

Appendix A Air Quality and GHG Background and Modeling

Appendix

This page intentionally left blank.

Air Quality and Greenhouse Gas Appendix

Air Quality and Greenhouse Gas Background and Modeling Data

AIR QUALITY

Regulatory Setting

Ambient air quality standard (AAQS) have been adopted at the State and federal levels for criteria air pollutants. In addition, both the State and federal government regulate the release of toxic air contaminants (TAC). The project site is in the Mojave Desert Air Basin (MDAB) and is subject to the rules and regulations imposed by the Mojave Desert Air Quality Management District (MDAQMD) as well as the California AAQS adopted by the California Air Resources Board (CARB) and National AAQS adopted by the United States Environmental Protection Agency (EPA). Federal, State, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the proposed project are summarized below.

FEDERAL AND STATE

Ambient Air Quality Standards

The Clean Air Act (42 U.S.C. § 7401, et. seq.) was passed in 1963 by the US Congress and has been amended several times. The 1970 Clean Air Act amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting National AAQS and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The CAA allows states to adopt more stringent standards or to include other pollution species. The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the state to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the National AAQS, based on even greater health and welfare concerns.

These National AAQS and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect “sensitive receptors” most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

Both California and the federal government have established health-based AAQS for seven air pollutants. As shown in Table 1, *Ambient Air Quality Standards for Criteria Pollutants*, these pollutants include ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), coarse inhalable particulate matter

Air Quality and Greenhouse Gas Background and Modeling Data

(PM₁₀), fine inhalable particulate matter (PM_{2.5}), and lead (Pb). In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

Table 1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard ¹	Federal Primary Standard ²	Major Pollutant Sources
Ozone (O ₃) ³	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.070 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO ₂)	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	*	0.030 ppm	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm	
	24 hours	0.04 ppm	0.14 ppm	
Respirable Coarse Particulate Matter (PM ₁₀)	Annual Arithmetic Mean	20 µg/m ³	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50 µg/m ³	150 µg/m ³	
Respirable Fine Particulate Matter (PM _{2.5}) ⁴	Annual Arithmetic Mean	12 µg/m ³	12 µg/m ³	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	*	35 µg/m ³	
Lead (Pb)	30-Day Average	1.5 µg/m ³	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarter	*	1.5 µg/m ³	
	Rolling 3-Month Average	*	0.15 µg/m ³	
Sulfates (SO ₄) ⁵	24 hours	25 µg/m ³	*	Industrial processes.

Air Quality and Greenhouse Gas Background and Modeling Data

Table 1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard ¹	Federal Primary Standard ²	Major Pollutant Sources
Visibility Reducing Particles	8 hours	ExCo = 0.23/km visibility of 10≥ miles	No Federal Standard	Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.
Hydrogen Sulfide	1 hour	0.03 ppm	No Federal Standard	Hydrogen sulfide (H ₂ S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation.
Vinyl Chloride	24 hour	0.01 ppm	No Federal Standard	Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Source: CARB 2016a.

Notes: ppm: parts per million; µg/m³: micrograms per cubic meter

* Standard has not been established for this pollutant/duration by this entity.

1 California standards for O₃, CO (except 8-hour Lake Tahoe), SO₂ (1 and 24 hour), NO₂, and particulate matter (PM₁₀, PM_{2.5}, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than O₃, PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O₃ standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three 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 three years, are equal to or less than the standard.

3 On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

4 On December 14, 2012, the national annual PM_{2.5} primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour PM_{2.5} standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM₁₀ standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

5 On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. The 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

California has also adopted a host of other regulations that reduce criteria pollutant emissions.

- **AB 1493: Pavley Fuel Efficiency Standards.** Pavley I is a clean-car standard that reduces emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016. In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025.

Air Quality and Greenhouse Gas Background and Modeling Data

- **Heavy-Duty (Tractor-Trailer) GHG Regulation.** The tractors and trailers subject to this regulation must either use EPA SmartWay certified tractors and trailers or retrofit their existing fleet with SmartWay-verified technologies. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and owners of the heavy-duty tractors that pull them on California highways. These owners are responsible for replacing or retrofitting their affected vehicles with compliant aerodynamic technologies and low-rolling-resistance tires. Sleeper-cab tractors model year 2011 and later must be SmartWay certified. All other tractors must use SmartWay-verified low-rolling-resistance tires. This rule has criteria air pollutant co-benefits.
- **SB 1078 and SB 107: Renewables Portfolio Standards.** A major component of California’s Renewable Energy Program is the renewables portfolio standard established under Senate Bills 1078 (Sher) and 107 (Simitian). Under this standard, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010.
- **California Code of Regulations (CCR) Title 20: Appliance Energy Efficiency Standards.** The 2006 Appliance Efficiency Regulations (20 CCR secs. 1601–1608) were adopted by the California Energy Commission on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non-federally regulated appliances. This code reduces natural gas use from appliances.
- **24 CCR, Part 6: Building and Energy Efficiency Standards.** Energy conservation standards for new residential and nonresidential buildings adopted by the California Energy Resources Conservation and Development Commission (now the California Energy Commission) in June 1977. This code reduces natural gas use from buildings.
- **24 CCR, Part 11: Green Building Standards Code.** Establishes planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. This code reduces natural gas use from buildings.

Tanner Air Toxics Act and Air Toxics Hot Spot Information and Assessment Act

Public exposure to TACs is a significant environmental health issue in California. In 1983, the California legislature enacted a program to identify the health effects of TACs and reduce exposure to them. The California Health and Safety Code defines a TAC as “an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health” (17 CCR § 93000). A substance that is listed as a hazardous air pollutant pursuant to Section 112(b) of the federal Clean Air Act (42 US Code § 7412[b]) is a toxic air contaminant. Under State law, the California Environmental Protection Agency, acting through CARB, is authorized to identify a substance as a TAC if it is an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through Assembly Bill (AB) 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics “Hot Spot” Information and Assessment Act of 1987). The Tanner Air Toxics Act set up a formal

Air Quality and Greenhouse Gas Background and Modeling Data

procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an “airborne toxics control measure” for sources that emit that TAC. If there is a safe threshold for a substance (i.e., a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate “toxics best available control technology” to minimize emissions. To date, CARB has established formal control measures for 11 TACs that are identified as having no safe threshold.

Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High-priority facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, are required to communicate the results to the public through notices and public meetings.

CARB has promulgated the following specific rules to limit TAC emissions:

- **13 CCR Chapter 10 Section 2485:** Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling. Generally restricts on-road diesel-powered commercial motor vehicles with a gross vehicle weight rating of greater than 10,000 pounds from idling more than five minutes.
- **13 CCR Chapter 10 Section 2480:** Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools. Generally restricts a school bus or transit bus from idling for more than five minutes when within 100 feet of a school.
- **13 CCR Section 2477 and Article 8:** Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate. Regulations established to control emissions associated with diesel-powered TRUs.

Air Pollutants of Concern

Criteria Air Pollutants

The air pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law. Air pollutants are categorized as primary or secondary pollutants. Primary air pollutants are those that are emitted directly from sources. Carbon monoxide (CO), volatile organic compounds (VOC), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), coarse inhalable particulate matter (PM₁₀), fine inhalable particulate matter (PM_{2.5}), and lead (Pb) are primary air pollutants. Of these, CO, SO₂, NO₂, PM₁₀, and PM_{2.5} are “criteria air pollutants,” which means that AAQS have been established for them. VOC and oxides of nitrogen (NO_x) are air pollutant precursors that form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O₃) and NO₂ are the principal secondary pollutants. Table 2, *Criteria Air Pollutant Health Effects Summary*, summarizes the potential health effects associated with the criteria air pollutants.

Air Quality and Greenhouse Gas Background and Modeling Data

Table 2 Criteria Air Pollutant Health Effects Summary

Pollutant	Health Effects	Examples of Sources
Carbon Monoxide (CO)	Chest pain in heart patients Headaches, nausea Reduced mental alertness Death at very high levels	Any source that burns fuel such as cars, trucks, construction and farming equipment, and residential heaters and stoves
Ozone (O ₃)	Cough, chest tightness Difficulty taking a deep breath Worsened asthma symptoms Lung inflammation	Atmospheric reaction of organic gases with nitrogen oxides in sunlight
Nitrogen Dioxide (NO ₂)	Increased response to allergens Aggravation of respiratory illness	Same as carbon monoxide sources
Particulate Matter (PM ₁₀ and PM _{2.5})	Hospitalizations for worsened heart diseases Emergency room visits for asthma Premature death	Cars and trucks (particularly diesels) Fireplaces and woodstoves Windblown dust from overlays, agriculture, and construction
Sulfur Dioxide (SO ₂)	Aggravation of respiratory disease (e.g., asthma and emphysema) Reduced lung function	Combustion of sulfur-containing fossil fuels, smelting of sulfur-bearing metal ores, and industrial processes
Lead (Pb)	Behavioral and learning disabilities in children Nervous system impairment	Contaminated soil

Source: CARB 2022d; South Coast AQMD 2005.

A description of the primary and secondary criteria air pollutants and their known health effects are presented below.

Carbon Monoxide (CO) is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. The highest ambient CO concentrations are generally found near traffic-congested corridors and intersections. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation (South Coast AQMD 2005; USEPA 2022).

Volatile Organic Compounds (VOC) are compounds composed primarily of atoms of hydrogen and carbon. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons. Other sources include evaporative emissions from paints and solvents, asphalt paving, and household consumer products such as aerosols (South Coast AQMD 2005). There are no AAQS for VOCs. However, because they contribute to the formation of O₃, MDAQMD has established a significance threshold.

Air Quality and Greenhouse Gas Background and Modeling Data

Nitrogen Oxides (NO_x) are a by-product of fuel combustion and contribute to the formation of ground-level O₃, PM₁₀, and PM_{2.5}. The two major forms of NO_x are nitric oxide (NO) and nitrogen dioxide (NO₂). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. The principal form of NO₂ produced by combustion is NO, but NO reacts quickly with oxygen to form NO₂, creating the mixture of NO and NO₂ commonly called NO_x. NO₂ is an acute irritant and more injurious than NO in equal concentrations. At atmospheric concentrations, however, NO₂ is only potentially irritating. NO₂ absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO₂ exposure concentrations near roadways are of particular concern for susceptible individuals, including asthmatics, children, and the elderly. Current scientific evidence links short-term NO₂ exposures, ranging from 30 minutes to 24 hours, with adverse respiratory effects, including airway inflammation in healthy people and increased respiratory symptoms in people with asthma. Also, studies show a connection between elevated short-term NO₂ concentrations and increased visits to emergency departments and hospital admissions for respiratory issues, especially asthma (South Coast AQMD 2005; USEPA 2022).

Sulfur Dioxide (SO₂) is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and chemical processes at plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO₂. When sulfur dioxide forms sulfates (SO₄) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_x). Thus, SO₂ is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO₂ may irritate the upper respiratory tract. Current scientific evidence links short-term exposures to SO₂, ranging from 5 minutes to 24 hours, with an array of adverse respiratory effects, including bronchoconstriction and increased asthma symptoms. These effects are particularly adverse for asthmatics at elevated ventilation rates (e.g., while exercising or playing) at lower concentrations and when combined with particulates, SO₂ may do greater harm by injuring lung tissue. Studies also show a connection between short-term exposure and increased visits to emergency facilities and hospital admissions for respiratory illnesses, particularly in at-risk populations such as children, the elderly, and asthmatics (South Coast AQMD 2005; USEPA 2022).

Suspended Particulate Matter (PM₁₀ and PM_{2.5}) consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized and regulated. Inhalable coarse particles, or PM₁₀, include particulate matter with an aerodynamic diameter of 10 microns or less (i.e., ≤10 millionths of a meter or 0.0004 inch). Inhalable fine particles, or PM_{2.5}, have an aerodynamic diameter of 2.5 microns or less (i.e., ≤2.5 millionths of a meter or 0.0001 inch). Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. Both PM₁₀ and PM_{2.5} may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems (South Coast AQMD 2005). The Environmental Protection Agency's (EPA) scientific review concluded that PM_{2.5}, which penetrates deeply into the lungs, is more likely than PM₁₀ to contribute to health effects and at far lower concentrations. These health effects include premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms (e.g., irritation of the airways, coughing, or difficulty breathing) (South Coast AQMD 2005). There has been emerging evidence that ultrafine particulates, which are even smaller particulates with an aerodynamic diameter of <0.1 microns or less (i.e., ≤0.1 millionths of a meter or <0.000004 inch),

Air Quality and Greenhouse Gas Background and Modeling Data

have human health implications, because their toxic components may initiate or facilitate biological processes that may lead to adverse effects to the heart, lungs, and other organs (South Coast AQMD 2013). However, the EPA and CARB have yet to adopt AAQS to regulate these particulates. Diesel particulate matter is classified by CARB as a carcinogen. Particulate matter can also cause environmental effects such as visibility impairment,¹ environmental damage,² and aesthetic damage³ (South Coast AQMD 2005; USEPA 2022).

Ozone (O₃) is commonly referred to as “smog” and is a gas that is formed when VOCs and NO_x, both by-products of internal combustion engine exhaust, undergo photochemical reactions in sunlight. O₃ is a secondary criteria air pollutant. O₃ concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions for its formation. O₃ poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Breathing O₃ can trigger a variety of health problems, including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ground-level O₃ also can reduce lung function and inflame the linings of the lungs. Repeated exposure may permanently scar lung tissue. O₃ also affects sensitive vegetation and ecosystems, including forests, parks, wildlife refuges, and wilderness areas. In particular, O₃ harms sensitive vegetation during the growing season (South Coast AQMD 2005; USEPA 2022).

Lead (Pb) is a metal found naturally in the environment as well as in manufactured products. Once taken into the body, lead distributes throughout the body in the blood and accumulates in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Lead exposure also affects the oxygen-carrying capacity of the blood. The effects of lead most commonly encountered in current populations are neurological effects in children and cardiovascular effects in adults (e.g., high blood pressure and heart disease). Infants and young children are especially sensitive to even low levels of lead, which may contribute to behavioral problems, learning deficits, and lowered IQ (South Coast AQMD 2005; USEPA 2022). The major sources of lead emissions have historically been mobile and industrial sources. As a result of the EPA’s regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector dramatically declined by 95 percent between 1980 and 1999, and levels of lead in the air decreased by 94 percent between 1980 and 1999. Today, the highest levels of lead in air are usually found near lead smelters. The major sources of lead emissions today are ore and metals processing and piston-engine aircraft operating on leaded aviation gasoline. Because emissions of lead are found only in projects that are permitted by MDAQMD, lead is not a pollutant of concern for the proposed project.

