2.4 ISSUES NOT DISCUSSED FURTHER

The project does not involve development of land uses associated with odors. Construction would be temporary and minor, and odors associated with construction equipment exhaust would dissipate rapidly after construction is complete. None of the alternatives would introduce long-term odor sources or have the potential to expose substantial numbers of people to objectionable odors. This issue is not discussed further.

Construction activities would last only one season (i.e., 200 days), would be minor, and would be dispersed throughout the project area. Due to the relatively minor level of construction and temporary nature of activities, construction-related emissions of TACs from vehicular exhaust would not expose any nearby receptors to substantial concentrations that would exceed PCAPCD thresholds of significance. The project would not result in any new stationary sources of TACs and would not result in substantial increases in mobile-source TACs. This issue is not discussed further.

Due to the severe nonattainment status for ozone in the project area, the applicable threshold for a major source under 40 CFR 51.307 would be 25 tons per year for all pollutants and the applicable limit per California HSC 40920 would be 10 tons per year. Using the maximum daily emissions provided in the discussion of impact 4.10-2 (Alt. 2), below, even if the entire project operated at daily maximum emission levels for 365 days a year, emissions would not be sufficient to exceed the 40 CFR 51.307 major emissions source threshold or the 10 ton per year limit established by California HSC 40920 (b).

4.10.3 Direct and Indirect Environmental Consequences

4.10.3.1 ALTERNATIVE 1 – NO ACTION ALTERNATIVE

Impact 4.10-1 (Alt. 1): Short-Term, Construction-Generated Emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$

Alternative 1 – No Action Alternative would result in a continuation of existing conditions. There would be no construction-generated emissions that would contribute to air quality deterioration. There would be **no effect** under both NEPA and CEQA.

Under Alternative 1 – No Action Alternative, the Tahoe National Forest (TNF) and Placer County would not provide necessary authorizations to allow construction of the gondola facilities. The outcome would be a continuation of existing conditions, with no new construction and no installation and operation of new facilities that could affect air quality.

NEPA Effects Conclusion
With no new construction, there would be **no effect** related to this issue.

CEQA Determination of Effects
With no new construction, there would be **no effect** related to this issue.

Mitigation Measures

No mitigation measures are required.

Impact 4.10-2 (Alt. 1): Long-Term, Operation-Related (Regional) Emissions of Criteria Air Pollutants and Precursors

Alternative 1 – No Action Alternative would result in a continuation of existing conditions. There would be no long-term operational emissions that would contribute to air quality deterioration. There would be **no effect** under both NEPA and CEQA.

Under Alternative 1 – No Action Alternative, the TNF and Placer County would not provide necessary authorizations to allow construction of the gondola facilities. The outcome would be a continuation of existing conditions, with no new operational components that could affect air quality. This alternative would require the continuation of the shuttle system between Squaw Valley and Alpine Meadows.

NEPA Effects Conclusion

With no new operational requirements, there would be **no effect** related to this issue.

CEQA Determination of Effects

With no new operational requirements, there would be **no effect** related to this issue.

Mitigation Measures

No mitigation measures are required.

Impact 4.10-3 (Alt. 1): Mobile-Source CO Concentrations

Alternative 1 – No Action Alternative would result in a continuation of existing conditions. There would be no additional mobile-source emissions that would contribute to air quality deterioration. There would be **no effect** under both NEPA and CEQA.

Under Alternative 1 – No Action Alternative, the TNF and Placer County would not provide necessary authorizations to allow construction of the gondola facilities. The outcome would be a continuation of existing conditions, with no new mobile-source components that could affect air quality. This alternative would require the continuation of the shuttle system between Squaw Valley and Alpine Meadows.

NEPA Effects Conclusion

With no new construction or operational components, there would be **no effect** related to this issue.

CEQA Determination of Effects

With no new construction or operational components, there would be **no effect** related to this issue.

Mitigation Measures

No mitigation measures are required.

4.10.3.2 ALTERNATIVE 2

Impact 4.10-1 (Alt. 2): Short-Term, Construction-Generated Emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$

Under Alternative 2, construction activities would result in temporary increases in emissions of ROG, NO_X, and PM. Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect impacts occurring from construction would be **adverse** because construction would result in temporary emissions of ROG, NO_X, and PM. These effects would be mitigated through implementation of RPMs AQ-1 through AQ-27 (excluding RPMs AQ-9, AQ-22, AQ-23, and AQ-26, which relate to operational emissions). Under CEQA, and using the CEQA criteria, this impact would be **less than significant** because construction emissions would not exceed PCAPCD's threshold of significance for any pollutant. RPMs AQ-1 through AQ-27 (excluding RPMs AQ-9, AQ-22, AQ-23, and AQ-26, which relate to operational emissions) would further reduce potential effects from construction-generated emissions by requiring the construction contractor to submit a dust control plan to PCAPCD, including all standard dust reducing measures, as well as measures to control dust from helicopter use and reduce vehicle exhaust emissions. However, these RPMs would not be necessary to reduce a significant impact to a less-than-significant level.

