

PROPONENT'S ENVIRONMENTAL ASSESSMENT – ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Air Quality

5.3 AIR QUALITY

This section describes the environmental and regulatory setting and potential air quality impacts related associated with the construction, operation, and maintenance of the project and concludes impacts would be less than significant.

5.3.1 Environmental Setting

The project alignment would extend approximately ~~193.9~~194 miles across portions of Modoc, Lassen, and Sierra Counties and would be located in the Northeast Plateau Air Basin (NPAB) and Mountain Counties Air Basin (MCAB). These counties have a varying landscape with a mixture of vast arid basins and uplands as well as forested mountain ranges interspersed with wetlands. The climate is characterized as dry, cold, and continental.

5.3.1.1 Air Quality Plans

As required by the federal Clean Air Act (FCAA), the United States Environmental Protection Agency (EPA) has identified criteria pollutants and established National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. NAAQS have been established for ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), suspended particulate matter (PM), and lead (Pb). Suspended PM has standards for both particulate matter with an aerodynamic diameter of 10 micrometers (0.01 millimeter [mm]) or less (respirable PM, or PM₁₀) and particulate matter with an aerodynamic diameter of 2.5 micrometers (0.0025 mm) or less (fine PM, or PM_{2.5}). The California Air Resources Board (CARB) has established separate standards for the state (i.e., the California Ambient Air Quality Standards [CAAQS]). CARB has established CAAQS for all the federal pollutants, as well as sulfates, hydrogen sulfide, and visibility-reducing particles.

For some of the pollutants, the identified air quality standards are expressed in more than one averaging time to address the typical exposures found in the environment. For example, CO is expressed as a 1-hour averaging time and an 8-hour averaging time. Regulations have set NAAQS and CAAQS limits in parts per million (ppm) or micrograms per cubic meter (µg/m³). Table 5.3-1 provides these standards.

Table 5.3-1: National and State Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards ^a	National Standards ^b	
			Primary ^c	Secondary ^d
Ozone (O ₃)	1 hour	0.09 ppm	--	--
	8 hours	0.070 ppm	0.070 ppm	0.070 ppm
Carbon monoxide (CO)	1 hour	20 ppm	35 ppm	--
	8 hours	9.0 ppm	9 ppm	--
Nitrogen dioxide (NO ₂)	1 hour	0.18 ppm	0.100 ppm ^e	--
	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	0.053 ppm



PROPONENT’S ENVIRONMENTAL ASSESSMENT – ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Air Quality

Pollutant	Averaging Time	California Standards ^a	National Standards ^b	
			Primary ^c	Secondary ^d
Sulfur dioxide (SO ₂)	1 hour	0.25 ppm	0.075 ppm ^f	--
	3 hours	--	--	0.5 ppm
	24 hours	0.040 ppm	0.014 ppm	--
	Annual Arithmetic Mean	--	0.030 ppm	--
Particulate matter less than 10 microns (PM ₁₀)	24 hours	50 µg/m ³	150 µg/m ³	150 µg/m ³
	Annual Arithmetic Mean	20 µg/m ³	--	--
Particulate matter less than 2.5 microns (PM _{2.5})	24 hours	--	35 µg/m ³	35 µg/m ³
	Annual Arithmetic Mean	12 µg/m ³	12 µg/m ³	15 µg/m ³
Lead ^g	30-day Average	1.5 µg/m ³	--	--
	Calendar Quarter	--	1.5 µg/m ³	1.5 µg/m ³
	Rolling 3-month Average	--	0.15 µg/m ³	0.15 µg/m ³
Visibility reducing particles (VRP) ^g	8 hours	h	--	--
Sulfates	24 hours	25 µg/m ³	--	--
Hydrogen sulfide (H ₂ S)	1 hour	0.03 ppm	--	--
Vinyl chloride	24 hours	0.01 ppm	--	--

Notes:

- a. California Ambient Air Quality Standards for ozone, CO (except 8-hour Lake Tahoe), sulfur dioxide (SO₂; 1- and 24-hour), NO₂, and particulate matter (PM₁₀, PM_{2.5}, and VRP), are values that are not to be exceeded. All others are not to be equaled or exceeded.
 - b. National Ambient Air Quality Standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year averaged over 3 years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations averaged over 3 years are equal to or less than the standard.
 - c. Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
 - d. Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
 - e. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 0.100 ppm.
 - f. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 0.075 ppm.
 - g. CARB has identified lead and vinyl chloride as toxic air contaminants with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
 - h. Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer due to particles when the relative humidity is less than 70 percent.
- CARB = California Air Resources Board
ppm = parts per million
µg/m³ = micrograms per cubic meter
-- = No standard has been adopted for this averaging time