Toxic Air Contaminants

People exposed to TACs at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects. These health effects can include damage to the immune system as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory, and other health

¹ PM_{2.5} is the main cause of reduced visibility (haze) in parts of the United States.

² Particulate matter can be carried over long distances by wind and then settle on ground or water, making lakes and streams acidic; changing the nutrient balance in coastal waters and large river basins; depleting the nutrients in soil; damaging sensitive forests and farm crops; and affecting the diversity of ecosystems.

³ Particulate matter can stain and damage stone and other materials, including culturally important objects such as statues and monuments.

Air Quality and Greenhouse Gas Background and Modeling Data

problems (USEPA 2020). By the last update to the TAC list in December 1999, CARB had designated 244 compounds as TACs (CARB 1999). Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. There are no air quality standards for TACs. Instead, TAC impacts are evaluated by calculating the health risks associated with a given exposure. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most relevant to the proposed project being particulate matter from diesel-fueled engines.

Diesel Particulate Matter

In 1998, CARB identified DPM as a TAC. Previously, the individual chemical compounds in diesel exhaust were considered TACs. Almost all diesel exhaust particles are 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs. Long-term (chronic) inhalation of DPM is likely a lung cancer risk. Short-term (i.e., acute) exposure can cause irritation and inflammatory symptoms and may exacerbate existing allergies and asthma symptoms (USEPA 2002).

REGIONAL

The State is divided into air pollution control districts/air quality management districts. These agencies are county or regional governing authorities that have primary responsibility for controlling air pollution from stationary sources. CARB and local air districts are also responsible for developing clean air plans to demonstrate how and when California will attain AAQS established under both the federal and California Clean Air Acts. For the areas in California that have not attained air quality standards, CARB works with air districts to develop and implement state and local attainment plans. In general, attainment plans contain a discussion of ambient air quality data and trends; a baseline emissions inventory; future year projections of emissions, which account for growth projections and already adopted control measures; a comprehensive control strategy of additional measures needed to reach attainment; an attainment demonstration, which generally involves complex modeling; and contingency measures. Plans may also include interim milestones for progress toward attainment.

AIR QUALITY MANAGEMENT PLANNING

MDAQMD is geographically the second largest of the state's 35 air districts. Air monitoring staff operates and maintains six monitoring stations (Barstow, Hesperia, Phelan, Trona, Twentynine Palms, and Victorville) in the District's 20,000-square-mile jurisdiction. MDAQMD is the agency responsible for ensuring that the National and California AAQS are attained and maintained in the MDAB. MDAQMD is responsible for:

- Adopting and enforcing rules and regulations concerning air pollutant sources.
- Issuing permits for stationary sources of air pollutants.
- Inspecting stationary sources of air pollutants.
- Responding to citizen complaints.
- Monitoring ambient air quality and meteorological conditions.
- Awarding grants to reduce motor vehicle emissions.
- Conducting public education campaigns.

Air Quality and Greenhouse Gas Background and Modeling Data

The MDAQMD is the agency responsible for preparing the air quality management plan (AQMP) for the San Bernardino and Riverside County portions of the MDAB. MDAQMD has adopted the following attainment plans for nonattainment pollutants that are applicable in the project area (MDAQMD 2016):

Ozone Attainment Plans

- 2008 – Federal 8-Hour Ozone Attainment Plan (Western Mojave Desert Nonattainment Area).
- 2004 – 2004 Ozone Attainment Plan (State and Federal).
- 1996 – Triennial Revision to the 1991 Air Quality Attainment Plan.
- 1994 – Reasonable Further Progress Rate-of-Progress Plan.
- 1996 – Post-1996 Attainment Demonstration and Reasonable Further Progress Plan.
- 1991 – 1991 Air Quality Attainment Plan.

Particulate Matter Attainment Plans

- 1995 – Mojave Desert Planning Area Federal Particulate Matter Attainment Plan.

Existing Setting

MOJAVE DESERT AIR BASIN METEOROLOGY

The project site lies within the Mojave Desert Air Basin (MDAB). The MDAQMD has jurisdiction over the desert portion of San Bernardino County and the far eastern end of Riverside County. This region includes the incorporated communities of Adelanto, Apple Valley, Barstow, Blythe, Hesperia, Needles, Twentynine Palms, Victorville, and Yucca Valley. This region also includes the National Training Center at Fort Irwin, the Marine Corps Air Ground Combat Center, the Marine Corps Logistics Base, the eastern portion of Edwards Air Force Base, and a portion of the China Lake Naval Air Weapons Station.

Topography and Climate

The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes. Many of the lower mountains that dot the vast terrain rise from 1,000 to 4,000 feet above the valley floor. Prevailing winds in the MDAB are out of the west and southwest. These prevailing winds are due to the proximity of the MDAB to coastal and central regions and the blocking nature of the Sierra Nevada to the north; air masses pushed onshore in southern California by differential heating are channeled through the MDAB.

The MDAB is separated from the southern California coastal and central California valley regions by mountains (highest elevation approximately 10,000 feet), whose passes form the main channels for these air masses. Antelope Valley is bordered in the northwest by the Tehachapi Mountains, separated from the Sierra Nevada in the north by the Tehachapi Pass (3,800 ft elevation). Antelope Valley is bordered in the south by the San Gabriel Mountains, bisected by Soledad Canyon (3,300 ft). The Mojave Desert is bordered in the southwest by the San Bernardino Mountains, separated from the San Gabriels by the Cajon Pass (4,200 ft). A lesser channel lies between the San Bernardino Mountains and the Little San Bernardino Mountains (Morongo Valley).

Air Quality and Greenhouse Gas Background and Modeling Data

The Palo Verde Valley portion of the Mojave Desert lies in the low desert, at the eastern end of a series of valleys (notably the Coachella Valley), whose primary channel is the San Gorgonio Pass (2,300 ft) between the San Bernardino and San Jacinto Mountains. During the summer the MDAB is generally influenced by a Pacific subtropical high cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, because these frontal systems are weak and diffuse by the time they reach the desert. Most desert moisture arrives from infrequent warm, moist, and unstable air masses from the south.

The MDAB averages between three and seven inches of precipitation per year (from 16 to 30 days with at least 0.01 inch of precipitation). The MDAB is classified as a dry-hot desert climate, with portions classified as dry-very hot desert, to indicate at least three months have maximum average temperatures over 100.4°F (MDAQMD 2016).

The average low in Hesperia is reported at 31.2°F in December, and the average high is 94.9°F in July. The rainfall averages 12.71 inches per year in the project area (USA.Com 2022).

AREA DESIGNATIONS

The AQMP provides the framework for air quality basins to achieve attainment of the state and federal ambient air quality standards through the State Implementation Plan (SIP). Areas are classified as attainment or nonattainment areas for particular pollutants, depending on whether they meet ambient air quality standards. Severity classifications for ozone nonattainment range in magnitude from marginal, moderate, and serious to severe and extreme.

- **Unclassified:** a pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
- **Attainment:** a pollutant is in attainment if the CAAQS for that pollutant was not violated at any site in the area during a three-year period.
- **Nonattainment:** a pollutant is in nonattainment if there was at least one violation of a state AAQS for that pollutant in the area.
- **Nonattainment/Transitional:** a subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the AAQS for that pollutant.

The attainment status for the MDAB is shown in Table 3, *Attainment Status of Criteria Pollutants in the Mojave Desert Air Basin*.

Air Quality and Greenhouse Gas Background and Modeling Data

Table 3 Attainment Status of Criteria Pollutants in the Mojave Desert Air Basin

Pollutant	State	Federal
Ozone – 1-hour	Nonattainment	Nonattainment
Ozone – 8-hour	Nonattainment	Nonattainment
PM ₁₀	Nonattainment	Nonattainment
PM _{2.5}	Nonattainment	Unclassified/Attainment
CO	Attainment	Unclassified/Attainment
NO ₂	Attainment	Unclassified/Attainment
SO ₂	Attainment	Unclassified/Attainment
Lead	Attainment	Unclassified/Attainment

Source: CARB 2017c.

EXISTING AMBIENT AIR QUALITY

Existing levels of ambient air quality and historical trends and projections in the vicinity of the project site are best documented by measurements taken by the MDAQMD. The air quality monitoring station closest to the project site is the Fontana-Arrow Highway Monitoring Station, which monitors O₃, PM₁₀, NO₂, and PM_{2.5}. The most current five years of data from these monitoring stations are included in Table 4, *Ambient Air Quality Monitoring Summary*. The data show regular violations of the state and federal O₃ standards as well as state PM₁₀ standards in the last five years. Additionally, the federal PM_{2.5} standard has been occasionally exceeded in the last five years.

Table 4 Ambient Air Quality Monitoring Summary

Pollutant/Standard	Number of Days Threshold Were Exceeded and Maximum Levels during Such Violations				
	2016	2017	2018	2019	2020
Ozone (O₃)¹					
State 1-Hour \geq 0.09 ppm (days exceed threshold)	34	33	38	41	56
State and Federal 8-hour \geq 0.07 ppm (days exceed threshold)	49	49	69	67	89
Max. 1-Hour Conc. (ppm)	0.139	0.137	0.141	0.124	0.151
Max. 8-Hour Conc. (ppm)	0.105	0.118	0.111	0.109	0.111
Nitrogen Dioxide (NO₂)²					
State 1-Hour \geq 0.18 ppm (days exceed threshold)	0	0	0	0	0
Federal 1-Hour \geq 0.100 ppm (days exceed threshold)	0	0	0	0	0
Max. 1-Hour Conc. (ppb)	0.072	0.069	0.063	0.076	0.066
Coarse Particulates (PM₁₀)¹					
State 24-Hour $>$ 50 $\mu\text{g}/\text{m}^3$ (days exceed threshold)	14	8	8	11	6
Federal 24-Hour $>$ 150 $\mu\text{g}/\text{m}^3$ (days exceed threshold)	0	0	0	0	0
Max. 24-Hour Conc. ($\mu\text{g}/\text{m}^3$)	94.8	75.3	61.5	88.8	76.8

Air Quality and Greenhouse Gas Background and Modeling Data

Table 4 Ambient Air Quality Monitoring Summary

Pollutant/Standard	Number of Days Threshold Were Exceeded and Maximum Levels during Such Violations				
	2016	2017	2018	2019	2020
Fine Particulates (PM_{2.5})²					
Federal 24-Hour > 35 µg/m ³ (days exceed threshold)	1	1	0	3	4
Max. 24-Hour Conc. (µg/m ³)	58.8	39.2	29.2	81.3	57.6

Source: CARB 2022b.

Notes: ppm: parts per million; parts per billion, µg/m³: micrograms per cubic meter

¹ Data obtained from the Fontana-Arrow Highway Monitoring Station

SENSITIVE RECEPTORS

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases.

Residential areas are also considered to be sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Schools are also considered sensitive receptors, as children are present for extended durations and engage in regular outdoor activities. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, as the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public. The nearest sensitive receptors to the proposed project site are the residences to the east along Acacia Street, to the south along Malaga Street, to the west along Sierra Avenue, and to the north along Miller Avenue. There is also a small business located to the north of the project site area.

Methodology

Projected construction-related air pollutant emissions are calculated using the California Emissions Estimator Model (CalEEMod), Version 2020.4.0 (CAPCOA 2021). CalEEMod compiles an emissions inventory of construction (fugitive dust, off-gas emissions, onroad emissions, and offroad emissions), area sources, indirect emissions from energy use, mobile sources, indirect emissions from waste disposal (annual only), and indirect emissions from water/wastewater (annual only) use.

Thresholds of Significance

Air quality impacts in the North Desert and East Desert Regions of San Bernardino County follow the guidance, methodologies, and significance thresholds in MDAQMD's *CEQA and Federal Conformity Guidelines* (2016). CEQA allows the significance criteria established by the applicable air quality management or air

Air Quality and Greenhouse Gas Background and Modeling Data

pollution control district to be used to assess impacts of a project on air quality. MDAQMD has established thresholds of significance for regional air quality emissions for construction activities and project operation.

CONSISTENCY WITH AIR QUALITY MANAGEMENT PLANS

MDAQMD requires a consistency evaluation with adopted federal and state AQMPs. If a project is deemed consistent with the existing land use plan, it is considered consistent with the AQMPs. Zoning changes, specific plans, general plan amendments, and similar land use plan changes that do not increase dwelling unit density, do not increase vehicle trips, and do not increase vehicle miles traveled are also deemed to not exceed this threshold (MDAQMD 2016).

REGIONAL SIGNIFICANCE THRESHOLDS

MDAPCD's significance criteria are shown in Table 5, *MDAQMD Regional Significance Thresholds*. The thresholds in this table are applied to both construction and operational phases of the project regardless of whether they are stationary or mobile sources, resulting in a conservative estimate of air quality impacts of the project. Projects with phases shorter than one year (e.g., construction activities) should be compared to the daily value.

Table 5 MDAQMD Regional Significance Thresholds

Air Pollutant	Annual	Daily
Reactive Organic Gases (ROGs)/ Volatile Organic Compounds (VOCs)	25 tons/year	137 lbs/day
Carbon Monoxide (CO)	100 tons/year	548 lbs/day
Nitrogen Oxides (NO _x)	25 tons/year	137 lbs/day
Sulfur Oxides (SO _x)	25 tons/year	137 lbs/day
Particulates (PM ₁₀)	15 tons/year	82 lbs/day
Particulates (PM _{2.5})	12 tons/year	65 lbs/day

Source: MDAQMD 2016.

Notes: Lead and hydrogen sulfide are not air quality pollutants of concern for most projects and are typically generated by industrial (MDAQMD permitted) projects only. Project with phases shorter than one year, including construction activities, can be compared to the daily value.

LOCALIZED SIGNIFICANCE THRESHOLDS

MDAQMD also considers projects that cause or contribute to an exceedance of the California or National AAQS to result in significant impacts. Emissions that do not exceed the daily or annual emission in Table 4 are considered to result in less than significant localized impacts.

HEALTH RISK THRESHOLDS

Whenever a project would require use of chemical compounds that have been identified in MDAQMD Regulation XIII, New Source Review, placed on CARB's air toxics list pursuant to AB 1807, Air Contaminant Identification and Control Act (1983); or placed on the EPA's National Emissions Standards for Hazardous Air Pollutants, a health risk assessment (HRA) is required by MDAQMD. Table 6, *Toxic Air Contaminants Incremental Risk Thresholds*, lists the TAC incremental risk thresholds for operation of a project. Projects that do not

Air Quality and Greenhouse Gas Background and Modeling Data

generate emissions that exceed the values in Table 5, above, would not substantially contribute to cumulative air quality hazards or exacerbate an existing environmental hazard. Residential, commercial, office, and institutional uses do not use substantial quantities of TACs and typically do not exacerbate existing hazards. Therefore, these thresholds are typically applied to new industrial projects.