Under Alternative 2, project construction would occur over a single construction season (i.e., 180–200 days), beginning in late spring and ending in the fall. This period of construction is mentioned in the text of the project description (Chapter 2, "Description of Alternatives"). Confining construction to a single construction season is also identified as an RPM (RPM MUL-7). General construction activities would include grubbing/clearing of on-site vegetation, removal of marketable timber, excavation and relocation of rock and soil on the site, backfilling and compaction of soils, and construction of proposed facilities (e.g., base terminals, mid-stations, lift towers). It is anticipated that helicopters would be used during construction to transport personnel and equipment to and from the project site, during installation of lift infrastructure, and for tree removal activities. Some blasting may be required to remove rock outcroppings during terminal, mid-station, and lift tower construction. Construction equipment would be staged at the existing Squaw Valley and Alpine Meadows surface parking lots, which would also serve as the helicopter landing and take-off location.

Construction-related activities would result in exhaust emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$ (a subset of PM_{10}) off-road equipment, timber removal, material delivery, worker commute trips, and building construction. Fugitive dust emissions of PM_{10} and $PM_{2.5}$ are associated primarily with grading during the site preparation phase and vary as a function of soil silt content, soil moisture, wind speed, acreage of disturbance, and vehicle miles traveled on and off the site. Additional sources of dust include the use of a helicopter during landing/take-off and blasting of rock outcroppings. Emissions of ozone precursors, ROG, and NO_X, are associated primarily with construction equipment and on-road mobile exhaust.

Typical construction activity would fluctuate daily and over the duration of construction. Helicopter use would be limited to approximately 20 days. Thus, to determine maximum daily construction emissions, maximum helicopter use (i.e., 8-hour day) was assumed to occur simultaneously with all other off-road equipment activity, excavation/grading and material import/export. Table 4.10-5 summarizes maximum daily construction emissions. Refer to Appendix G for detailed modeling inputs and outputs.

Table 4.10-5 Maximum Daily Construction Emissions

Construction Activity	ROG (lb/day)	NO_X (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
Helicopter	35.5	13.4	<1	<1
Off-road vehicles and worker commute	4.7	55.2	18.2	9.6
Combined maximum daily emissions	**40.22**	**68.61**	**18.2**	**9.6**
Threshold	82	82	82	N/A
Exceeds threshold?	No	No	No	N/A

Notes: N/A = not applicable.
Total annual ROG estimated to be 0.7 ton and NO_X to be 3 tons, not exceeding de minimis levels of 25 tons per year.
Source: Modeled by Ascent Environmental in 2018

As shown above, maximum daily emissions would not exceed applicable PCAPCD thresholds of significance for any criteria air pollutant or ozone precursor and would not conflict with regional air quality planning efforts. Further, annual ROG and NO_X emissions would not exceed federal de minimis levels of 25 tons per year. It should be noted that dust emissions may also occur from helicopter use and blasting activities. Dust from helicopter use can occur during the take-off and landing operations as the rotating blades approach the ground. However, the helicopter would take-off and land from a paved surface parking lot, minimizing the chances for dust emissions. At helicopter drop-off locations, the helicopter would not land but would instead hover, for short periods, close enough to the ground to drop off materials, but far enough to avoid generating substantial dust emissions. In addition, if blasting were to occur, some minimal fugitive dust emissions could occur depending on the size of the blast and material being blasted. Nonetheless, given that the estimated maximum daily dust emissions are well below the PCAPCD thresholds, blasting would be minimal and limited, such that even if it did occur on the same day as all other activities discussed above, daily maximum thresholds would not be exceeded.

For the reasons described above, although construction of Alternative 2 would generate some emissions, levels would not exceed applicable thresholds. RPMs related to air quality (RPMs AQ-1 through AQ-27) would further reduce the potential for construction to exceed exhaust and dust thresholds by requiring the construction contractor to prepare a dust control plan and comply with all standard PCAPCD requirements to reduce dust and exhaust emissions during construction activities. Specific measures include the use of dust suppressants, covering stockpiles, minimizing travel speed on unpaved surfaces, and limiting idle times of construction vehicles. In addition, RPM AQ-4 specifically requires dust suppressants be used to control dust from helicopter use.

NEPA Effects Conclusion

Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect impacts occurring from construction under Alternative 2 would be **adverse** because construction would result in temporary emissions of ROG, NO_X, and PM. These effects would be mitigated through implementation of RPMs AQ-1 through AQ-27.

CEQA Determination of Effects

Alternative 2 would involve construction activities that would result in emissions of ROG, NO_X, and PM. However, construction activities would be short term and minimal, and would not exceed applicable PCAPCD threshold of significance for any pollutant. Under CEQA, and using the CEQA criteria, this impact would be **less than significant**. RPMs AQ-1 through AQ-27 (excluding RPMs AQ-9, AQ-22, and AQ-33, which relate to operational emissions) would further reduce potential effects from construction-generated emissions by requiring the construction contractor to submit a dust control plan to PCAPCD, including all standard dust reducing measures, as well as measures to control dust from helicopter use and reduce vehicle exhaust emissions. However, these RPMs would not be necessary to reduce a significant impact to a less-than-significant level.

Mitigation Measures

All RPMs provided in Appendix B are adopted by Placer County as mitigation measures and are included in the Mitigation Monitoring and Reporting Program for the project. The adoption of RPMs AQ-1 through AQ-27 as mitigation measures would reduce the effects of construction-generated emissions but are not necessary to reduce a significant effect.

Impact 4.10-2 (Alt. 2): Long-Term, Operation-Related (Regional) Emissions of Criteria Air Pollutants and Precursors

Under Alternative 2, operational activities would result in emissions of ROG, NO_X, and PM. Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect impacts occurring from operation would be **adverse** because operation would result in permanent increases in emissions of ROG, NO_X, and PM. These effects would be mitigated through implementation of RPMs AQ-9 and AQ-23. Under CEQA, and using the CEQA criteria, this impact would be **less than significant** because operational emissions would not exceed PCAPCD's threshold of significance for any pollutant.