Source: CARB 2016



PROPONENT'S ENVIRONMENTAL ASSESSMENT – ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Air Quality

Attainment Status

In California, air quality management responsibilities exist at local, state, and federal levels. In general, air quality management planning programs developed during the past few decades have been in response to requirements established by the FCAA. However, the enactment of the California Clean Air Act (CCAA) and its subsequent revisions has produced changes in the structure and administration of air quality management programs in California. The attainment status of the project area is described below for federal and state criteria pollutants.

The project would span across portions of Modoc and Lassen Counties located in the NPAB, and Sierra County located in the MCAB. Designation criteria specify four categories: nonattainment, nonattainment-transitional, attainment, and unclassified. A nonattainment designation indicates that one or more violations of the state standard have occurred. A nonattainment-transitional designation is a subcategory of nonattainment that indicates improving air quality with only occasional violations or exceedances of the state standard. In contrast, an attainment designation indicates that no violations of the state standard have occurred within the last three years. Finally, an unclassified designation indicates either no air quality data or an incomplete set of air quality data. Table 5.3-2 and Table 5.3-3 show that all criteria pollutants are in attainment for federal and state standards except for Sierra County with a nonattainment designation for PM₁₀.

Table 5.3-2: Federal Designations/Classifications for the Project Area

Pollutant	Modoc County	Lassen County	Sierra County
	Federal Designation (Classification)		
Ozone – 1 Hour	No Federal Standard		
Ozone – 8 Hour	Unclassified/Attainment		
Inhalable coarse particles (PM ₁₀)	Unclassified		
Fine particulate matter (PM _{2.5})	Unclassified/Attainment		
Carbon Monoxide (CO)	Unclassified/Attainment		
Nitrogen Dioxide (NO ₂)	Unclassified/Attainment		
Sulfur Dioxide	Unclassified/Attainment		
Lead	Unclassified/Attainment		
Sulfates	No Federal Standard		
Hydrogen Sulfide			
Visibility Reducing Particles			

Source: CARB 2019



PROPONENT’S ENVIRONMENTAL ASSESSMENT – ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Air Quality

Table 5.3-3: State Designations/Classifications for the Project Area

Pollutant	Modoc County	Lassen County	Sierra County
	State Designation (Classification)		
Ozone – 1 Hour	Attainment	Attainment	Unclassified
Ozone – 8 Hour	Attainment	Attainment	Unclassified
Inhalable coarse particles (PM ₁₀)	Unclassified	Unclassified	Nonattainment
Fine particulate matter (PM _{2.5})	Attainment	Attainment	Unclassified
Carbon Monoxide (CO)	Unclassified		
Nitrogen Dioxide (NO ₂)	Attainment		
Sulfur Dioxide	Attainment		
Lead	Attainment		
Sulfates	Attainment		
Hydrogen Sulfide	Unclassified		
Visibility Reducing Particles	Unclassified		

Source: CARB 2019

5.3.1.2 Air Quality

The project area would be located in three rural counties where air quality is considered to be good. The project area is designated nonattainment for only PM₁₀ in Sierra County, which is mainly attributable to smoke from wood burning heaters in Sierra County and surrounding areas. Based on CARB data, there are no pollutant monitoring stations in any of the counties where the project would be located. The closest monitoring station is located in the City of Portola in Plumas County and only measures PM_{2.5}. The lack of monitoring stations in the project area indicates that there are not significant sources of pollution in these counties, and overall, air quality levels meet ambient air quality standards.

5.3.1.3 Sensitive Receptor Locations

The portion of the project that crosses California would extend across portions of Modoc, Lassen, and Sierra Counties. The running line generally follows US 395, but also county roads between the communities of Standish and Buntingville in Lassen County, California, where it follows Standish Buntingville Road (Lassen County Road A3) and Cummings Road before returning to the right-of-way parallel to US 395. The running line and associated ancillary equipment would be placed within existing Caltrans and county-maintained roadway rights-of-way and on immediately adjacent private property. Rural residential homes are scattered along the mainline of the fiber optic installation route. Some of these homes are located within 1,000 feet of where project activities would occur; however, the exposure that sensitive receptors would experience would be temporary and of very limited duration (Table 5.3-4).