Table 6 Toxic Air Contaminants Incremental Risk Thresholds

Maximum Incremental Cancer Risk	≥ 10 in 1 million
Hazard Index (project increment)	≥ 1.0
Cancer Burden	> 0.5 excess cancer cases (in areas ≥ 1 in 1 million)

Source: MDAQMD 2016; South Coast AQMD 2019.

In addition, MDAQMD requires that project types listed below be evaluated using the significance threshold criteria in Table 5 when located within a certain distance of an existing or planned (zoned) sensitive receptor land use:

- Industrial projects within 1,000 feet
- Distribution centers (40 or more trucks per day) within 1,000 feet
- Major transportation projects (50,000 or more vehicles per day) within 1,000 feet
- Dry cleaners using perchloroethylene within 500 feet
- Gasoline dispensing facilities within 300 feet (MDAQMD 2016)

GREENHOUSE GAS EMISSIONS

Scientists have concluded that human activities are contributing to global climate change by adding large amounts of heat-trapping gases, known as GHGs, to the atmosphere. The primary source of these GHGs is fossil fuel use. The Intergovernmental Panel on Climate Change (IPCC) has identified four major GHGs—water vapor, carbon dioxide (CO₂), methane (CH₄), and ozone (O₃)—that are the likely cause of an increase in global average temperatures observed in the 20th and 21st centuries. Other GHGs identified by the IPCC that contributes to global warming to a lesser extent are nitrous oxide (N₂O), sulfur hexafluoride (SF₆), hydrofluorocarbons, perfluorocarbons, and chlorofluorocarbons (IPCC 2001).^{4,5} The major GHGs applicable to the proposed project are briefly described.

⁴ Water vapor (H₂O) is the strongest GHG and the most variable in its phases (vapor, cloud droplets, ice crystals); however, water vapor is not considered a pollutant because it is considered part of the feedback loop rather than a primary cause of change.

⁵ Black carbon contributes to climate change both directly, by absorbing sunlight, and indirectly, by depositing on snow (making it melt faster) and by interacting with clouds and affecting cloud formation. Black carbon is the most strongly light-absorbing component of particulate matter (PM) emitted from burning fuels such as coal, diesel, and biomass. The share of black carbon emissions from transportation is dropping rapidly and is expected to continue to do so between now and 2030 as a result of California’s air quality programs. The remaining black carbon emissions will come largely from woodstoves/fireplaces, off-road applications, and industrial/commercial combustion (CARB 2022). However, state and national GHG inventories do not include black carbon due to ongoing work resolving the precise global warming potential of black carbon. Guidance for CEQA documents does not yet include black carbon.

Air Quality and Greenhouse Gas Background and Modeling Data

- **Carbon dioxide (CO₂)** enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and respiration, and also as a result of other chemical reactions (e.g., manufacture of cement). Carbon dioxide is removed from the atmosphere (sequestered) when it is absorbed by plants as part of the biological carbon cycle.
- **Methane (CH₄)** is emitted during the production and transport of coal, natural gas, and oil. Methane emissions also result from livestock and other agricultural practices and from the decay of organic waste in landfills and water treatment facilities.
- **Nitrous oxide (N₂O)** is emitted during agricultural and industrial activities as well as during the combustion of fossil fuels and solid waste.

GHGs are dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Some GHGs have stronger greenhouse effects than others. These are referred to as high global warming potential (GWP) gases. The GWP of GHG emissions are shown in Table 7, *GHG Emissions and Their Relative Global Warming Potential Compared to CO₂*. The GWP is used to convert GHGs to CO₂-equivalence (CO₂e) to show the relative potential that different GHGs have to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. For example, under the IPCC Fifth Assessment Report (AR5), GWP values for CH₄, 10 MT of CH₄ would be equivalent to 280 MT of CO₂.

Table 7 GHG Emissions and Their Relative Global Warming Potential Compared to CO₂

GHGs	Second Assessment Report Global Warming Potential Relative to CO ₂ ¹	Fourth Assessment Report Global Warming Potential Relative to CO ₂ ¹	Fifth Assessment Report Global Warming Potential Relative to CO ₂ ¹
Carbon Dioxide (CO ₂)	1	1	1
Methane (CH ₄) ²	21	25	28
Nitrous Oxide (N ₂ O)	310	298	265

Source: IPCC 1995, 2007, 2013.

Notes: The IPCC published updated GWP values in its Fifth Assessment Report (AR5) that reflect new information on atmospheric lifetimes of GHGs and an improved calculation of the radiative forcing of CO₂. However, GWP values identified in AR4 are used by South Coast AQMD to maintain consistency in statewide GHG emissions modeling. In addition, the 2017 Scoping Plan Update was based on the GWP values in AR4.

¹ Based on 100-year time horizon of the GWP of the air pollutant compared to CO₂.

² The methane GWP includes direct effects and indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO₂ is not included.

Regulatory Setting

The EPA announced on December 7, 2009, that GHG emissions threaten the public health and welfare of the American people and that GHG emissions from on-road vehicles contribute to that threat. The EPA's final findings respond to the 2007 U.S. Supreme Court decision that GHG emissions fit within the Clean Air Act definition of air pollutants. The findings do not impose any emission reduction requirements but allow the EPA to finalize the GHG standards proposed in 2009 for new light-duty vehicles as part of the joint rulemaking with the Department of Transportation (USEPA 2009).

Air Quality and Greenhouse Gas Background and Modeling Data

To regulate GHGs from passenger vehicles, the EPA was required to issue an endangerment finding. The finding identified emissions of six key GHGs—CO₂, CH₄, N₂O, hydrofluorocarbons, perfluorocarbons, and SF₆—that have been the subject of scrutiny and intense analysis for decades by scientists in the United States and around the world. The first three are applicable to the project's GHG emissions inventory because they constitute the majority of GHG emissions and, according to guidance by the South Coast AQMD, are the GHG emissions that should be evaluated as part of a project's GHG emissions inventory.

US MANDATORY REPORT RULE FOR GHGs (2009)

In response to the endangerment finding, the EPA issued the Mandatory Reporting of GHGs Rule that requires substantial emitters of GHG emissions (large stationary sources, etc.) to report GHG emissions data. Facilities that emit 25,000 MT or more of CO₂e per year are required to submit an annual report.

UPDATE TO CORPORATE AVERAGE FUEL ECONOMY STANDARDS (2017 TO 2026)

The federal government issued new Corporate Average Fuel Economy (CAFE) standards in 2012 for model years 2017 to 2025, which required a fleet average of 54.5 miles per gallon in 2025. On March 30, 2020, the EPA finalized an updated CAFE and GHG emissions standards for passenger cars and light trucks and established new standards covering model years 2021 through 2026, known as the Safer Affordable Fuel Efficient (SAFE) Vehicles Final Rule for Model Years 2021 to 2026. In response to Executive Order 13990, the National Highway Traffic Safety Administration (NHTSA) announced new proposed fuel standards on August 5, 2021. On December 21, 2021, under the direction of Executive Order (EO) 13990, the NHTSA repealed SAFE Vehicles Rule Part One, which had preempted state and local laws related to fuel economy standards. Fuel efficiency under the new standards proposed would increase 8 percent annually for model years 2024 to 2026 and increase estimate fleetwide average by 12 mpg for model year 2026 compared to model year 2021 (NHTSA 2021).

EPA REGULATION OF STATIONARY SOURCES UNDER THE CLEAN AIR ACT (ONGOING)

Pursuant to its authority under the Clean Air Act, the EPA has developed regulations for new, large, stationary sources of emissions such as power plants and refineries. Under former President Obama's 2013 Climate Action Plan, the EPA was directed to develop regulations for existing stationary sources as well. On June 19, 2019, the EPA issued the final Affordable Clean Energy (ACE) rule, which became effective on August 19, 2019. The ACE rule was crafted under the direction of President Trump's Energy Independence Executive Order. It officially rescinded the Clean Power Plan rule issued during the Obama Administration and set emissions guidelines for states in developing plans to limit CO₂ emissions from coal-fired power plants. The Affordable Clean Energy rule was vacated by the United States Court of Appeals for the District of Columbia Circuit on January 19, 2021. The current administration is assessing options on potential future regulations.

REGULATION OF GHG EMISSIONS ON A STATE LEVEL

Current State of California guidance and goals for reductions in GHG emissions are generally embodied in EO S-03-05, EO B-30-15, EO B-55-18, AB 32, SB 32, and SB 375.

Air Quality and Greenhouse Gas Background and Modeling Data

Executive Order S-03-05

EO S-03-05 was signed June 1, 2005, and set the following GHG reduction targets for the state:

- 2000 levels by 2010
- 1990 levels by 2020
- 80 percent below 1990 levels by 2050

Assembly Bill 32, the Global Warming Solutions Act (2006)

AB 32 was passed by the California state legislature on August 31, 2006, to place the state on a course toward reducing its contribution of GHG emissions. AB 32 follows the 2020 tier of emissions reduction targets established in EO S-03-05. CARB prepared the 2008 Scoping Plan to outline a plan to achieve the GHG emissions reduction targets of AB 32.

Executive Order B-30-15

EO B-30-15, signed April 29, 2015, set a goal of reducing GHG emissions in the state to 40 percent of 1990 levels by year 2030. Executive Order B-30-15 also directed CARB to update the Scoping Plan to quantify the 2030 GHG reduction goal for the state and requires state agencies to implement measures to meet the interim 2030 goal as well as the long-term goal for 2050 in EO S-03-05. It also requires the Natural Resources Agency to conduct triennial updates of the California adaption strategy, *Safeguarding California*, in order to ensure climate change is accounted for in state planning and investment decisions.

Senate Bill 32 and Assembly Bill 197

In September 2016, Governor Brown signed SB 32 and AB 197 into law, making the executive order goal for year 2030 into a statewide mandated legislative target. AB 197 established a joint legislative committee on climate change policies and requires the CARB to prioritize direct emissions reductions rather than the market-based cap-and-trade program for large stationary, mobile, and other sources.

2017 Climate Change Scoping Plan Update

EO B-30-15 and SB 32 required CARB to prepare another update to the Scoping Plan to address the 2030 target for the state. On December 24, 2017, CARB adopted the 2017 Climate Change Scoping Plan Update, which outlined potential regulations and programs, including strategies consistent with AB 197 requirements, to achieve the 2030 target. The 2017 Scoping Plan established a new emissions limit of 260 MMTCO_{2e} for the year 2030, which corresponds to a 40 percent decrease in 1990 levels by 2030 (CARB 2017c).

California's climate strategy will require contributions from all sectors of the economy, including an enhanced focus on zero- and near-zero emission (ZE/NZE) vehicle technologies; continued investment in renewables, such as solar roofs, wind, and other types of distributed generation; greater use of low carbon fuels; integrated land conservation and development strategies; coordinated efforts to reduce emissions of short-lived climate pollutants (methane, black carbon, and fluorinated gases); and an increased focus on integrated land use planning, to support livable, transit-connected communities and conservation of agricultural and other lands.

Air Quality and Greenhouse Gas Background and Modeling Data

Requirements for GHG reductions at stationary sources complement local air pollution control efforts by the local air districts to tighten criteria air pollutants and toxic air contaminants emissions limits on a broad spectrum of industrial sources. Major elements of the 2017 Scoping Plan framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing ZE buses and trucks.
- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030).
- Implementation of SB 350, which expands the Renewables Portfolio Standard (RPS) to 50 percent RPS and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZE trucks.
- Implementing the Short-Lived Climate Pollutant Strategy, which focuses on reducing methane and hydrofluorocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- Continued implementation of SB 375.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

To the degree a project relies on GHG mitigation measures, CARB recommends that lead agencies prioritize on-site design features that reduce emissions, especially from VMT, and direct investments in GHG reductions within the project's region that contribute to potential air quality, health, and economic co-benefits. Where further project design or regional investments are infeasible or not proven to be effective, CARB recommends mitigating potential GHG impacts through purchasing and retiring carbon credits (CARB 2017).

Executive Order B-55-18

Executive Order B-55-18, signed September 10, 2018, sets a goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." Executive Order B-55-18 directs CARB to work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal. The goal of carbon neutrality by 2045 is in addition to other statewide goals, meaning not only should emissions be reduced to 80 percent below 1990 levels by 2050, but that, by no later than 2045, the remaining emissions be offset by equivalent net removals of CO₂e from the atmosphere, including through sequestration in forests, soils, and other natural landscapes.

2022 Climate Change Scoping Plan Update

CARB released the Draft 2022 Scoping Plan on May 10, 2022. The Scoping Plan was updated to address the carbon neutrality goals of EO B-55-18. Previous Scoping Plans focused on specific GHG reduction targets for

Air Quality and Greenhouse Gas Background and Modeling Data

our industrial, energy, and transportation sectors—to meet 1990 levels by 2020, and then the more aggressive 40 percent below that for the 2030 target. Carbon neutrality takes it one step further by expanding actions to capture and store carbon including through natural and working lands and mechanical technologies, while drastically reducing anthropogenic sources of carbon pollution at the same time. The measures in the Scoping Plan would achieve 80 percent below 1990 levels by 2050. Final adoption of the 2022 Scoping Plan is anticipated in late fall 2022 (CARB 2022c).

CARB’s 2022 Scoping Plan identifies strategies that would be most impactful at the local level for ensuring substantial progress towards the State’s carbon neutrality goals (see Table 8, *Priority Strategies for Local Government Climate Action Plans*).

Table 8 Priority Strategies for Local Government Climate Action Plans

Priority Area	Priority Strategies
Transportation Electrification	Convert local government fleets to zero-emission vehicles (ZEV).
	Create a jurisdiction-specific ZEV ecosystem to support deployment of ZEVs statewide (such as permit streamlining, infrastructure siting, consumer education, or preferential parking policies).
VMT Reduction	Reduce or eliminate minimum parking standards in new developments,
	Adopt and implement Complete Streets policies and investments, consistent with general plan circulation element requirements,
	Increase public access to shared clean mobility options (such as planning for and investing in electric shuttles, bike share, car share, transit).
	Implement parking pricing or transportation demand management pricing strategies.
	Amend zoning or development codes to enable mixed-use, walkable, and compact infill development (such as increasing allowable density of the neighborhood).
Building Decarbonization	Preserve natural and working lands.
	Adopt policies and incentive programs to implement energy efficiency retrofits (such as weatherization, lighting upgrades, replacing energy intensive appliances and equipment with more efficient systems, etc.).
	Adopt policies and incentive programs to electrify all appliances and equipment in existing buildings.
	Adopt policies and incentive programs to reduce electrical loads from equipment plugged into outlets (such as purchasing Energy Star equipment for municipal buildings, occupancy sensors, smart power strips, equipment controllers, etc.).
	Facilitate deployment of renewable energy production and distribution and energy storage.