Operation of Alternative 2 would result in emissions of ROG, NO_X, and PM from various activities. As a result of the new gondola, increases in visitors traveling to Squaw Valley and Alpine Meadows would result in increases in vehicular exhaust emissions. Maintenance of the gondola and associated mechanical equipment would require minor use of off-road/all-terrain vehicles, resulting in exhaust and dust emissions. Emissions are summarized in Table 4.10-6. Refer to Appendix G for detailed modeling inputs and outputs.

Table 4.10-6 Maximum Daily Operational Emissions

Construction Activity	ROG (lb/day)	NO_X (lb/day)	PM_{10} (lb/day)	$PM_{2.5}$ (lb/day)
Mobile sources	1.3	9.7	4.2	1.2
Maintenance activities (off-road vehicles)	1.6	17.2	<1	<1
Combined maximum Daily emissions	**2.9**	**26.9**	**4.8**	**1.8**
Threshold	55	55	82	N/A
Exceeds threshold?	No	No	No	N/A

Notes: N/A = not applicable.

Total annual ROG estimated to be 0.7 ton and NO_X to be 3 tons, not exceeding de minimis levels of 25 tons per year.

Source: Modeled by Ascent Environmental in 2018

As shown above, maximum daily emissions would not exceed applicable PCAPCD thresholds of significance for any criteria air pollutant or ozone precursor and would not conflict with regional air quality planning efforts. For these reasons, although operation of Alternative 2 would generate some emissions, levels would not exceed applicable thresholds.

NEPA Effects Conclusion

Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect impacts occurring from operation under Alternative 2 would be **adverse** because operation would result in emissions of ROG, NO_X, and PM. These effects would be mitigated through implementation of RPMs AQ-9 and AQ-23.

CEQA Determination of Effects

Alternative 2 would involve operational activities that would result in emissions of ROG, NO_X, and PM. However, operational activities would not exceed applicable PCAPCD thresholds of significance for any pollutant. Under CEQA, and using the CEQA criteria, this impact would be **less than significant**. RPMs AQ-9 and AQ-23 would be implemented even though these RPMs would not be necessary to reduce a significant impact to a less-than-significant level.

Mitigation Measures

All RPMs provided in Appendix B are adopted by Placer County as mitigation measures and are included in the Mitigation Monitoring and Reporting Program for the project. The adoption of RPMs AQ-9 and AQ-23 as mitigation measures would reduce the effects of construction-generated emissions but are not necessary to reduce a significant effect.

Impact 4.10-3 (Alt. 2): Mobile-Source CO Concentrations

Under Alternative 2, operations would result in increased vehicle trips and associated CO emissions due to additional visitors traveling to Squaw Valley and Alpine Meadows. Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect impacts related to increases in CO emissions would be **adverse** because the project would result in permanent increases in vehicle traffic and associated CO emissions. However, these effects would not result in substantial pollution concentrations that could expose sensitive receptors to unhealthy levels. There are no applicable RPMs that would reduce this effect. Under CEQA, Alternative 2 would not exceed applicable PCAPCD screening levels for CO emissions and this impact would be **less than significant.**

Local mobile-source CO emissions near roadway intersections are a direct function of traffic volume, speed, and delay. Transport of CO from offsite locations is extremely limited because under normal meteorological conditions, it disperses rapidly with distance from the source. However, under certain meteorological conditions, CO concentrations near roadways and/or intersections may reach unhealthy levels at nearby sensitive land uses, such as residential units, hospitals, schools, and childcare facilities. As a result, it is recommended that CO be analyzed at the local level instead of at the regional level.

PCAPCD has established screening levels to evaluate the potential for CO hotspots from increases in traffic. In accordance with the most recent PCAPCD guidance, projects that do not exceed 550 lb/day of CO from vehicle exhaust would not likely result in CO hotspots. As shown by the modeling conducted, project-generated increases in vehicle CO exhaust emissions would be 25 lb/day during the study days used in the traffic analysis (sixth and seventh busiest weekend days of the 2016/2017 ski season) (Appendix G). In addition, other nearby air districts, such as the Sacramento Metropolitan Air Quality Management District (SMAQMD), have established screening criteria based on vehicle volumes per hour passing through an intersection. According to SMAQMD, a project would result in a less-than-significant CO impact if the project would not result in an affected intersection experiencing more than 31,600 vehicles per hour (SMAQMD 2016). According to the traffic study conducted, the project would result in a total of 703 new trips on a winter Sunday. Thus, no single intersection would experience increases in traffic that could result in CO hotspots. Given that vehicle CO emissions are well below the 550 lb/day screening level and an additional 703 trips would not be substantial, Alternative 2 would not result in CO hotspots at any intersection.

NEPA Effects Conclusion

Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect impacts from increases in CO concentrations under Alternative 2 would be **adverse** because permanent increases in traffic and CO emissions would occur. However, these effects would not result in substantial pollution concentrations that could expose sensitive receptors to unhealthy levels. There are no applicable RPMs that would reduce this effect.