PROPONENT’S ENVIRONMENTAL ASSESSMENT – ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Air Quality

Table 5.3-4: Sensitive Receptors within 1,000 feet

Jurisdiction	Distance from Project					Total
	1-50 feet	50-100 feet	100-250 feet	250-500 feet	500-1,000 feet	
Modoc County	1718	54	8991	132136	182458	480544
Lassen County	4012	4849	142	484187	263265	647655
Sierra County	0	2	0	4	0	6
City of Alturas	5	19	20	45	139	228

Source: Stantec 2020

5.3.2 Regulatory Setting

5.3.2.1 Federal

EPA is the federal agency responsible for overseeing state air programs as they relate to the FCAA, approving the state implementation plans (SIPs), establishing NAAQS, and setting emission standards for mobile sources under federal jurisdiction. EPA has delegated the authority to implement many of the federal programs to the states while retaining an oversight role to ensure that the programs continue to be implemented.

5.3.2.2 State

CARB is the state agency responsible for establishing CAAQS, adopting and enforcing emission standards for various sources, including mobile sources (except where federal law preempts their authority), fuels, consumer products, and toxic air contaminants (TACs). CARB is also responsible for providing technical support to California’s 35 local air districts, which are organized at the county or regional level, and oversee local air district compliance with state and federal law, approving local air plans and submitting the SIP to EPA. CARB also regulates mobile emission sources in California, such as construction equipment, trucks, and automobiles.

For the purposes of managing air quality in California, the California Health and Safety Codes gave CARB the responsibility to divide the state into air basins, “based upon similar meteorological and geographic conditions and consideration for political boundary lines whenever practicable.” Modoc and Lassen Counties are located in the NPAB and Sierra County is located in the MCAB.

In 2004, CARB initially approved an airborne toxic control measure (ATCM) to implement idling restrictions of diesel-fueled commercial motor vehicles operating in California (13 [California Code of Regulations \[CCR\] Section 2485](#)) (CARB 2005). The ATCM applies to diesel-fueled commercial vehicles with a gross vehicle rating greater than 10,000 pounds. The ATCM would limit idling times of these vehicle’s primary engine to no more than 5 minutes at any location. This measure would help reduce exposure to diesel particulate matter (DPM) and other diesel exhaust pollutants.



PROPONENT’S ENVIRONMENTAL ASSESSMENT – ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Air Quality

5.3.2.3 Local

The project spans across multiple counties and multiple local air quality districts. Modoc County Air Pollution Control District (MCAPCD) has jurisdiction over Modoc County, Lassen County Air Pollution Control District (LCAPCD) has jurisdiction over Lassen County, and the Northern Sierra Air Quality Management District (NSAQMD) has jurisdiction over Sierra County. All three of these air districts are located in rural areas with good air quality and are required by state law to achieve and maintain NAAQS a CAAQS. Currently, these air quality districts have not established emissions thresholds for pollutants generated from construction or operations of development projects nor do they have an applicable air quality plan. In order to evaluate criteria pollutant impacts, project emissions would be compared to thresholds established by the nearby Placer County Air Pollution Control District (PCAPCD), which provides construction thresholds for reactive organic gases (ROG), nitrogen oxides (NO_x), and PM₁₀ of 82 pounds per day (PCAPCD 2016).

5.3.3 Impact Questions

Would the project:	Potentially Significant Impact	Less-than-Significant Impact with Mitigation Incorporated	Less-than-Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

5.3.4 Impact Analysis

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less Than Significant Impact. Currently, air districts in the project area have not adopted clean air plans. The project area is designated nonattainment for the state health-based air quality standard for PM₁₀. The project area is designated as attainment or unclassified for all other federal and state health-based air quality standards. To assess the project’s potential to obstruct implementation of an air quality plan, localized criteria pollutant emissions were analyzed as these are the pollutants with established ambient air quality standards. Potential localized impacts would include exceedances of state standards



PROPONENT’S ENVIRONMENTAL ASSESSMENT – ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Air Quality

for PM₁₀. PM emissions, primarily PM₁₀, could result in fugitive dust emissions during construction earth-disturbing activities. During construction, exhaust and fugitive dust emissions would be generated from equipment delivery, construction personnel commutes, and operation of various types of equipment and vehicles. Additionally, the project would implement APM AIR-1, which would reduce PM₁₀ and fugitive dust emissions from installation activities and vehicle travel during construction. Additionally, use of diesel-powered equipment would generate emissions of criteria pollutants.