Source: CARB 2022c.

For CEQA projects for proposed land use developments, CARB recommends demonstrating that they are aligned with State climate goals based on the attributes of land use development that reduce operational GHG emissions while simultaneously advancing fair housing. Attributes that accommodate growth in a manner consistent with the GHG and equity goals of SB 32 are:

- At least 20 percent of the units are affordable to lower-income residents.
- Result in no net loss of existing affordable units.

Air Quality and Greenhouse Gas Background and Modeling Data

- Utilize existing infill sites that are surrounded by urban uses, and reuse or redevelop previously developed, underutilized land presently served by existing utilities and essential public services (e.g., transit, streets, water, sewer).
- Include transit-supportive densities (minimum of 20 residential dwelling units/acre), or are in proximity to existing transit (within ½ mile), or satisfy more detailed and stringent criteria specified in the region’s Sustainable Communities Strategy (SCS), for “SCS consistency” that would go further to reduce emissions.
- Do not result in the loss or conversion of the state’s natural and working lands.
- Use all electric appliances, without any natural gas connections, and would not use propane or other fossil fuels for space heating, water heating, or indoor cooking.
- Provide EV charging infrastructure at least in accordance with the California Green Building Standards Code (CalGreen) Tier 2 standards.
- Relax parking requirements by:
 - Eliminating parking requirements or including maximum allowable parking ratios.
 - Providing residential parking supply at a ratio of <1 parking space per unit.
 - Unbundling residential parking costs from costs to rent or lease (CARB 2022c).

The second approach to project-level alignment with State climate goals is net zero GHG emissions. The third approach to demonstrating project-level alignment with State climate goals is to align with GHG thresholds of significance, which many local air quality management and air pollution control districts have developed or adopted (CARB 2022c).

Senate Bill 375

SB 375, the Sustainable Communities and Climate Protection Act, was adopted in 2008 to connect the GHG emissions reduction targets established in the 2008 Scoping Plan for the transportation sector to local land use decisions that affect travel behavior. Its intent is to reduce GHG emissions from light-duty trucks and automobiles (excludes emissions associated with goods movement) by aligning regional long-range transportation plans, investments, and housing allocations to local land use planning to reduce vehicle miles traveled (VMT) and vehicle trips. Specifically, SB 375 required CARB to establish GHG emissions reduction targets for each of the 18 metropolitan planning organizations (MPO). SCAG is the MPO for the Southern California region, which includes Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial counties. Pursuant to the recommendations of the Regional Transportation Advisory Committee, CARB adopted per capita reduction targets for each of the MPOs rather than a total magnitude reduction target.

2017 Update to the SB 375 Targets

CARB is required to update the targets for the MPOs every eight years. In June 2017, CARB released updated targets and technical methodology and recently released another update in February 2018, which became effective in October 2018. CARB adopted the updated targets and methodology on March 22, 2018. All SCSs

Air Quality and Greenhouse Gas Background and Modeling Data

adopted after October 1, 2018, are subject to these new targets. The updated targets consider the need to further reduce VMT, as identified in the 2017 Scoping Plan Update, while balancing the need for additional and more flexible revenue sources to incentivize positive planning and action toward sustainable communities. Like the 2010 targets, the updated SB 375 targets are in units of percent per capita reduction in GHG emissions from automobiles and light trucks compared to 2005. This excludes reductions anticipated from implementation of state technology and fuels strategies and any potential future state strategies such as statewide road user pricing. The proposed targets call for greater per-capita GHG emission reductions from SB 375 than are currently in place, which for 2035 translates into proposed targets that either match or exceed the emission reduction levels in the MPOs' currently adopted sustainable communities strategies (SCS). As proposed, CARB staff's proposed targets would result in an additional reduction of over 8 MMTCO_{2e} in 2035 compared to the current targets. For the next round of SCS updates, CARB's updated targets for the SCAG region are an 8 percent per capita GHG reduction in 2020 from 2005 levels (unchanged from the 2010 target) and a 19 percent per capita GHG reduction in 2035 from 2005 levels (compared to the 2010 target of 13 percent) (CARB 2018).

SCAG's Regional Transportation Plan / Sustainable Communities Strategy

SB 375 requires each MPO to prepare a sustainable communities strategy in its regional transportation plan. For the SCAG region, the draft 2020-2045 RTP/SCS (Connect SoCal) was adopted on May 7, 2020, for the limited purpose of transportation conformity (SCAG 2020). Connect SoCal was fully adopted in September 2020. In general, the SCS outlines a development pattern for the region that, when integrated with the transportation network and other transportation measures and policies, would reduce VMT from automobiles and light-duty trucks and thereby reduce GHG emissions from these sources.

Connect SoCal focuses on the continued efforts of the previous RTP/SCSs to integrate transportation and land-use strategies in the development of the SCAG region through the horizon year 2045 (SCAG 2020). Connect SoCal forecasts that the SCAG region will meet its GHG per capita reduction targets of 8 percent by 2020 and 19 percent by 2035. It also forecasts that implementation of the plan will reduce VMT per capita in year 2045 by 4.1 percent compared to baseline conditions for that year. Connect SoCal includes a "Core Vision" that centers on maintaining and better managing the transportation network for moving people and goods while expanding mobility choices by locating housing, jobs, and transit closer together and increasing investments in transit and complete streets (SCAG 2020).

Transportation Sector Specific Regulations

Assembly Bill 1493

California vehicle GHG emission standards were enacted under AB 1493 (Pavley I). Pavley I is a clean-car standard that reduces GHG emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016 and is anticipated to reduce GHG emissions from new passenger vehicles by 30 percent in 2016. California implements the Pavley I standards through a waiver granted to California by the EPA. In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model years 2017 through 2025 light-duty vehicles. (See also the previous discussion in federal regulations under "Update to Corporate Average Fuel Economy Standards [2017 to 2026].") In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017

Air Quality and Greenhouse Gas Background and Modeling Data

through 2025. The program combines the control of smog, soot, and GHGs with requirements for greater numbers of ZE vehicles into a single package of standards. Under California's Advanced Clean Car program, by 2025 new automobiles will emit 34 percent less GHG emissions and 75 percent less smog-forming emissions.

Executive Order S-01-07

On January 18, 2007, the state set a new LCFS for transportation fuels sold in the state. EO S-01-07 set a declining standard for GHG emissions measured in CO_{2e} gram per unit of fuel energy sold in California. The LCFS required a reduction of 2.5 percent in the carbon intensity of California's transportation fuels by 2015 and a reduction of at least 10 percent by 2020. The standard applied to refiners, blenders, producers, and importers of transportation fuels, and used market-based mechanisms to allow these providers to choose the most economically feasible methods for reducing emissions during the "fuel cycle."

Executive Order B-16-2012

On March 23, 2012, the state identified that CARB, the California Energy Commission (CEC), the Public Utilities Commission, and other relevant agencies worked with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to accommodate ZE vehicles in major metropolitan areas, including infrastructure to support them (e.g., electric vehicle charging stations). EO B-16-2012 also directed the number of ZE vehicles in California's state vehicle fleet to increase through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles are ZE by 2015 and at least 25 percent by 2020. The executive order also established a target for the transportation sector of reducing GHG emissions to 80 percent below 1990 levels.

Executive Order N-79-20

On September 23, 2020, Governor Newsom signed EO N-79-20, whose goal is that 100 percent of in-state sales of new passenger cars and trucks will be ZE by 2035. Additionally, the fleet goals for trucks are that 100 percent of drayage trucks are ZE by 2035, and 100 percent of medium- and heavy-duty vehicles in the state are ZE by 2045, where feasible. The EO's goal for the state is to transition to 100 percent ZE off-road vehicles and equipment by 2035, where feasible.

Renewables Portfolio: Carbon Neutrality Regulations

Senate Bills 1078, 107, and X1-2 and Executive Order S-14-08

A major component of California's Renewable Energy Program is the renewables portfolio standard established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010. EO S-14-08, signed in November 2008, expanded the state's renewable energy standard to 33 percent renewable power by 2020. This standard was adopted by the legislature in 2011 (SB X1-2). Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas. The increase in renewable sources for electricity production decreases indirect GHG emissions from development projects because electricity production from renewable sources is generally considered carbon neutral.

Air Quality and Greenhouse Gas Background and Modeling Data

Senate Bill 350

Senate Bill 350 (de Leon) was signed into law in September 2015 and establishes tiered increases to the RPS—40 percent by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

Senate Bill 100

On September 10, 2018, Governor Brown signed SB 100. Under SB 100, the RPS for public-owned facilities and retail sellers consists of 44 percent renewable energy by 2024, 52 percent by 2027, and 60 percent by 2030. SB 100 also established a new RPS requirement of 50 percent by 2026. Furthermore, the bill establishes an overall state policy that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. Under the bill, the state cannot increase carbon emissions elsewhere in the western grid or allow resource shuffling to achieve the 100 percent carbon-free electricity target.

Energy Efficiency Regulations

California Building Code: Building Energy Efficiency Standards

Energy conservation standards for new residential and nonresidential buildings were adopted by the California Energy Resources Conservation and Development Commission (now the CEC) in June 1977 (24 CCR Part 6). Title 24 requires the design of building shells and building components to conserve energy. The standards are updated periodically to allow for the consideration and possible incorporation of new energy efficiency technologies and methods. The 2019 Building Energy Efficiency Standards were adopted on May 9, 2018, and went into effect on January 1, 2020.

The 2019 standards move toward cutting energy use in new homes by more than 50 percent and require the installation of solar photovoltaic systems for single-family homes and multifamily buildings of three stories and less. The 2019 standards focus on four key areas: 1) smart residential photovoltaic systems; 2) updated thermal envelope standards (preventing heat transfer from the interior to the exterior and vice versa); 3) residential and nonresidential ventilation requirements; 4) and nonresidential lighting requirements (CEC 2018a). Under the 2019 standards, nonresidential buildings are 30 percent more energy efficient than under the 2016 standards, and single-family homes are 7 percent more energy efficient (CEC 2018b). When accounting for the electricity generated by the solar photovoltaic system, single-family homes would use 53 percent less energy compared to homes built to the 2016 standards (CEC 2018b).

Furthermore, on August 11, 2021, the CEC adopted the 2022 Building Energy Efficiency Standards, which were subsequently approved by the California Building Standards Commission in December 2021. The 2022 standards become effective and replace the existing 2019 standards on January 1, 2023. The 2022 standards would require mixed-fuel single-family homes to be electric-ready to accommodate replacement of gas appliances with electric appliances. In addition, the new standards also include prescriptive photovoltaic system and battery requirements for high-rise, multifamily buildings (i.e., more than three stories) and noncommercial buildings such as hotels, offices, medical offices, restaurants, retail stores, schools, warehouses, theaters, and convention centers (CEC 2021).

Air Quality and Greenhouse Gas Background and Modeling Data

California Building Code: CALGreen

On July 17, 2008, the California Building Standards Commission adopted the nation's first green building standards. The California Green Building Standards Code (24 CCR, Part 11, known as "CALGreen") was adopted as part of the California Building Standards Code and became mandatory in the 2010 edition of the code. CALGreen established planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants. The mandatory provisions of CALGreen became effective January 1, 2011, and were last updated in 2019. The 2019 CALGreen standards became effective on January 1, 2020.

2006 Appliance Efficiency Regulations

The 2006 Appliance Efficiency Regulations (20 CCR §§ 1601–1608) were adopted by the CEC on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances. Though these regulations are now often viewed as "business as usual," they exceed the standards imposed by all other states, and they reduce GHG emissions by reducing energy demand.

Solid Waste Diversion Regulations

AB 939: Integrated Waste Management Act of 1989

California's Integrated Waste Management Act of 1989 (AB 939, Public Resources Code § 40050 et seq.) set a requirement for cities and counties throughout the state to divert 50 percent of all solid waste from landfills by January 1, 2000, through source reduction, recycling, and composting. In 2008, the requirements were modified to reflect a per capita requirement rather than tonnage. To help achieve this, the Act requires that each city and county prepare and submit a source reduction and recycling element. AB 939 also established the goal for all California counties to provide at least 15 years of ongoing landfill capacity.

AB 341

AB 341 (Chapter 476, Statutes of 2011) increased the statewide goal for waste diversion to 75 percent by 2020 and requires recycling of waste from commercial and multifamily residential land uses. Section 5.408 of CALGreen also requires that at least 65 percent of the nonhazardous construction and demolition waste from nonresidential construction operations be recycled and/or salvaged for reuse.

AB 1327

The California Solid Waste Reuse and Recycling Access Act (AB 1327, Public Resources Code § 42900 et seq.) requires areas to be set aside for collecting and loading recyclable materials in development projects. The act required the California Integrated Waste Management Board to develop a model ordinance for adoption by any local agency requiring adequate areas for collection and loading of recyclable materials as part of development projects. Local agencies are required to adopt the model or an ordinance of their own.

AB 1826

In October of 2014, Governor Brown signed AB 1826 requiring businesses to recycle their organic waste on and after April 1, 2016, depending on the amount of waste they generate per week. This law also requires that

Air Quality and Greenhouse Gas Background and Modeling Data

on and after January 1, 2016, local jurisdictions across the state implement an organic waste recycling program to divert organic waste generated by businesses and multifamily residential dwellings with five or more units. Organic waste means food waste, green waste, landscape and pruning waste, nonhazardous wood waste, and food-soiled paper waste that is mixed with food waste.

Water Efficiency Regulations

SBX7-7

The 20x2020 Water Conservation Plan was issued by the Department of Water Resources (DWR) in 2010 pursuant to Senate Bill 7, which was adopted during the 7th Extraordinary Session of 2009–2010 and therefore dubbed “SBX7-7.” SBX7-7 mandated urban water conservation and authorized the DWR to prepare a plan implementing urban water conservation requirements (20x2020 Water Conservation Plan). In addition, it required agricultural water providers to prepare agricultural water management plans, measure water deliveries to customers, and implement other efficiency measures. SBX7-7 required urban water providers to adopt a water conservation target of a 20 percent reduction in urban per capita water use by 2020 compared to 2005 baseline use.

AB 1881: Water Conservation in Landscaping Act

The Water Conservation in Landscaping Act of 2006 (AB 1881) requires local agencies to adopt the updated DWR model ordinance or an equivalent. AB 1881 also requires the CEC to consult with the DWR to adopt, by regulation, performance standards and labeling requirements for landscape irrigation equipment, including irrigation controllers, moisture sensors, emission devices, and valves, to reduce the wasteful, uneconomic, inefficient, or unnecessary consumption of energy or water.