CEQA Determination of Effects

Alternative 2 would result in increases in vehicle trips and associated CO emissions. However, the CO emissions would not exceed applicable PCAPCD screening levels. Under CEQA, and using the CEQA criteria, impacts from increases in CO concentrations would be **less than significant**, and there are no applicable RPMs that would reduce this impact.

Mitigation Measures

No mitigation is required.

4.10.3.3 ALTERNATIVE 3

Impact 4.10-1 (Alt. 3): Short-Term, Construction-Generated Emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$

Under Alternative 3, construction activities would result in temporary increases in emissions of ROG, NO_X, and PM. Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect impacts occurring from construction would be **adverse** because construction would result in temporary emissions of ROG, NO_X, and PM. These effects would be mitigated through implementation of RPMs AQ-1 through AQ-27 (excluding RPMs AQ-9, AQ-22, AQ-23, and AQ-26, which relate to operational emissions). Under CEQA, and using the CEQA criteria, this impact would be **less than significant** because construction emissions would not exceed PCAPCD's threshold of significance for any pollutant. RPMs AQ-1 through AQ-27(excluding RPMs AQ-9, AQ-22, AQ-23, and AQ-26, which relate to operational emissions) would further reduce potential effects from construction-generated emissions by requiring the construction contractor to submit a dust control plan to PCAPCD, including all standard dust reducing measures, as well as measures to control dust from helicopter use and reduce vehicle exhaust emissions. However, these RPMs would not be necessary to reduce a significant impact to a less-than-significant level.

Primary project components for Alternative 3 would be the same as described above for Alternative 2 (e.g., towers, mid-stations, base terminals). Construction activities, intensity, and duration would also be the same. Thus, short-term construction-related emissions of ROG, NO_X, and PM would be the same as described for Alternative 2.

As described above for Alternative 2, construction would generate some level of emissions but would not exceed applicable thresholds. RPMs related to air quality (RPMs AQ-1 through AQ-27, excluding RPMs AQ-9, AQ-22, AQ-23, and AQ-26, which relate to operational emissions) would further reduce the potential for construction to exceed exhaust and dust thresholds by requiring the construction contractor to prepare a dust control plan and comply with all standard PCAPCD requirements to reduce dust and exhaust emissions during construction activities. Specific measures include the use of dust suppressants, covering stockpiles, minimizing travel speed on unpaved surfaces, and limiting idle times of construction vehicles. In addition, RPM AQ-4 specifically requires dust suppressants be used to control dust from helicopter use.

NEPA Effects Conclusion

Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect impacts occurring from construction under Alternative 3 would be **adverse** because construction would result in temporary emissions of ROG, NO_X, and PM. These effects would be mitigated through implementation of RPMs AQ-1 through AQ-27 (excluding RPMs AQ-9, AQ-22, AQ-23, and AQ-26, which relate to operational emissions).

CEQA Determination of Effects

Like Alternative 2, Alternative 3 would involve construction activities that would result in emissions of ROG, NO_X, and PM. However, construction activities would be short term and minimal, not exceeded applicable PCAPCD threshold of significance for any pollutant. Under CEQA, and using the CEQA criteria, this impact would be **less than significant**. RPMs AQ-1 through AQ-27 (excluding RPMs AQ-9, AQ-22, AQ-23, and AQ-26, which relate to operational emissions) would further reduce potential effects from construction-generated emissions by requiring the construction contractor to submit a dust control plan to PCAPCD, including all standard dust reducing measures, as well as measures to control dust from helicopter use and reduce vehicle exhaust emissions. However, these RPMs would not be necessary to reduce a significant impact to a less-than-significant level.

Mitigation Measures

All RPMs provided in Appendix B are adopted by Placer County as mitigation measures and are included in the Mitigation Monitoring and Reporting Program for the project. The adoption of RPMs AQ-1 through AQ-27 (excluding RPMs AQ-9, AQ-22, AQ-23, and AQ-26, which relate to operational

emissions) as mitigation measures would reduce the effects of construction-generated emissions but are not necessary to reduce a significant effect.

Impact 4.10-2 (Alt. 3): Long-Term, Operation-Related (Regional) Emissions of Criteria Air Pollutants and Precursors

Under Alternative 3, operational activities would result in emissions of ROG, NO_X, and PM. Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect impacts occurring from operation would be **adverse** because operation would result in permanent increases in emissions of ROG, NO_X, and PM. These effects would be mitigated through implementation of RPMs AQ-9 and AQ-23. Under CEQA, and using the CEQA criteria, this impact would be **less than significant** because operational emissions would not exceed PCAPCD's threshold of significance for any pollutant.

Primary project components for Alternative 3 would be the same as described above for Alternative 2 (e.g., towers, mid-stations, base terminals). Increases in visitors traveling to Squaw Valley and Alpine Meadows would be the same. Thus, long-term operation-related emissions of ROG, NO_X, and PM would be the same as described for Alternative 2.

For the same reasons described above for Alternative 2, maximum daily emissions for Alternative 3 would not exceed applicable PCAPCD thresholds of significance for any criteria air pollutant or ozone precursor and would not conflict with regional air quality planning efforts. For these reasons, although operation of Alternative 3 would generate some emissions, levels would not exceed applicable thresholds.

NEPA Effects Conclusion

Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect impacts occurring from operation under Alternative 3 would be **adverse** because operation would result in emissions of ROG, NO_X, and PM. These effects would be mitigated through implementation of RPMs AQ-9 and AQ-23.