Air quality modeling was performed using project-specific details to determine whether the project would result in criteria air pollutant emissions exceeding applicable thresholds of significance. Table 5.3-5 shows that the project’s unmitigated construction-related emissions would exceed the significance threshold for NO_x. Exceedance of the NO_x threshold would result in potential significant impacts, and mitigation measures would be required. APM AIR-2 would implement cleaner engines for a majority of the off-road construction fleet. With implementation of APM AIR-2, daily construction-related NO_x emissions would be reduced to levels below significance thresholds. The project would also comply with the ATCM to limit heavy duty diesel motor idling to no more than 5 minutes. Operations of the project would be on an as-needed basis and would have no impact. Overall, the project would not conflict with or obstruct implementation of applicable air quality plans, therefore, impacts would be less than significant with mitigation.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less Than Significant Impact. Construction of the project would result in temporary increases in emissions of criteria pollutants and fugitive dust associated with the use of off-road diesel equipment and vehicle trips. Emissions were estimated using the California Emissions Estimator Model (CalEEMod) Version 2016.3.2 and CARB’s most recent version of its Emission FACtor model, EMFAC2017. The project would result in emissions of criteria pollutants for which the region is in nonattainment. Sierra County fails to meet the CAAQS for PM₁₀ and is therefore considered a state nonattainment area for this pollutant.

Table 5.3-5 shows the unmitigated daily construction emissions. The maximum daily construction emissions were estimated for the project, which includes construction activities located at different areas along the installation route but that could potentially occur simultaneously. The maximum daily emissions are predicted values for the worst-case day and do not represent the emissions that would occur for every day of construction.

Table 5.3-5: Unmitigated Daily Construction Emissions

Source	Daily Emissions (lbs/day)		
	ROG	NO _x	PM ₁₀
Off-road Equipment	12.44	131.37	7.85
Mobile Sources	<u>1.0459</u>	<u>23.4042.60</u>	<u>2.593.91</u>



PROPONENT’S ENVIRONMENTAL ASSESSMENT – ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Air Quality

Source	Daily Emissions (lbs/day)		
	ROG	NO _x	PM ₁₀
Fugitive Dust	0.00	0.00	0.78
Project Total	<u>13.4914.04</u>	<u>154.77173.97</u>	<u>41.2212.53</u>
PCAPCD Threshold	82	82	82
Exceeds Threshold?	No	Yes	No

Notes:

Daily activities in each air basin would be similar and as such the emissions presented would be equivalent for each air basin.

lbs/day = pounds per day

NO_x = nitrogen oxide

PCAPCD = Placer County Air Pollution Control District

PM₁₀ = particulate matter with an aerodynamic diameter of 10 micrometers or less

ROG = reactive organic gas

As shown in Table 5.3-4, the project would exceed the threshold for NO_x, impacts would be potentially significant without implementation of APM AIR-2 which would require the use of EPA Tier 4 off-road equipment during construction. Details of the criteria pollutant emissions modeling are provided in Appendix B.

APM-AIR-2 would require all off-road equipment except air compressors to meet USEPA Tier 4 Final emission standards. Tier 4 Final emission standards are the most stringent emissions standards available which reduce NO_x and PM₁₀ emissions substantially. Table 5.3-6 shows that with implementation of APM AIR-2, the project’s construction emissions would be reduced below PCAPCD’s significance threshold for NO_x, therefore construction impacts would be considered less than significant.