Short-Lived Climate Pollutant Reduction Strategy

On September 19, 2016, the Governor signed SB 1383 to supplement the GHG reduction strategies in the Scoping Plan to consider short-lived climate pollutants, including black carbon and methane. Black carbon is the light-absorbing component of fine particulate matter produced during the incomplete combustion of fuels. SB 1383 required the state board, no later than January 1, 2018, to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve a reduction in methane by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030. The bill also established targets for reducing organic waste in landfills. On March 14, 2017, CARB adopted the Short-Lived Climate Pollutant Reduction Strategy, which identifies the state’s approach to reducing anthropogenic and biogenic sources of short-lived climate pollutants. Anthropogenic sources of black carbon include on- and off-road transportation, residential wood burning, fuel combustion (charbroiling), and industrial processes. According to CARB, ambient levels of black carbon in California are 90 percent lower than in the early 1960s, despite the tripling of diesel fuel use (CARB 2017a). In-use on-road rules were expected to reduce black carbon emissions from on-road sources by 80 percent between 2000 and 2020.

Air Quality and Greenhouse Gas Background and Modeling Data

Local

City of Hesperia Climate Action Plan

The City of Hesperia released its Climate Action Plan (CAP) on July 20, 2010 (Hesperia 2010). The CAP was prepared as a primary strategy to ensure that the buildout of the City's General Plan Update would not conflict with the implementation of AB 32, which requires California to reduce statewide GHG emissions to 1990 levels by 2020. The CAP outlined a course of action for the community of Hesperia to reduce per capita greenhouse gas emissions 29 percent below business as usual by 2020 and set out an implementation and monitoring framework for monitoring its strategies. The following list of strategies is in the CAP:

- **Strategy CAP-1.** Reduce emissions from new development through the California Environmental Quality Act process.
- **Strategy CAP-2.** Encourage mixed use development in new development and redevelopment areas.
- **Strategy CAP-3.** Increase transit use.
- **Strategy CAP-4.** Promote compact development by protecting open space and encouraging infill and redevelopment of underutilized parcels in urbanized areas.
- **Strategy CAP-5.** Provide pedestrian connections in new and existing development to improve pedestrian mobility and accessibility.
- **Strategy CAP-6.** Increase bicycle use through a safe and well-connected system of bicycle paths and end of trip facilities.
- **Strategy CAP-7.** Use traffic calming measures to improve traffic flow, pedestrian orientation, and bicycle use.
- **Strategy CAP-8.** Use parking facility designs and parking management to reduce vehicle trips.
- **Strategy CAP-9.** Increase the use of energy conservation features and renewable sources of energy.
- **Strategy CAP-10.** Reduce energy use from the transport and treatment of water.
- **Strategy CAP-11.** Improve the City's recycling and source reduction programs to make continued progress in minimizing waste.
- **Strategy CAP-12.** Participate in regional programs and initiatives that reduce greenhouse gas emissions.
- **Strategy CAP-13.** Reduce greenhouse gas emissions from City government operations.
- **Strategy CAP-14.** Improve the City's adaptation to climate change effects.

Air Quality and Greenhouse Gas Background and Modeling Data

Existing Conditions

California's GHG Sources and Relative Contribution

In 2021, the statewide GHG emissions inventory was updated for 2000 to 2019 emissions using the GWPs in IPCC's Fourth Assessment Report (IPCC 2013). Based on these GWPs, California produced 418.2 MMTCO_{2e} GHG emissions in 2019. California's transportation sector was the single largest generator of GHG emissions, producing 39.7 percent of the state's total emissions. Industrial sector emissions made up 21.1 percent, and electric power generation made up 14.1 percent of the state's emissions inventory. Other major sectors of GHG emissions include commercial and residential (10.5 percent), agriculture and forestry (7.6 percent), high GWP (4.9 percent), and recycling and waste (2.1 percent) (CARB 2021).

Since the peak level in 2004, California's GHG emissions have generally followed a decreasing trend. In 2016, California statewide GHG emissions dropped below the AB 32 target for year 2020 of 431 MMTCO_{2e} and have remained below this target since then. In 2019, emissions from routine GHG-emitting activities statewide were almost 13 MMTCO_{2e} lower than the AB 32 target for year 2020. Per capita GHG emissions in California have dropped from a 2001 peak of 14.0 MTCO_{2e} per person to 10.5 MTCO_{2e} per person in 2019, a 25 percent decrease.

Transportation emissions continued to decline in 2019 statewide as they had done in 2018, with even more substantial reductions due to a significant increase in renewable diesel. Since 2008, California's electricity sector has followed an overall downward trend in emissions. In 2019, solar power generation continued its rapid growth since 2013. Emissions from high-GWP gases comprised 4.9 percent of California's emissions in 2019. This continues the increasing trend as the gases replace ozone-depleting substances being phased out under the 1987 Montreal Protocol. Overall trends in the inventory also demonstrate that the carbon intensity of California's economy (the amount of carbon pollution per million dollars of gross domestic product) has declined 45 percent since the 2001 peak, though the state's gross domestic product grew 63 percent during this period (CARB 2021).

Existing Site

The project site is vacant and does not generate GHG emissions.

Thresholds of Significance

The CEQA Guidelines recommend that a lead agency consider the following when assessing the significance of impacts from GHG emissions on the environment:

1. The extent to which the project may increase (or reduce) GHG emissions as compared to the existing environmental setting;
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project;

Air Quality and Greenhouse Gas Background and Modeling Data

3. The extent to which the project complies with regulations or requirements adopted to implement an adopted statewide, regional, or local plan for the reduction or mitigation of GHG emissions.⁶

MOJAVE DESERT AIR QUALITY MANAGEMENT DISTRICT

The analysis of the project’s air quality impacts follows the guidance and methodologies recommended in MDAQMD’s *CEQA and Federal Conformity Guidelines* (2016). CEQA allows the significance criteria established by the applicable air quality management or air pollution control district to be used to assess impacts of a project on air quality. MDAQMD has established thresholds of significance for regional air quality emissions for construction activities and project operation.

Regional Significance Thresholds

MDAQMD’s significance criteria are shown in Table 8, *MDAQMD Greenhouse Gas Significance Thresholds*. The thresholds identified in this table are applied to both construction and operational phases of the project regardless of whether they are stationary or mobile sources, resulting in a conservative estimate of air quality impacts of the project. Project with phases shorter than one year (e.g., construction activities) should be compared to the daily value.

Table 8 MDAQMD Greenhouse Gas Significance Thresholds

Annual (tons/year)	Daily ¹ (lbs/day)
100,000 (90,718 MTCO ₂ e/year)	548,000

Source: MDAQMD 2016.

¹ Project with phases shorter than one year, including construction activities, can be compared to the daily value.

BIBLIOGRAPHY

- California Air Pollution Control Officers Association (CAPCOA). 2021. California Emissions Estimator Model (CalEEMod). Version 2020.4. Prepared by: BREEZE Software, A Division of Trinity Consultants in collaboration with South Coast Air Quality Management District and the California Air Districts.
- California Air Resources Board (CARB). 1999. California Air Resources Board (CARB). Final Staff Report: Update to the Toxic Air Contaminant List.
- . 2008, October. Climate Change Proposed Scoping Plan, a Framework for Change.
- . 2010, August. Staff Report Proposed Regional Greenhouse Gas Emission Reduction Targets for Automobiles and Light Trucks Pursuant to Senate Bill 375.

⁶ The Governor’s Office of Planning and Research recommendations include a requirement that such a plan must be adopted through a public review process and include specific requirements that reduce or mitigate the project’s incremental contribution of GHG emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable, notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

Air Quality and Greenhouse Gas Background and Modeling Data

- . 2014, May 15. First Update to the Climate Change Scoping Plan: Building on the Framework, Pursuant to AB 32, The California Global Warming Solutions Act of 2006.
<http://www.arb.ca.gov/cc/scopingplan/document/updatedscopingplan2013.htm>.
 - . 2016a, October 1. Ambient Air Quality Standards. <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>.
 - . 2017a, March. Short-Lived Climate Pollutant Reduction Strategy.
https://www.arb.ca.gov/cc/shortlived/meetings/03142017/final_slcp_report.pdf.
 - . 2017b, January 20. The 2017 Climate Change Scoping Plan Update: The Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target.
https://www.arb.ca.gov/cc/scopingplan/2030sp_pp_final.pdf.
 - . 2017c. The Mojave Desert AQMD Attainment Status.
<https://www.mdaqmd.ca.gov/home/showpublisheddocument/1267/636337468837000000>.
 - . 2018 February. Proposed Update to the SB 375 Greenhouse Gas Emission Reduction Targets.
https://www.arb.ca.gov/cc/sb375/sb375_target_update_final_staff_report_feb2018.pdf.
 - . 2021, July 28. California Greenhouse Gas 2000-2019 Emissions Trends and Indicators Report.
https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ghg_inventory_trends_00-19.pdf.
 - . 2022a, January 24 (accessed). Area Designations Maps/State and National.
<https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations>.
 - . 2022b, February 8, 2022 (accessed). Top Four Summary.
<https://www.arb.ca.gov/adam/topfour/topfour1.php>.
 - . 2022c, April 20. Draft 2022 Scoping Plan. <https://ww2.arb.ca.gov/our-work/programs/ab-32-climate-change-scoping-plan/2022-scoping-plan-documents>.
 - . 2022d, January 31 (accessed). Common Air Pollutants: Air Pollution and Health.
<https://ww2.arb.ca.gov/resources/common-air-pollutants>.
- California Energy Commission. (CEC). 2018a. News Release: Energy Commission Adopts Standards Requiring Solar Systems for New Homes, First in Nation. <https://www.energy.ca.gov/news/2018-05/energy-commission-adopts-standards-requiring-solar-systems-new-homes-first>.
- . 2018b. 2019 Building Energy and Efficiency Standards Frequently Asked Questions.
https://www.energy.ca.gov/sites/default/files/2020-03/Title_24_2019_Building_Standards_FAQ_ada.pdf.
 - . 2021, May 19. Amendments to the Building Energy Efficiency Standards (2022 Energy Code) Draft Environmental Report. CEC-400-2021-077-D.

Air Quality and Greenhouse Gas Background and Modeling Data

- City of Hesperia. July, 2010. Climate Action Plan. <http://www.cityofhesperia.us/DocumentCenter/View/1291/23660023-Hesperia-CAP-July-20?bidId=>.
- Intergovernmental Panel on Climate Change (IPCC). 1995. Second Assessment Report: Climate Change 1995. https://www.ipcc.ch/site/assets/uploads/2018/02/ipcc_sar_wg_I_full_report.pdf.
- . 2001. Third Assessment Report: Climate Change. New York: Cambridge University Press. https://www.ipcc.ch/site/assets/uploads/2018/03/WGI_TAR_full_report.pdf.
- . 2007. Fourth Assessment Report: Climate Change. New York: Cambridge University Press. https://www.ipcc.ch/site/assets/uploads/2018/02/ar4_syr_full_report.pdf.
- . 2014. Fifth Assessment Report: Climate Change. New York: Cambridge University Press. https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_all_final.pdf.
- Mojave Desert Air Quality Management District (MDAQMD). 2016, August. California Environmental Quality Act (CEQA) and Federal Conformity Guidelines. <https://www.mdaqmd.ca.gov/home/showdocument?id=192>.
- National Highway Traffic Safety Administration (NHTSA). 2021, August 5. USDOT Proposes Improved Fuel Economy Standards for MY 2024-2026 Passenger Cars and Light Trucks. <https://www.nhtsa.gov/press-releases/fuel-economy-standards-2024-2026-proposal>.
- South Coast Air Quality Management District (South Coast AQMD). 2005, May. Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning. <http://www.aqmd.gov/home/library/documents-support-material/planning-guidance/guidance-document>.
- Southern California Association of Governments (SCAG). 2020, September 3. Connect SoCal Plan: The 2020–2045 Regional Transportation Plan / Sustainable Communities Strategy of the Southern California Association of Governments. <https://www.connectsocal.org/Pages/Connect-SoCal-Final-Plan.aspx>.
- U.S. Environmental Protection Agency (USEPA). 2002, May. Health Assessment Document for Diesel Engine Exhaust. Prepared by the National Center for Environmental Assessment, Washington, DC, for the Office of Transportation and Air Quality. EPA/600/8-90/057E.
- . 2009, December. “Greenhouse Gases Threaten Public Health and the Environment: Science Overwhelmingly Shows Greenhouse Gas Concentrations at Unprecedented Levels Due to Human Activity.” https://archive.epa.gov/epapages/newsroom_archive/newsreleases/08d11a451131bca585257685005bf252.html.
- . 2020, February 3 (mod.). Health and Environmental Effects of Hazardous Air Pollutants. Accessed January 25, 2022. <https://www.epa.gov/haps/health-and-environmental-effects-hazardous-air-pollutants>.

Air Quality and Greenhouse Gas Background and Modeling Data

———. 2022, August 16 (mod.). Criteria Air Pollutants. Accessed January 25, 2022.
<https://www.epa.gov/criteria-air-pollutants>.

USA.Com. 2022. Historical Weather Reports – Hesperia, California. Accessed June 3, 2022.
<http://www.usa.com/hesperia-ca-weather.htm>.

Assumptions Worksheet

CalEEMod Inputs - Pathways to College K-8 Charter School, School Construction

Name: Pathways to College K-8 School Project, Construction
Land Use Scale: Project/site
Land Use Subtypes: Educational
Project Location: 16558 Hercules St, Hesperia CA 92345
County: San Bernardino
Electricity Demand Forecast Zone 10
Operational Year: 2023
Electricity: Southern California Edison
Gas Utility: Southwest Gas Corp.
Air Basin: Mojave Desert Air Basin
Air District: Mojave Desert AQMD
SRA: Not Applicable

Project Site Acreage	<u>26</u>
Disturbed Site Acreage	<u>11.79</u>

School Construction Project Components

	<i>SQFT</i>	<i>Building Footprint</i>	<i>Acres</i>	<i>Stories</i>	<i>Total Students</i>
School Buildings					
Main Building	21,400	21,400	0.49	1	700
Trash enclosure	220	220	0.01	1	NA
Shipping Container Storage	1,120	1,120	0.03	1	NA
Restroom Buildings	960	960	0.02	1	NA
Modular Buildings					
30 Classroom Buildings	28,800	28,800	0.66	1	NA
8 Future Classroom Buildings	7,680	7,680	0.18	1	NA
School Subtotal	60,180	60,180	1.38	NA	700
Landscaping	<i>SQFT</i>	<i>Acres</i>			
Infiltration basin	76,666	1.76			
Soccer Field	45,000	1.03			
Landscaping	160,783	3.69			
Hardscape	120,836	2.77			
Other Non-Asphalt Surfaces	403,284	9.26			
Other Land Uses	<i>SQFT</i>	<i>Acres</i>		<i>Parking Spaces</i>	
Parking Lot	45,408	1.04		130	
Basketball Courts	4,700	0.11		NA	

Notes:

¹ Roadway improvement along 3rd Avenue and Mojave Street includes roadway pavement, curb and gutter, curb ramps, and stop signs. This is an off-campus improvement.