CEQA Determination of Effects

Alternative 3 would involve operational activities that would result in emissions of ROG, NO_X, and PM. However, operational activities would not exceed applicable PCAPCD thresholds of significance for any pollutant. Under CEQA, and using the CEQA criteria, this impact would be **less than significant**. RPMs AQ-9 and AQ-23 would be implemented even though these RPMs would not be necessary to reduce a significant impact to a less-than-significant level.

Mitigation Measures

All RPMs provided in Appendix B are adopted by Placer County as mitigation measures and are included in the Mitigation Monitoring and Reporting Program for the project. The adoption of RPMs AQ-9 and AQ-23 as mitigation measures would reduce the effects of construction-generated emissions but are not necessary to reduce a significant effect.

Impact 4.10-3 (Alt. 3): Mobile-Source CO Concentrations

Under Alternative 3, operations would result in increased vehicle trips and associated CO emissions due to additional visitors traveling to Squaw Valley and Alpine Meadows. Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect impacts related to increases in CO emissions would be **adverse** because the project would result in permanent increases in vehicle traffic and associated CO emissions. However, these effects would not result in substantial pollution concentrations that could expose sensitive receptors to unhealthy levels. There are no applicable RPMs that would reduce this effect. Under CEQA, Alternative 3 would not exceed applicable PCAPCD screening levels for CO emissions and this impact would be **less than significant**.

Primary project components for Alternative 3 would be the same as described above for Alternative 2 (e.g., towers, mid-stations, base terminals). Increases in visitors traveling to Squaw Valley and Alpine Meadows would be the same. Thus, long-term operation-related emissions of CO would be the same as described for Alternative 2. For the same reasons described above for Alternative 2, CO emissions for Alternative 3 would not exceed applicable PCAPCD screening levels.

NEPA Effects Conclusion

Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect impacts from increases in CO concentrations under Alternative 3 would be **adverse** because permanent increases in traffic and CO emissions would occur. However, these effects would not result substantial pollution concentrations that could expose sensitive receptors to unhealthy levels. There are no applicable RPMs that would reduce this effect.

CEQA Determination of Effects

Alternative 3 would result in increases in vehicle trips and associated CO emissions. However, the CO emissions would not exceed applicable PCAPCD screening levels. Under CEQA, and using the CEQA criteria, impacts from increases in CO concentrations would be **less than significant**, and there are no applicable RPMs that would reduce this impact.

Mitigation Measures

No mitigation is required.

4.10.3.4 ALTERNATIVE 4

Impact 4.10-1 (Alt. 4): Short-Term, Construction-Generated Emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$

Under Alternative 4, construction activities would result in temporary increases in emissions of ROG, NO_X, and PM. Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect impacts occurring from construction would be **adverse** because construction would result in temporary emissions of ROG, NO_X, and PM. These effects would be mitigated through implementation of RPMs AQ-1 through AQ-27 (excluding RPMs AQ-9, AQ-22, AQ-23, and AQ-26, which relate to operational emissions). Under CEQA, and using the CEQA criteria, this impact would be **less than significant** because construction emissions would not exceed PCAPCD's threshold of significance for any pollutant. RPMs AQ-1 through AQ-27 (excluding RPMs AQ-9, AQ-22, AQ-23, and AQ-26, which relate to operational emissions) would further reduce potential effects from construction-generated emissions by requiring the construction contractor to submit a dust control plan to PCAPCD, including all standard dust reducing measures, as well as measures to control dust from helicopter use and reduce vehicle exhaust emissions. However, these RPMs would not be necessary to reduce a significant impact to a less-than-significant level.

Primary project components for Alternative4 would be the same as described above for Alternative 2 (e.g., towers, mid-stations, base terminals). Construction activities, intensity, and duration would also be the same. Thus, short-term construction-related emissions of ROG, NO_X, and PM, would be the same as described for Alternative 2.

As described above for Alternative 2, construction would generate some level of emissions but would not exceed applicable thresholds. RPMs related to air quality (RPMs AQ-1 through AQ-27, excluding RPMs AQ-9, AQ-22, AQ-23, and AQ-26, which relate to operational emissions) would further reduce the potential for construction to exceed exhaust and dust thresholds by requiring the construction contractor to prepare a dust control plan and comply with all standard PCAPCD requirements to reduce dust and exhaust emissions during construction activities. Specific measures include the use of dust suppressants, covering stockpiles, minimizing travel speed on unpaved surfaces, and limiting idle times of construction vehicles. In addition, RPM AQ-4 specifically requires dust suppressants be used to control dust from helicopter use.

NEPA Effects Conclusion

Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect impacts occurring from construction under Alternative 4 would be **adverse** because construction would result in temporary emissions of ROG, NO_X, and PM. These effects would be mitigated through implementation of RPMs AQ-1 through AQ-27 (excluding RPM AQ-9, AQ-22, AQ-23, and AQ-26, which relate to operational emissions).

CEQA Determination of Effects

Like Alternative 2, Alternative 4 would involve construction activities that would result in emissions of ROG, NO_X, and PM. However, construction activities would be short term and minimal, not exceeded applicable PCAPCD threshold of significance for any pollutant. Under CEQA, and using the CEQA criteria, this impact would be **less than significant**. RPMs AQ-1 through AQ-27 (excluding RPMs AQ-9, AQ-22, AQ-23, and AQ-26, which relate to operational emissions) would further reduce potential effects from construction-generated emissions by requiring the construction contractor to submit a dust control plan to PCAPCD, including all standard dust reducing measures, as well as measures to control dust from helicopter use and reduce vehicle exhaust emissions. However, these RPMs would not be necessary to reduce a significant impact to a less-than-significant level.