Table 5.3-6: Mitigated Daily Construction Emissions

Source	Daily Emissions (lbs/day)		
	ROG	NO _x	PM ₁₀
Off-road Equipment	4.86	27.42	3.42
Mobile Sources	<u>1.0459</u>	<u>23.4042.60</u>	<u>2.593.91</u>
Fugitive Dust	0.00	0.00	0.78
Project Total	<u>5.946.46</u>	<u>50.8270.02</u>	<u>6.798.10</u>
PCAPCD Threshold	82	82	82
Exceeds Threshold?	No	No	No

Notes:

lbs/day = pounds per day

NO_x = nitrogen oxide

PCAPCD = Placer County Air Pollution Control District

PM₁₀ = particulate matter with an aerodynamic diameter of 10 micrometers or less

ROG = reactive organic gas



PROPONENT'S ENVIRONMENTAL ASSESSMENT – ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Air Quality

Operations of the project would be on an as-needed basis and would have no impact.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. Construction of the project may result in temporary increases in emissions of DPM from off-road diesel equipment and vehicle trips. Health-related risks associated with DPM emissions are primarily associated with long-term exposure and the associated risk of contracting cancer. As such, the calculation of cancer risk associated with exposure to TACs are typically calculated based on a long-term period of exposure. Based on updated guidelines from the Office of Environmental Health Hazard Assessment, cancer risks are based on constant daily exposure for 30 years and 25 years for offsite residential and worker receptors, respectively. Construction activities would occur over an approximately 6-month construction period, which would constitute approximately 1.7 percent and 2 percent of the residential and worker exposure durations, respectively. Furthermore, the use of diesel-powered construction equipment would be temporary and episodic, lasting only a few hours at any given location, and would span approximately 493.9194 linear miles across three counties. Given this, offsite residential and worker receptors would not be constantly exposed to DPM emissions. Furthermore, with implementation of APM AIR-1, DPM emissions would be significantly reduced. For these reasons, and given the relatively high dispersive properties of DPM, exposure to construction-generated DPM would not be anticipated to exceed applicable health risk thresholds (i.e., incremental increase in cancer risk of 10 in one million).

Fugitive dust emissions would be generated from vehicle travel and soil disturbance during fiber-optic cable installation. Installation of the fiber-optic cable would be conducted using three types of installation methods: plowing, trenching, and directional boring. A majority of the cable would be installed using the plowing method, which results in the least amount of soil disturbed among the three methods. For areas where plowing is not an option (e.g., bodies of water or rocky soils), trenching and directional boring would be utilized. To minimize fugitive dust emissions during construction activities, the project would implement dust control measures as shown in APM AIR-1.

With implementation of APM AIR-1 and APM AIR-2, construction emissions are not expected to have impacts on sensitive receptors. Operation of the project would have no impact. The project would not expose sensitive receptors to substantial pollutant concentrations; therefore, impacts would be less than significant.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact. During construction, use of diesel-powered vehicles and equipment would create temporary, localized odors. Construction activities near sensitive receptors would be temporary, lasting only a few hours. Based on this, project construction would not result in emissions or odors that would adversely affect a substantial number of people; therefore, impacts would be less than significant.



PROPONENT'S ENVIRONMENTAL ASSESSMENT – ZAYO PRINEVILLE-TO-RENO FIBER OPTIC PROJECT

Air Quality

5.3.5 Draft Environmental Measures

APM AIR-1: Fugitive Dust Control

The Applicant shall implement measures to control fugitive dust in compliance with all local air district(s) standards. Dust control measures shall include the following at a minimum:

- All exposed surfaces with the potential of dust-generating shall be watered or covered with coarse rock to reduce the potential for airborne dust from leaving the site.
- The simultaneous occurrence of more than two ground disturbing construction phases on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
- Cover all haul trucks entering/leaving the site and trim their loads as necessary.
- Use wet power vacuum street sweepers to sweep all paved access road, parking areas, staging areas, and public roads adjacent to project sites on a daily basis (at minimum) during construction. The use of dry power sweeping is prohibited.
- All trucks and equipment, including their tires, shall be washed off prior to leaving project sites.
- Apply gravel or non-toxic soil stabilizers on all unpaved access roads, parking areas, and staging areas at project sites.
- Water and/or cover soil stockpiles daily.
- Vegetative ground cover shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
- All vehicle speeds shall be limited to fifteen (15) miles per hour or less on unpaved areas.
- Implement dust monitoring in compliance with the standards of the local air district.
- Halt construction during any periods when wind speeds are in excess of 50 mph.

APM AIR-2: Low-emission Vehicles

All off-road construction equipment, except for air compressors, shall meet EPA Tier 4 Final off-road emissions standards (or equivalent) to reduce NO_x emissions during construction activities.