CalEEMod Land Use Inputs

Land Use Type	Land Use Subtype	Size Metric	Unit Amount	Lot Acreage	Land Use Square Feet
Educational	Elementary School	Students	700	1.38	60,180
Parking	Parking Lot	1000 sqft	45.41	1.04	45,408
Parking (Basketball Courts)	Other Asphalt Surfaces	1000 sqft	4.70	0.11	4,700
Parking (Landscaping)	Surfaces	1000 sqft	403.28	9.26	403,284
			Total	11.79	60,180

Architectural Coating

	Percent Painted
Interior Painted (%):	100%
Exterior Painted (%):	100%

MDAQMD Rule 1113 < 50 flat / ≤ 100 nonflat

CalEEMod Default	(grams/liter)
Interior Paint VOC content:	250
Exterior Paint VOC content:	250
Parking Lot VOC content:	250

Structures	Land Use Square Feet	CalEEMod Factor ¹	Total Paintable Surface Area	Paintable Interior Area ²	Paintable Exterior Area ²
Educational Structures					
Elementary School Buildings	60,180	2	120,360	90,270	30,090
				90,270	30,090
Parking³					
Parking Lot	45,408	6%	2,724	-	2,724
					2,724

Notes:

- ¹ The program assumes the total surface for painting equals 2.0 times the floor square footage for nonresidential square footage defined by the user.
- ² CalEEMod methodology calculates the paintable interior and exterior areas by multiplying the total paintable surface area by 75 and 25 percent,
- ³ Architectural coatings for the parking lot is based on CalEEMod methodology applied to a surface parking lot (i.e., striping), in which 6% of surface area is painted. This parking lot will remain and only be re-striped.

Construction Control Strategies

MDAQMD Rule 403

Replace Ground Cover	PM10:	5	% Reduction
	PM2.5:	5	% Reduction

Water Exposed Area	Frequency:	2	per day
	PM10:	55	% Reduction
	PM25:	55	% Reduction

Unpaved Roads	Vehicle Speed:	15	mph
---------------	----------------	----	-----

MDAQMD Rule 1186	Clean Paved Road	9	% PM Reduction
-------------------------	------------------	---	----------------

Construction Mitigation Measures None

Southern California Edison Carbon Intensity Factors

	2020 Carbon Intensity lbs/MWH
CO ₂ : ^{1,2}	509.98
CH ₄ : ³	0.033
N ₂ O: ³	0.004

Notes:

¹ Based on CO₂e intensity factor of 512 pounds per megawatt hour; Southern California Edison. 2021. 2020 Sustainability Report. <https://www.edison.com/home/sustainability/sustainability-report.html>

² Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH₄ and N₂O; Intergovernmental Panel on Climate Change (IPCC). 2007. Fourth Assessment Report: Climate Change 2007.

³ CalEEMod default values.

Global Warming Potentials (GWP)		
	AR4	AR5
CO ₂	1	1
CH ₄	25	28
N ₂ O	298	265

Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH₄ and N₂O; Intergovernmental Panel on Climate Change (IPCC).

Construction Activities and Schedule Assumptions: Pathways to College K-8 School Project (School Construction)

*based on durations provided by the District.

Construction Schedule

Phase Name	Phase Type	Start Date	End Date	CalEEMod Duration (Workday)
Site Preparation	Site Preparation	12/5/2022	12/22/2022	14
Rough Grading	Grading	12/9/2022	12/22/2022	10
Main Building Construction ¹	Building Construction	1/4/2023	9/20/2023	186
Modular Building Installation	Building Construction	2/3/2023	3/8/2023	24
Utility Trenching	Trenching	3/13/2023	6/7/2023	63
Architectural Coating	Architectural Coating	3/16/2023	5/9/2023	39
Finishing/Landscaping	Building Construction	4/10/2023	8/14/2023	91
Fine Grading	Grading	6/7/2023	6/20/2023	10
Paving	Paving	7/18/2023	8/23/2023	27

Notes:

¹ Includes construction of other educational buildings.

Overlapping Construction Schedule (CalEEMod)

Construction Activities		Start Date	End Date	CalEEMod Duration (Workday)
Site Preparation		12/5/2022	12/8/2022	4
Site Preparation and Rough Grading		12/9/2022	12/22/2022	10
Main Building Construction 1		1/4/2023	2/2/2023	22
Main Building Construction & Modular Building Installation		2/3/2023	3/8/2023	24
Main Building Construction 2		3/9/2023	3/12/2023	2
Main Building Construction 2 and Utility Trenching		3/13/2023	3/15/2023	3
Main Building Construction 2, Utility Trenching, and Architectural Coating		3/16/2023	4/9/2023	17
Main Building Construction 2, Utility Trenching, Architectural Coating, and Finishing/Landscaping 1		4/10/2023	5/9/2023	22
Main Building Construction 2, Utility Trenching, and Finishing/Landscaping 1		5/10/2023	6/6/2023	20
Main Building Construction 2, Utility Trenching, Finishing/Landscaping & Fine Grading		6/7/2023	6/7/2023	1
Main Building Construction 2, Finishing/Landscaping & Fine Grading		6/8/2023	6/20/2023	9
Main Building Construction 2 and Finishing/Landscaping 2		6/21/2023	7/17/2023	19
Main Building Construction 2, Finishing/Landscaping 2, and Paving		7/18/2023	8/14/2023	20
Main Building Construction 2 and Paving		8/15/2023	8/23/2023	7
Main Building Construction 2		8/24/2023	9/20/2023	20

Overlapping Construction Schedule (CalEEMod)

Construction Activities		Start Date	End Date	CalEEMod Duration (Workday)
Site Preparation		12/5/2022	12/8/2022	4
Site Preparation and Rough Grading		12/9/2022	12/22/2022	10
Main Building Construction 1		1/4/2023	2/2/2023	22
Main Building Construction and Modular Building Installation		2/3/2023	3/8/2023	24
Main Building Construction 2		3/9/2023	9/20/2023	140
Utility Trenching		3/13/2023	6/7/2023	63
Architectural Coating		3/16/2023	5/9/2023	39
Finishing/Landscaping 1		4/10/2023	6/6/2023	42
Finishing/Landscaping and Fine Grading		6/7/2023	6/20/2023	10
Finishing/Landscaping 2		6/21/2023	8/14/2023	39
Paving		7/18/2023	8/23/2023	27

CalEEMod Construction Off-Road Equipment Inputs: Pathways to College K-8 School Project (School Construction)

*CalEEMod default equipment mix
General Construction Hours:

btwn 7:00 AM to 4:00 PM (with 1 hr break), Mon-Fri

Water Truck Vendor Trip Calculation

Amount of Water (gal/acre/day) ¹	Water Truck Capacity (gallons) ²
10,000	4,000

Notes:

- ¹ Based on data provided in Guidance for Application for Dust Control Permit Maricopa County Air Quality Department, 2005, June. Guidance for Application of Dust Control Permit. https://www.epa.gov/sites/default/files/2019-04/documents/mr_guidanceforapplicationfordustcontrolpermit.pdf
- ² Based on standard water truck capacity: McLellan Industries, 2022, January (access). Water Trucks. <https://www.mclellanindustries.com/trucks/water-trucks/>
- ³ Assumes that dozers, tractors/loaders/backhoes, and graders can disturb 0.50 acres per day and scrapers can disturb 1 acre per day.

Construction Equipment Details

Equipment Given	CalEEMod Equipment	# of Equipment	hr/day	total trips/Day
Site Preparation¹				
Not Given	Tractors/Loaders/Backhoes	4	8	
	Rubber Tired Dozers	3	8	
Worker Trips				18
Vendor Trips				0
Hauling Trips (TOTAL TRIPS)				0
Water Trucks			Acres Disturbed: 3.50	18
Site Preparation and Rough Grading^{1,2}				
Not Given	Tractors/Loaders/Backhoes	4	8	
	Rubber Tired Dozers	3	8	
Cat 644 Scraper	Scrapers	2	6	
824 Compactor	Plate Compactor	1	6	
Worker Trips				25
Vendor Trips				0
Hauling Trips (TOTAL TRIPS)				0
Water Trucks			Acres Disturbed: 5.00	26

Utility Trenching²

Cat 308E Excavator	Excavators	2	6	
Skip Loader	Skid Steer Loaders	1	6	
Wacker	Plate Compactor	1	6	
Worker Trips				10
Vendor Trips				0
Hauling Trips				0
Water Trucks	Acres Disturbed:		0.38	2

Main Building Construction 1/2¹				
Scissor Lift, Skytrak, and Boom lift	Aerial lift	3	8	
Forklift	Forklifts	3	8	
Worker Trips				216
Vendor Trips				84
Hauling Trips (TOTAL TRIPS)				0
Main Building Construction and Modular Building Installation¹				
Scissor Lift, Skytrak, and Boom lift	Aerial lift	3	8	
Forklift	Forklifts	3	8	
Worker Trips				216
Vendor Trips				84
Hauling Trips (TOTAL TRIPS)				0
Architectural Coating				
Scissor Lift, Skytrak, and Boom lift	Aerial lift	3	8	
Forklift	Forklifts	1	8	
Worker Trips				43
Vendor Trips				0
Hauling Trips (TOTAL TRIPS)				0
Finishing/Landscaping 1/2				
Skid Steer-246 and Skip Loader	Skid Steer Loaders	2	6	
Worker Trips				5
Vendor Trips				0
Hauling Trips (TOTAL TRIPS)				0
Finishing/Landscaping and Fine Grading¹				
Skid Steer-246 and Skip Loader	Skid Steer Loaders	2	6	
430E Backhoe	Tractors/Loaders/Backhoes	2	6	
Worker Trips				10
Vendor Trips				0
Hauling Trips (TOTAL TRIPS)				0
Paving¹				
Paving Machine	Paving Equipment	2	8	
Roller (5-8 tn)	Rollers	2	6	
Skip Loader	Skid Steer Loaders	1	6	
Street Sweep	Sweepers/Scrubbers	1	6	
Worker Trips				15
Vendor Trips				0

Notes:

¹ If amount of equipment was not given, then used CalEEMod default equipment amount.

² If CalEEMod default equipment was not given, then added equipment type and amount based on a project of similar size.

CalEEMod Inputs - Pathways to College K-8 Charter School, Operation

Project Number: PATH-03
Name: Pathways to College K-8 School Project, Operation
Project Location: 16558 Hercules St, Hesperia CA 92345
County: San Bernardino - Mojave Desert
Land Use Setting: Urban
Climate Forecast Zone 10
Operational Year: 2023
Utility Company: Southern California Edison
Air Basin: Mojave Desert Air Basin
Air District: Mojave Desert AQMD
SRA: Not Applicable

Disturbed Site Acreage 26.19

CalEEMod Land Use Inputs

Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Landuse Square Feet
Educational	Elementary School	700	Students	1.38	60,180
Parking	Parking Lot	45.41	1000 sqft	1.04	45,408
Parking (Basketball + Street)	Other Asphalt Surfaces	631.96	1000 sqft	14.51	631,964
Parking (Landscaping)	Other Non-Asphalt Surfaces	403.28	1000 sqft	9.26	403,284
Total				26.19	1,140,836

Trips - Provided by EPD Solutions, Inc.

Source: EPD Solutions, Inc. 2022, May. Pathways to College Charter School Traffic Impact Analysis.

Land Use Type	Average Daily Trips	CalEEMod Trip Rate	Saturday Trips ¹	CalEEMod Trip Rate	Sunday Trips ¹	CalEEMod Trip Rate
Elementary School	1,295	1.85	0	0.00	0	0.00
Total	1,295		0		0	

Trips	Annual Vehicle Miles Traveled ²	Average Daily VMT ³
Total Trips	2,939,391	8,075

Notes:

- ¹ Assume no vehicle trips on the weekend based on operation hours of the school.
- ² Annual VMT is from CalEEMod.
- ³ Daily VMT is calculated based on annual weekday VMT / 364 days per year.

Trip Type Percentages			
	Primary	Diverted	Passby
Elementary School	63%	25%	12%
Adjusted Trip Type Percentages	100%	0%	0%

Water Use and Wastewater Generation¹

Land Use	Indoor (gal/day) ²	Indoor (gal/year)	Outdoor (gal/day)	Outdoor (gal/year)
Elementary School	4,707	1,718,055	8,040	2,934,600
Total Water Use	4,707	1,718,055	8,040	2,934,600

Notes: Section 3.19 Utilities and Service Systems

¹ Wastewater is treated by the Victor Valley Wastewater Reclamation Authority's (VWVRA) Wastewater Treatment Plant. Assume 100% aerobic treatment.

² Indoor water use includes wastewater calculated (90% of indoor water use) and indoor water demand from CalEEMod default data tables for "Elementary School".

³ Outdoor water use was calculated with DWR workbook.

Solid Waste¹

Land Use	(lbs/day)	(tons/day)	(day/year)	(tons/year)
Elementary School	405	0.20	365	73.91
Total Solid Waste				73.91

Notes: Section 3.19 Utilities and Service Systems

Architectural Coating

* See Architectural Coating for Construction Model

Hearths

*assuming no woodstoves

Electricity (Buildings)

Default CalEEMod Energy Use

Land Use Subtype	Title-24 Electricity Energy Intensity (kWhr/size/year)*	Nontitle-24 Electricity Energy Intensity (kWhr/size/year)	Lighting Energy Intensity (kWhr/size/year)	Title-24 Natural Gas Energy Intensity (KBTU/size/year)*	Nontitle-24 Natural Gas Energy Intensity (KBTU/size/year)
Elementary School	2.49	1.49	3.03	6.9	1.79
Parking Lot	0	0	0.35	0	0

Southern California Edison Carbon Intensity Factors

	2020 Carbon Intensity lbs/MWH
CO ₂ ^{1,2}	509.98
CH ₄ ³	0.033
N ₂ O ³	0.004

Notes:

¹ Based on CO₂e intensity factor of 512 pounds per megawatt hour; Southern California Edison. 2021. 2020 Sustainability Report. <https://www.edison.com/home/sustainability/sustainability-report.html>

² Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH₄ and N₂O; Intergovernmental Panel on Climate Change (IPCC). 2007. Fourth Assessment Report: Climate Change 2007.

³ CalEEMod default values.

Global Warming Potentials (GWP)		
	AR4	AR5
CO ₂	1	1
CH ₄	25	28
N ₂ O	298	265

Based on Intergovernmental Panel on Climate Change Fourth Assessment Report global warming potentials for CH₄ and N₂O; Intergovernmental Panel on Climate Change (IPCC).