Mitigation Measures

All RPMs provided in Appendix B are adopted by Placer County as mitigation measures and are included in the Mitigation Monitoring and Reporting Program for the project. The adoption of RPMs AQ-1 through AQ-27 (excluding RPMs AQ-9, AQ-22, AQ-23, and AQ-26, which relate to operational emissions) as mitigation measures would reduce the effects of construction-generated emissions but are not necessary to reduce a significant effect.

Impact 4.10-2 (Alt. 4): Long-Term, Operation-Related (Regional) Emissions of Criteria Air Pollutants and Precursors

Under Alternative 4, operational activities would result in emissions of ROG, NO_X, and PM. Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect impacts occurring from operation would be **adverse** because operation would result in permanent increases in emissions of ROG, NO_X, and PM. These effects would be mitigated through implementation of RPMs AQ-9 and AQ-23. Under CEQA, and using the CEQA criteria, this impact would be **less than significant** because operational emissions would not exceed PCAPCD's threshold of significance for any pollutant.

Primary project components for Alternative 4 would be the same as described above for Alternative 2 (e.g., towers, mid-stations, base terminals). Increases in visitors traveling to Squaw Valley and Alpine Meadows would be the same. Thus, long-term operation-related emissions of ROG, NO_X, and PM would be the same as described for Alternative 2.

For the same reasons described above for Alternative 2, maximum daily emissions for Alternative 4 would not exceed applicable PCAPCD thresholds of significance for any criteria air pollutant or ozone precursor and would not conflict with regional air quality planning efforts. For these reasons, although operation of Alternative 4 would generate some emissions, levels would not exceed applicable thresholds.

NEPA Effects Conclusion

Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect impacts occurring from operation under Alternative 4 would be **adverse** because operation would result in emissions of ROG, NO_X, and PM. These effects would be mitigated through implementation of RPMs AQ-9 and AQ-23.

CEQA Determination of Effects

Alternative 4 would involve operational activities that would result in emissions of ROG, NO_X, and PM. However, operational activities would not exceed applicable PCAPCD threshold of significance for any pollutant. Under CEQA, and using the CEQA criteria, this impact would be **less than significant**. RPMs AQ-9 and AQ-23 would be implemented even though these RPMs would not be necessary to reduce a significant impact to a less-than-significant level.

Mitigation Measures

All RPMs provided in Appendix B are adopted by Placer County as mitigation measures and are included in the Mitigation Monitoring and Reporting Program for the project. The adoption of RPMs AQ-9 and AQ-23 as mitigation measures would reduce the effects of construction-generated emissions but are not necessary to reduce a significant effect.

Impact 4.10-3 (Alt. 4): Mobile-Source CO Concentrations

Under Alternative 4, operations would result in increased vehicle trips and associated CO emissions due to additional visitors traveling to Squaw Valley and Alpine Meadows. Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect impacts related to increases in CO emissions would be **adverse** because the project would result in permanent increases in vehicle traffic and associated CO emissions. However, these effects would not result in substantial pollution concentrations that could expose sensitive receptors to unhealthy levels. There are no applicable RPMs that would reduce this effect. Under CEQA, Alternative 4 would not exceed applicable PCAPCD screening levels for CO emissions and this impact would be **less than significant**.

Primary project components for Alternative 4 would be the same as described above for Alternative 2 (e.g., towers, mid-stations, base terminals). Increases in visitors traveling to Squaw Valley and Alpine Meadows would be the same. Thus, long-term operation-related emissions of CO would be the same as described for Alternative 2. For the same reasons described above for Alternative 2, CO emissions for Alternative 4 would not exceed applicable PCAPCD screening levels.

NEPA Effects Conclusion

Under NEPA, and considering the NEPA indicators, absent RPMs and/or mitigation, direct and indirect impacts from increases in CO concentrations under Alternative 4 would be **adverse** because permanent increases in traffic and CO emissions would occur. However, these effects would not result substantial pollution concentrations that could expose sensitive receptors to unhealthy levels. There are no applicable RPMs that would reduce this effect.

CEQA Determination of Effects

Alternative 4 would result in increases in vehicle trips and associated CO emissions. However, the CO emissions would not exceed applicable PCAPCD screening levels. Under CEQA, and using the CEQA criteria, impacts from increases in CO concentrations would be **less than significant**, and there are no applicable RPMs that would reduce this impact.

Mitigation Measures

No mitigation is required.

4.10.3.5 SUMMARY OF DIRECT AND INDIRECT EFFECTS

Table 4.10-7 provides a summary of the effects determinations for the direct and indirect effects evaluated above for each alternative.

For Alternative 1, the No Action Alternative, there would be no effect for all NEPA indicators and CEQA criteria evaluated.

Addressing the action alternatives, for Impact 4.10-1 for all action alternatives are adverse for all NEPA indicators. Construction of the project would result in short-term and temporary emissions of ROG, NO_X, and PM, contributing to regional air pollution. RPMs would reduce construction-related emissions associated with vehicle exhaust, but emissions would not be eliminated. Under CEQA, impacts for all alternatives would be less than significant, and no mitigation would be required. Primary project components for Alternatives 2, 3, and 4 (e.g., towers, mid-stations, base terminals) would be the same. Construction activities, intensity, and duration would also be the same. Thus, short-term construction-related emissions of ROG, NO_X, and PM, would be the same for each action alternative.