Changes to the CalEEMod Defaults - Fleet Mix, Operations 2023

Elementary School		Weekday Trips													1,295
Default	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH		
FleetMix (Model Default)	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071	100%	
Trips	696	72	223	180	35	9	15	22	1	0	33	1	7	1,295	
Percent	79%			14%	7%									100%	
without buses/MH	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0	0	0.025303	0	0	99%	
Percent	79%			14%	6%									99%	
Adjusted without buses/MH	0.537785	0.055838	0.172353	0.139003	0.029942	0.007979	0.012631	0.019165	0	0	0.028055	0	0	100%	
Percent adjusted	79%			14%	7%									100%	
Assumed Mix	97.0%			2.00%	1.00%									100%	
adjusted with Assumed	0.656966	0.068213	0.210549	0.020000	0.004295	0.001144	0.001812	0.002749	0.000000	0.000000	0.034272	0.000000	0.000000	100%	
Percent Check:	97%			2%	1%										
Trips	851	88	273	26	6	1	2	4	0	0	44	0	0	1,295	
	1,256			26	13										

Fleet mix for the project is modified to reflect a higher proportion of passenger vehicles than the regional VMT. Assumes a mix of approximately 97% passenger vehicles, 2% medium duty trucks, and 1% heavy duty trucks and buses.

CalEEMod Inputs - Pathways to College K-8 Charter School, Roadway Improvements Construction

Name: Pathways to College K-8 School Project, Construction
Land Use Scale: Project/site
Land Use Subtypes: Educational
Project Location: 16558 Hercules St, Hesperia CA 92345
County: San Bernardino
Land Use Setting: Rural
TAZ: 5133
Electricity Demand Forecast: 10
Operational Year: 2023
Electricity: Southern California Edison
Gas Utility: Southwest Gas Corp.
Air Basin: Mojave Desert Air Basin
Air District: Mojave Desert AQMD
SRA: Not Applicable

Project Site Acreage	26
Disturbed Site Acreage	14.4

CalEEMod Land Use Inputs

Land Use Type	Land Use Subtype	Unit Amount	Size Metric	Lot Acreage	Land Use SQFT
Parking (Roadway)	Other Asphalt Surfaces	627.26	1000 sqft	14.4	627,264
Total				14.4	627264

Construction Control Strategies

MDAQMD Rule 403

Replace Ground Cover	PM10:	5	% Reduction
	PM2.5:	5	% Reduction
Water Exposed Area	Frequency:	2	per day
	PM10:	55	% Reduction
	PM25:	55	% Reduction
Unpaved Roads	Vehicle Speed:	15	mph
MDAQMD Rule 1186	Clean Paved Road	9	% PM Reduction

Construction Activities and Schedule Assumptions: Pathways to College K-8 School Project, Roadways Improvement

based on overall duration provided by the District.

Construction Schedule

Construction Activities	Start Date	End Date	CalEEMod Duration (Workday)
Linear, Grubbing & Land Clearing	5/11/2023	5/15/2023	3
Linear, Grading & Excavation	5/16/2023	6/1/2023	13
Linear, Drainage, Utilities, & Sub-Grade	6/2/2023	6/17/2023	11
Linear, Paving	6/18/2023	6/25/2023	5

Notes:

¹ Construction phasing based on CalEEMod defaults.

CalEEMod Construction Off-Road Equipment Inputs: Pathways to College K-8 School Project, Roadway Improvements

*equipment mix based on 2022.1v CalEEMod defaults and Sacramento Metropolitan Roadway Model

General Construction Hours: btwn 7:00 AM to 4:00 PM (with 1 hr break), Mon-Fri

Water Truck Vendor Trip Calculation

Amount of Water (gal/acre/day) ¹	Water Truck Capacity (gallons) ²
10,000	4,000

Notes:

¹ Based on data provided in Guidance for Application for Dust Control.

Maricopa County Air Quality Department. 2005, June. Guidance for Application of Dust Control Permit. https://www.epa.gov/sites/default/files/2019-04/documents/mr_guidanceforapplicationfordustcontrolpermit.pdf

² Based on standard water truck capacity:

McLellan Industries. 2022, January (access). Water Trucks. <https://www.mclellanindustries.com/trucks/water-trucks/>

³ Assumes that dozers, tractors/loaders/backhoes, and graders can disturb 0.50 acres per day and scrapers can disturb 1 acre per day.

Construction Equipment Details			
CalEEMod default equipment	# of Equipment	hr/day	total trips/Day
Linear, Grubbing & Land Clearing			
Crawler Tractors	1	8	
Excavators	1	8	
Worker Trips			5
Vendor Trips			0
Hauling Trips (TOTAL TRIPS)			0
Water Trucks	Acres Disturbed:	0.4	4
Linear, Grading and Excavation			
Crawler Tractors	1	8	
Excavators	3	8	
Graders	1	8	
Rollers	2	8	
Rubber Tired Loaders	1	8	
Scrapers	2	8	
Tractors/Loaders/Backhoes	2	8	
Worker Trips			5
Vendor Trips			0
Hauling Trips (TOTAL TRIPS)			0
Water Trucks	Acres Disturbed:	4.5	4

Linear, Drainage, Utilities, & Sub-Grade

Air Compressors	1	8	
Generator Sets	1	8	
Graders	1	8	
Plate Compactors	1	8	
Pumps	1	8	
Rough Terrain Forklifts	1	8	
Scrapers	2	8	
Tractors/Loaders/Backhoes	2	8	
Worker Trips			25
Vendor Trips			0
Water Trucks	Acres Disturbed:	3.50	4

Linear, Paving

Pavers	1	8	
Paving Equipment	1	8	
Rollers	3	8	
Tractors/Loaders/Backhoes	2	8	
Worker Trips			18
Vendor Trips			0

Construction Trips Worksheet : Roadway Improvements

Phase Name	Worker Trip Ends Per Day	Vendor Trip Ends Per Day	Haul Truck Trip Ends	Total Haul Truck Trip Ends	Start Date	End Date	Workdays
Linear, Grubbing & Land Clearing	5	4	0	0	5/11/2023	5/15/2023	3
Linear, Grading & Excavation	5	4	0	0	5/16/2023	6/1/2023	13
Linear, Drainage, Utilities, & Sub-Grade	25	4	0	0	6/2/2023	6/17/2023	11
Linear, Paving	18	0	0	0	6/18/2023	6/25/2023	5

Construction Trips Worksheet = School Construction + Roadway Construction

Phase Name	Worker Trip Ends Per Day	Vendor Trip Ends Per Day	Haul Truck Trip Ends	Total Haul Truck Trip Ends	Start Date	End Date	Workdays
Site Preparation	18	18	0	0	12/5/2022	12/8/2022	4
Site Preparation and Rough Grading	25	26	0	0	12/9/2022	12/22/2022	10
Main Building Construction 1	216	84	0	0	1/4/2023	2/2/2023	22
Main Building Construction and Modular Building Installation	216	84	0	0	2/3/2023	3/8/2023	24
Main Building Construction 2	216	84	0	0	3/9/2023	9/20/2023	140
Utility Trenching	10	2	0	0	3/13/2023	6/7/2023	63
Architectural Coating	43	0	0	0	3/16/2023	5/9/2023	39
Finishing/Landscaping 1	5	0	0	0	4/10/2023	6/6/2023	42
Finishing/Landscaping and Fine Grading	10	0	0	0	6/7/2023	6/20/2023	10
Finishing/Landscaping 2	5	0	0	0	6/21/2023	8/14/2023	39
Paving	15	0	0	0	7/18/2023	8/23/2023	27

Overlapping Construction Schedule (CalEEMod): K-8 Charter School & Roadway Improvements

Construction Activities	Start Date	End Date	CalEEMod Duration (Workday)
Site Preparation	12/5/2022	12/8/2022	4
Site Preparation and Rough Grading	12/9/2022	12/22/2022	10
Main Building Construction 1	1/4/2023	2/2/2023	22
Main Building Construction & Modular Building Installation	2/3/2023	3/8/2023	24
Main Building Construction 2	3/9/2023	3/12/2023	2
Main Building Construction 2 and Utility Trenching	3/13/2023	3/15/2023	3
Main Building Construction 2, Utility Trenching, and Architectural Coating	3/16/2023	4/9/2023	17
Main Building Construction 2, Utility Trenching, Architectural Coating, and Finishing/Landscaping 1	4/10/2023	5/9/2023	22
Main Building Construction 2, Utility Trenching, and Finishing/Landscaping 1	5/10/2023	5/10/2023	1
Main Building Construction 2, Utility Trenching, and Finishing/Landscaping 1, and Linear, Grubbing & Land Clearing	5/11/2023	5/15/2023	3
Main Building Construction 2, Utility Trenching, and Finishing/Landscaping 1, and Linear, Grading & Excavation	5/16/2023	6/1/2023	13
Main Building Construction 2, Utility Trenching, and Finishing/Landscaping 1, Linear, Drainage, Utilities, and Sub-Grade	6/2/2023	6/6/2023	3
Main Building Construction 2, Utility Trenching, Finishing/Landscaping & Fine Grading, Linear, Drainage, Utilities, and Sub-Grade	6/7/2023	6/7/2023	1
Main Building Construction 2, Finishing/Landscaping & Fine Grading, Linear, Drainage, Utilities, and Sub-Grade	6/8/2023	6/17/2023	7
Main Building Construction 2, Finishing/Landscaping & Fine Grading, Linear and Paving	6/18/2023	6/20/2023	2
Main Building Construction 2 and Finishing/Landscaping 2, Linear and Paving	6/21/2023	6/25/2023	3
Main Building Construction 2 and Finishing/Landscaping 2	6/26/2023	7/17/2023	16
Main Building Construction 2, Finishing/Landscaping 2, and Paving	7/18/2023	8/14/2023	20
Main Building Construction 2 and Paving	8/15/2023	8/23/2023	7
Main Building Construction 2	8/24/2023	9/20/2023	20

Construction Schedule: Roadway Improvements

Construction Activities	Start Date	End Date	CalEEMod Duration (Workday)
Linear, Grubbing & Land Clearing	5/11/2023	5/15/2023	3
Linear, Grading & Excavation	5/16/2023	6/1/2023	13
Linear, Drainage, Utilities, & Sub-Grade	6/2/2023	6/17/2023	11
Linear, Paving	6/18/2023	6/25/2023	5

Emissions Worksheet

Regional Operation Emissions Worksheet: Buildout Year 2023

Source: CalEEMod, Version 2020.4

Proposed K-8 Charter Schooland Roadway Improvements (lbs/day)

Summer

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	2.08	0.00	0.18	0.00	0.00	0.00
Energy	0.02	0.14	0.12	0.00	0.01	0.01
Mobile	4.82	2.94	44.61	0.08	8.62	2.31
Total	6.91	3.08	44.91	0.08	8.63	2.33

Winter

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	2.08	0.00	0.18	0.00	0.00	0.00
Energy	0.02	0.14	0.12	0.00	0.01	0.01
Mobile	4.21	3.16	39.96	0.07	8.62	2.31
Total	6.31	3.30	40.26	0.07	8.63	2.33

Max Daily

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	2	0	0	0	0	0
Energy	0	0	0	0	0	0
Mobile	5	3	45	0	9	2
Total	7	3	45	0	9	2

Regional Thresholds (lb/day)	137	137	548	137	82	65
Exceeds Thresholds?	No	No	No	No	No	No

Proposed K-8 Charter Schooland Roadway Improvements (tons/year)

Annual

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Area	0.38	0.00	0.02	0.00	0.00	0.00
Energy	0.00	0.03	0.02	0.00	0.00	0.00
Mobile	0.54	0.43	5.42	0.01	1.10	0.30
Waste					0.00	0.00
Water					0.00	0.00
Total	0.9	0.5	5.5	0.0	1.1	0.3

Regional Thresholds (tons/yr)	25	25	100	25	15	12
Exceeds Thresholds?	No	No	No	No	No	No

Regional Construction Emissions Worksheet: K-8 Charter School

Site Preparation 2022							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	Winter						
	Fugitive Dust					8.40	4.32
	Off-Road	3.17	33.08	19.70	0.04	1.61	1.48
	Total	3.17	33.08	19.70	0.04	10.02	5.80
Offsite	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.03	0.86	0.31	0.00	0.12	0.04
	Worker	0.06	0.04	0.47	0.00	0.14	0.04
	Total	0.09	0.90	0.78	0.00	0.26	0.08
TOTAL		3.26	33.98	20.48	0.04	10.28	5.88
Onsite	Fugitive Dust	0.00	0.00	0.00	0.00	8.40	4.32
	Off-Road	3.17	33.08	19.70	0.04	1.61	1.48
	Total	3.17	33.08	19.70	0.04	10.02	5.80
Offsite	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.03	0.86	0.31	0.00	0.12	0.04
	Worker	0.06	0.04	0.47	0.00	0.14	0.04
	Total	0.09	0.90	0.78	0.00	0.26	0.08
TOTAL		3.26	33.98	20.48	0.04	10.28	5.88

Site Preparation and Rough Grading 2022							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	Winter						
	Fugitive Dust					9.08	4.39
	Off-Road	4.43	46.69	29.42	0.06	2.14	1.97
	Total	4.43	46.69	29.42	0.06	11.23	6.36
Offsite	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.05	1.24	0.44	0.01	0.18	0.06
	Worker	0.08	0.06	0.66	0.00	0.19	0.05
	Total	0.13	1.30	1.10	0.01	0.37	0.11
TOTAL		4.56	47.99	30.52	0.07	11.60	6.48
Onsite	Fugitive Dust	0.00	0.00	0.00	0.00	9.08	4.39
	Off-Road	4.43	46.69	29.42	0.06	2.14	1.97
	Total	4.43	46.69	29.42	0.06	11.23	6.36
Offsite	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.05	1.24	0.44	0.01	0.18	0.06
	Worker	0.08	0.06	0.66	0.00	0.19	0.05
	Total	0.13	1.30	1.10	0.01	0.37	0.11
TOTAL		4.56	47.99	30.52	0.07	11.60	6.48

Main Building Construction 1 2023							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	Winter						
	Off-Road	0.62	5.76	6.87	0.01	0.36	0.33
	Total	0.62	5.76	6.87	0.01	0.36	0.33
Offsite	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.09	3.23	1.29	0.02	0.56	0.18
	Worker	0.68	0.42	5.21	0.01	1.64	0.44
	Total	0.77	3.65	6.50	0.03	2.20	0.62
TOTAL		1.38	9.41	13.37	0.04	2.56	0.95
Onsite	Off-Road	0.62	5.76	6.87	0.01	0.36	0.33
	Total	0.62	5.76	6.87	0.01	0.36	0.33
Offsite	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.09	3.23	1.29	0.02	0.56	0.18
	Worker	0.68	0.42	5.21	0.01	1.64	0.44
	Total	0.77	3.65	6.50	0.03	2.20	0.62
TOTAL		1.38	9.41	13.37	0.04	2.56	0.95