Addressing the action alternatives, for Impacts 4.10-2 and 4.10-3 for all action alternatives are adverse for all NEPA indicators. Construction of the project would result in permanent increases in emissions of ROG, NO_X, PM, and CO contributing to regional air pollution. RPMs would reduce construction-related emissions associated with vehicle exhaust, but emissions would not be eliminated. Under CEQA, impacts for all alternatives would be less than significant, and no mitigation would be required. Primary project components for Alternatives 2, 3, and 4 (e.g., towers, mid-stations, base terminals) would be the same. Operational characteristics, increased visitation, and increased vehicle traffic would also be the same. Thus, operational emissions of ROG, NO_X, PM, and CO would be the same for each action alternative.

Table 4.10-7 Summary of Direct and Indirect Effects

Impact	Applicable Analytical Indicators and Significance Criteria	Alt. 1	Alt. 2	Alt. 3	Alt. 4
4.10-1: Short-Term, Construction-Generated Emissions of ROG, NO_X, PM_{10}, and $PM_{2.5}$	Compliance with local, state, and federal regulations regarding air quality	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Same as for Alternative 2	Adverse under NEPA; less than significant under CEQA Same as for Alternatives 2 and 3
	Estimated daily increase in number of vehicles associated with increased annual visitation and changes to circulation	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Same as for Alternative 2	Adverse under NEPA; less than significant under CEQA Same as for Alternatives 2 and 3
	Estimated traffic and emissions associated with construction of the proposed project	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Same as for Alternative 2	Adverse under NEPA; less than significant under CEQA Same as for Alternatives 2 and 3
	Quantitative estimate of short-term construction-related emissions and long-term operational emissions through California Air Resources Board-approved California Emissions Estimator Model (CalEEMod) with project-specific details, PCAPCD-recommended input parameters, CalEEMod default settings, and specific data from the traffic analysis	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Same as for Alternative 2	Adverse under NEPA; less than significant under CEQA Same as for Alternatives 2 and 3
	Estimated levels of ozone precursors and particulate matter will be compared to PCAPCD's recommended mass emission thresholds	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Same as for Alternative 2	Adverse under NEPA; less than significant under CEQA Same as for Alternatives 2 and 3
	Discussion of any emissions reduction actions proposed to apply to the project as part of Squaw Valley's and Alpine Meadow's Environmental Programs	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Same as for Alternative 2	Adverse under NEPA; less than significant under CEQA Same as for Alternatives 2 and 3

Table 4.10-7 Summary of Direct and Indirect Effects

Impact	Applicable Analytical Indicators and Significance Criteria	Alt. 1	Alt. 2	Alt. 3	Alt. 4
	Discussion of increases in criteria air pollutants, precursors, and exposure to TACs and odors (if applicable) during construction and operation of the project compared to applicable thresholds, and preparation of mitigation measures, as needed, that clearly identify timing, responsibility, and performance standards	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Same as for Alternative 2	Adverse under NEPA; less than significant under CEQA Same as for Alternatives 2 and 3
	Conflict with or obstruct implementation of the applicable air quality plan	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Same as for Alternative 2	Adverse under NEPA; less than significant under CEQA Same as for Alternatives 2 and 3
	Violate any air quality standard or contribute substantially to an existing or projected air quality violation	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Same as for Alternative 2	Adverse under NEPA; less than significant under CEQA Same as for Alternatives 2 and 3
	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)—defined as construction-generated criteria air pollutant or precursor emissions that exceed the PCAPCD-recommended threshold of 82 pounds per day (lb/day) for ROG, NO_x, or PM_{10}; operation-related (regional) emissions of ROG or NOX that exceed a mass emission threshold of 55 lb/day; and emissions of PM_{10} that exceed 82 lb/day. (cumulative thresholds are identical)	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Same as for Alternative 2	Adverse under NEPA; less than significant under CEQA Same as for Alternatives 2 and 3
	Expose sensitive receptors to substantial pollutant concentrations	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Same as for Alternative 2	Adverse under NEPA; less than significant under CEQA Same as for Alternatives 2 and 3
4.10-2: Long-Term, Operation-Related (Regional) Emissions of Criteria Air Pollutants and Precursors	Compliance with local, state, and federal regulations regarding air quality	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Same as for Alternative 2	Adverse under NEPA; less than significant under CEQA Same as for Alternatives 2 and 3
	Estimated daily increase in number of vehicles associated with increased annual visitation and changes to circulation	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Same as for Alternative 2	Adverse under NEPA; less than significant under CEQA Same as for Alternatives 2 and 3

Table 4.10-7 Summary of Direct and Indirect Effects

Impact	Applicable Analytical Indicators and Significance Criteria	Alt. 1	Alt. 2	Alt. 3	Alt. 4
	Quantitative estimate of short-term construction-related emissions and long-term operational emissions through California Air Resources Board-approved California Emissions Estimator Model (CalEEMod) with project-specific details, PCAPCD-recommended input parameters, CalEEMod default settings, and specific data from the traffic analysis	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Same as for Alternative 2	Adverse under NEPA; less than significant under CEQA Same as for Alternatives 2 and 3
	Estimated levels of ozone precursors and particulate matter will be compared to PCAPCD's recommended mass emission thresholds	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Same as for Alternative 2	Adverse under NEPA; less than significant under CEQA Same as for Alternatives 2 and 3
	Discussion of any emissions reduction actions proposed to apply to the project as part of Squaw Valley's and Alpine Meadow's Environmental Programs	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Same as for Alternative 2	Adverse under NEPA; less than significant under CEQA Same as for Alternatives 2 and 3
	Discussion of increases in criteria air pollutants, precursors, and exposure to TACs and odors (if applicable) during construction and operation of the project compared to applicable thresholds, and preparation of mitigation measures, as needed, that clearly identify timing, responsibility, and performance standards	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Same as for Alternative 2	Adverse under NEPA; less than significant under CEQA Same as for Alternatives 2 and 3
	Conflict with or obstruct implementation of the applicable air quality plan	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Same as for Alternative 2	Adverse under NEPA; less than significant under CEQA Same as for Alternatives 2 and 3
	Violate any air quality standard or contribute substantially to an existing or projected air quality violation	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Same as for Alternative 2	Adverse under NEPA; less than significant under CEQA Same as for Alternatives 2 and 3
	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors) —defined as construction-generated criteria air pollutant or precursor emissions that exceed the PCAPCD-recommended threshold of 82 pounds per day (lb/day) for ROG, NO_X, or PM_{10}; operation-related (regional) emissions of ROG or NO_X that exceed a mass emission threshold of 55 lb/day; and emissions of PM_{10} that exceed 82 lb/day. (cumulative thresholds are identical)	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Same as for Alternative 2	Adverse under NEPA; less than significant under CEQA Same as for Alternatives 2 and 3
	Expose sensitive receptors to substantial pollutant concentrations	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Same as for Alternative 2	Adverse under NEPA; less than significant under CEQA Same as for Alternatives 2 and 3

Table 4.10-7 Summary of Direct and Indirect Effects

Impact	Applicable Analytical Indicators and Significance Criteria	Alt. 1	Alt. 2	Alt. 3	Alt. 4
4.10-3: Mobile-Source CO Concentrations	Compliance with local, state, and federal regulations regarding air quality	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Same as for Alternative 2	Adverse under NEPA; less than significant under CEQA Same as for Alternatives 2 and 3
	Discussion of increases in criteria air pollutants, precursors, and exposure to TACs and odors (if applicable) during construction and operation of the project compared to applicable thresholds, and preparation of mitigation measures, as needed, that clearly identify timing, responsibility, and performance standards	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Same as for Alternative 2	Adverse under NEPA; less than significant under CEQA Same as for Alternatives 2 and 3
	Violate any air quality standard or contribute substantially to an existing or projected air quality violation	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Same as for Alternative 2	Adverse under NEPA; less than significant under CEQA Same as for Alternatives 2 and 3
	Expose sensitive receptors to substantial pollutant concentrations	No effect	Adverse under NEPA; less than significant under CEQA	Adverse under NEPA; less than significant under CEQA Same as for Alternative 2	Adverse under NEPA; less than significant under CEQA Same as for Alternatives 2 and 3

4.10.4 Cumulative Effects

4.10.4.1 METHODS AND APPROACH

The list of past, present, and reasonably foreseeable future projects considered in this cumulative analysis is provided in Chapter 3 of this Final EIS/EIR. The spatial scope for the cumulative effects analysis of air quality is the MCAB. Construction activities and increases in operational emission sources from new development within the MCAB contribute to the regional air quality conditions. Due to the regional effect of air quality pollutants, all projects identified within Chapter 3 would have the potential to generate emissions that could contribute to the regional air quality. The temporal scope for this air quality cumulative effects analysis includes the construction period (6–8 months) as well as the operational life of the gondola. This is the period when PCAPCD cumulative air emissions thresholds for an individual project would be applied to the gondola project.

4.10.4.2 CUMULATIVE IMPACTS

Alternative 1 – No Action Alternative

Alternative 1 – No Action Alternative would result in a continuation of existing conditions. There would be no direct or indirect impacts and thus by definition no cumulative impacts to air quality.

Alternative 2

Alternative 2 would result in construction and operation-related emissions of ROG, NO_X, CO, and PM. However, as discussed above under Impacts 4.10-1, 4.10-2, and 4.10-3, all project-level impacts would be less than significant. Further, PCAPCD has established cumulative threshold for ROG, NO_X, and PM, which are numerically identical to thresholds discussed above for the project-level analysis. As identified in the discussion of Impact 4.10-3, SMAQMD has identified that a project would result in a less-than-significant CO

impact if the project would not result in an affected intersection experiencing more than 31,600 vehicles per hour (SMAQMD 2016). As shown in Exhibit 4.7-8 in Section 4.7, “Transportation and Circulation”, no study intersection would experience traffic volumes greater than 2,000 vehicles per hour during morning and afternoon peak hours under the cumulative plus project condition. Therefore, no intersections would exceed, under cumulative conditions, the SMAQMD threshold for CO impacts Thus, because Alternative 2 would not exceed any project or cumulative threshold, it would not result in a cumulatively adverse effect.

Alternative 3

Construction and operational emissions for Alternative 3 would be the same as for Alternative 2 and, therefore so would the impacts. Like Alternative 2, Alternative 3 would not result in a cumulatively adverse effect.

Alternative 4

Construction and operational emissions for Alternative 3 would be the same as for Alternative 2 and, therefore so would the impacts. Like Alternative 2, Alternative 3 would not result in a cumulatively adverse effect.

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