Main Building Construction & Modular Building Installation 2023							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	Winter						
	Off-Road	0.41	4.48	6.71	0.01	0.21	0.19
	Total	0.41	4.48	6.71	0.01	0.21	0.19
Offsite	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.09	3.23	1.29	0.02	0.56	0.18
	Worker	0.68	0.42	5.21	0.01	1.64	0.44
	Total	0.77	3.65	6.50	0.03	2.20	0.62
	TOTAL	1.18	8.13	13.21	0.04	2.41	0.81
Onsite	Off-Road	0.41	4.48	6.71	0.01	0.21	0.19
	Total	0.41	4.48	6.71	0.01	0.21	0.19
	Offsite	Hauling	0.00	0.00	0.00	0.00	0.00
Vendor		0.09	3.23	1.29	0.02	0.56	0.18
Worker		0.68	0.42	5.21	0.01	1.64	0.44
Total		0.77	3.65	6.50	0.03	2.20	0.62
TOTAL		1.18	8.13	13.21	0.04	2.41	0.81

Main Building Construction 2 2023							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	Winter						
	Off-Road	0.41	4.48	6.71	0.01	0.21	0.19
	Total	0.41	4.48	6.71	0.01	0.21	0.19
Offsite	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.09	3.23	1.29	0.02	0.56	0.18
	Worker	0.68	0.42	5.21	0.01	1.64	0.44
	Total	0.77	3.65	6.50	0.03	2.20	0.62
	TOTAL	1.18	8.13	13.21	0.04	2.41	0.81
Onsite	Off-Road	0.41	4.48	6.71	0.01	0.21	0.19
	Total	0.41	4.48	6.71	0.01	0.21	0.19
	Offsite	Hauling	0.00	0.00	0.00	0.00	0.00
Vendor		0.09	3.23	1.29	0.02	0.56	0.18
Worker		0.68	0.42	5.21	0.01	1.64	0.44
Total		0.77	3.65	6.50	0.03	2.20	0.62
TOTAL		1.18	8.13	13.21	0.04	2.41	0.81

Utility Trenching 2023							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	Winter						
	Off-Road	0.36	3.16	6.08	0.01	0.14	0.13
	Total	0.36	3.16	6.08	0.01	0.14	0.13
Offsite	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.08	0.03	0.00	0.01	0.00
	Worker	0.03	0.02	0.24	0.00	0.08	0.02
	Total	0.03	0.10	0.27	0.00	0.09	0.02
	TOTAL	0.40	3.26	6.36	0.01	0.23	0.16
Onsite	Off-Road	0.36	3.16	6.08	0.01	0.14	0.13
	Total	0.36	3.16	6.08	0.01	0.14	0.13
	Offsite	Hauling	0.00	0.00	0.00	0.00	0.00
Vendor		0.00	0.08	0.03	0.00	0.01	0.00
Worker		0.03	0.02	0.24	0.00	0.08	0.02
Total		0.03	0.10	0.27	0.00	0.09	0.02
TOTAL		0.40	3.26	6.36	0.01	0.23	0.16

Architectural Coating 2023							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	Winter						
	Architectural Coating	36.57				0.00	0.00
	Off-Road	0.21	2.56	4.42	0.01	0.09	0.08
	Total	36.78	2.56	4.42	0.01	0.09	0.08
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.13	0.08	1.04	0.00	0.33	0.09
	Total	0.13	0.08	1.04	0.00	0.33	0.09
TOTAL		36.91	2.64	5.46	0.01	0.41	0.17

Finishing/Landscaping 1 2023							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	Winter						
	Off-Road	0.10	1.30	2.08	0.00	0.04	0.04
	Total	0.10	1.30	2.08	0.00	0.04	0.04
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.02	0.01	0.12	0.00	0.04	0.01
	Total	0.02	0.01	0.12	0.00	0.04	0.01
TOTAL		0.11	1.31	2.20	0.00	0.08	0.05

Finishing/Landscaping and Fine Grading 2023							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	Winter						
	Fugitive Dust					0.00	0.00
	Off-Road	0.32	3.60	5.43	0.01	0.16	0.15
	Total	0.32	3.60	5.43	0.01	0.16	0.15
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.03	0.02	0.24	0.00	0.08	0.02
	Total	0.03	0.02	0.24	0.00	0.08	0.02
TOTAL		0.36	3.62	5.67	0.01	0.23	0.17

Finishing/Landscaping 2 2023							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	Winter						
	Off-Road	0.10	1.30	2.08	0.00	0.04	0.04
	Total	0.10	1.30	2.08	0.00	0.04	0.04
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.02	0.01	0.12	0.00	0.04	0.01
	Total	0.02	0.01	0.12	0.00	0.04	0.01
TOTAL		0.11	1.31	2.20	0.00	0.08	0.05
Onsite							
	Off-Road	0.10	1.30	2.08	0.00	0.04	0.04
	Total	0.10	1.30	2.08	0.00	0.04	0.04
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.02	0.01	0.12	0.00	0.04	0.01
	Total	0.02	0.01	0.12	0.00	0.04	0.01
TOTAL		0.11	1.31	2.20	0.00	0.08	0.05

Paving 2023							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	Winter						
	Off-Road	0.76	7.55	10.37	0.02	0.39	0.36
	Paving	0.11				0.00	0.00
	Total	0.87	7.55	10.37	0.02	0.39	0.36
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.05	0.03	0.36	0.00	0.11	0.03
	Total	0.05	0.03	0.36	0.00	0.11	0.03
TOTAL		0.92	7.58	10.73	0.02	0.51	0.39
Onsite							
	Off-Road	0.76	7.55	10.37	0.02	0.39	0.36
	Paving	0.11	0.00	0.00	0.00	0.00	0.00
	Total	0.87	7.55	10.37	0.02	0.39	0.36
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.05	0.03	0.36	0.00	0.11	0.03
	Total	0.05	0.03	0.36	0.00	0.11	0.03
TOTAL		0.92	7.58	10.73	0.02	0.51	0.39

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
<i>Site Preparation</i>	3	34	20	0	10	6
<i>Site Preparation and Rough Grading</i>	5	48	31	0	12	6
<i>Main Building Construction 1</i>	1	9	13	0	3	1
<i>Main Building Construction & Modular Building Installation</i>	1	8	13	0	2	1
<i>Main Building Construction 2</i>	1	8	13	0	2	1
<i>Main Building Construction 2 and Utility Trenching</i>	2	11	20	0	3	1
<i>Main Building Constructio 2, Utility Trenching, and Architectural Coating</i>	38	14	25	0	3	1
<i>Main Building Construction 2, Utility Trenching, Architectural Coating, and Finishing/Landscaping 1</i>	39	15	27	0	3	1
<i>Main Building Construction 2, Utility Trenching, and Finishing/Landscaping 1</i>	2	13	22	0	3	1
<i>Main Building Construction 2, Utility Trenching, Finishing/Landscaping & Fine Grading</i>	2	15	25	0	3	1
<i>Main Building Construction 2, Finishing/Landscaping & Fine Grading</i>	2	12	19	0	3	1
<i>Main Building Construction 2 and Finishing/Landscaping 2</i>	1	9	15	0	2	1
<i>Main Building Construction 2, Finishing/Landscaping 2, and Paving</i>	2	17	26	0	3	1
<i>Main Building Construction 2 and Paving</i>	2	16	24	0	3	1
<i>Main Building Construction 2</i>	1	8	13	0	2	1
MAX DAILY	39	48	31	0	12	6
Regional Thresholds	137	137	548	137	82	65
Exceeds Thresholds?	No	No	No	No	No	No

Regional Construction Emissions Worksheet: Roadway Improvements

Linear, Grubbing & Land Clearing 2023							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	Winter						
	Fugitive Dust					0.23	0.02
	Off-Road	0.63	6.67	5.50	0.01	0.27	0.25
	Total	0.63	6.67	5.50	0.01	0.50	0.28
Offsite	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.02	0.01	0.12	0.00	0.04	0.01
	Total	0.02	0.01	0.12	0.00	0.04	0.01
TOTAL		0.65	6.68	5.62	0.01	0.54	0.29
Onsite	Winter						
	Fugitive Dust						
	Off-Road	0.63	6.67	5.50	0.01	0.27	0.25
	Total	0.63	6.67	5.50	0.01	0.50	0.28
Offsite	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.02	0.01	0.12	0.00	0.04	0.01
	Total	0.02	0.01	0.12	0.00	0.04	0.01
TOTAL		0.65	6.68	5.62	0.01	0.54	0.29

Linear, Grading & Excavation 2023							
		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	Winter						
	Fugitive Dust					4.16	1.59
	Off-Road	4.26	44.41	37.26	0.08	1.88	1.73
	Total	4.26	44.41	37.26	0.08	6.04	3.31
Offsite	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.03	0.92	0.37	0.00	0.16	0.05
	Worker	0.09	0.06	0.72	0.00	0.23	0.06
	Total	0.12	0.98	1.09	0.01	0.39	0.11
TOTAL		4.38	45.39	38.35	0.09	6.42	3.43
Onsite	Winter						
	Fugitive Dust	0.00	0.00	0.00	0.00	4.16	1.59
	Off-Road	4.26	44.41	37.26	0.08	1.88	1.73
	Total	4.26	44.41	37.26	0.08	6.04	3.31
Offsite	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.03	0.92	0.37	0.00	0.16	0.05
	Worker	0.09	0.06	0.72	0.00	0.23	0.06
	Total	0.12	0.98	1.09	0.01	0.39	0.11
TOTAL		4.38	45.39	38.35	0.09	6.42	3.43

Linear, Drainage, Utilities, & Sub-Grade 2023

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	Winter						
	Fugitive Dust					1.13	0.12
	Off-Road	3.29	33.15	30.74	0.06	1.36	1.28
	Total	3.29	33.15	30.74	0.06	2.50	1.41
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.02	0.69	0.28	0.00	0.12	0.04
	Worker	0.08	0.05	0.60	0.00	0.19	0.05
	Total	0.10	0.74	0.88	0.01	0.31	0.09
TOTAL		3.39	33.89	31.62	0.07	2.81	1.50
Onsite	Winter						
	Fugitive Dust						
	Off-Road	3.29	33.15	30.74	0.06	1.36	1.28
	Total	3.29	33.15	30.74	0.06	2.50	1.41
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.02	0.69	0.28	0.00	0.12	0.04
	Worker	0.08	0.05	0.60	0.00	0.19	0.05
	Total	0.10	0.74	0.88	0.01	0.31	0.09
TOTAL		3.39	33.89	31.62	0.07	2.81	1.50

Linear, Paving 2023

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Onsite	Winter						
	Off-Road	1.13	11.39	15.46	0.02	0.58	0.54
	Paving	7.55				0.00	0.00
	Total	8.67	11.39	15.46	0.02	0.58	0.54
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.06	0.04	0.43	0.00	0.14	0.04
	Total	0.06	0.04	0.43	0.00	0.14	0.04
TOTAL		8.73	11.42	15.89	0.02	0.72	0.57
Onsite	Winter						
	Off-Road	1.13	11.39	15.46	0.02	0.58	0.54
	Paving	7.55	0.00	0.00	0.00	0.00	0.00
	Total	8.67	11.39	15.46	0.02	0.58	0.54
Offsite							
	Hauling	0.00	0.00	0.00	0.00	0.00	0.00
	Vendor	0.00	0.00	0.00	0.00	0.00	0.00
	Worker	0.06	0.04	0.43	0.00	0.14	0.04
	Total	0.06	0.04	0.43	0.00	0.14	0.04
TOTAL		8.73	11.42	15.89	0.02	0.72	0.57

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Linear, Grubbing & Land Clearing	1	7	6	0	1	0
Linear, Grading & Excavation	4	45	38	0	6	3
Linear, Drainage, Utilities, & Linear, Paving	3	34	32	0	3	1

MAX DAILY	9	45	38	0	6	3
Regional Thresholds	137	137	548	137	82	65
Exceeds Thresholds?	No	No	No	No	No	No

Regional Construction Emissions Worksheet:

K-8 Charter School Portion

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
<i>Site Preparation</i>	3	34	20	0	10	6
<i>Site Preparation and Rough Grading</i>	5	48	31	0	12	6
<i>Main Building Construction 1</i>	1	9	13	0	3	1
<i>Main Building Construction & Modular Building Installation</i>	1	8	13	0	2	1
<i>Main Building Construction 2</i>	1	8	13	0	2	1
<i>Main Building Construction 2 and Utility Trenching</i>	2	11	20	0	3	1
<i>Main Building Constructio 2, Utility Trenching, and Architectural Coating</i>	38	14	25	0	3	1
<i>Main Building Construction 2, Utility Trenching, Architectural Coating, and Finishing/Landscaping 1</i>	39	15	27	0	3	1
<i>Main Building Construction 2, Utility Trenching, and Finishing/Landscaping 1</i>	2	13	22	0	3	1
<i>Main Building Construction 2, Utility Trenching, Finishing/Landscaping & Fine Grading</i>	2	15	25	0	3	1
<i>Main Building Construction 2, Finishing/Landscaping & Fine Grading</i>	2	12	19	0	3	1
<i>Main Building Construction 2 and Finishing/Landscaping 2</i>	1	9	15	0	2	1
<i>Main Building Construction 2, Finishing/Landscaping 2, and Paving</i>	2	17	26	0	3	1
<i>Main Building Construction 2 and Paving</i>	2	16	24	0	3	1
<i>Main Building Construction 2</i>	1	8	13	0	2	1

Roadway Improvements Portion

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
<i>Linear, Grubbing & Land Clearing</i>	1	7	6	0	1	0
<i>Linear, Grading & Excavation</i>	4	45	38	0	6	3
<i>Linear, Drainage, Utilities, & Sub-Grade</i>	3	34	32	0	3	1
<i>Linear, Paving</i>	9	11	16	0	1	1

Overlapping Construction Phasing

	ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
YEAR 2022						
<i>Site Preparation</i>	3	34	20	0	10	6
<i>Site Preparation and Rough Grading</i>	5	48	31	0	12	6
YEAR 2023						
<i>Main Building Construction 1</i>	1	9	13	0	3	1
<i>Main Building Construction & Modular Building Installation</i>	1	8	13	0	2	1
<i>Main Building Construction 2</i>	1	8	13	0	2	1
<i>Main Building Construction 2 and Utility Trenching</i>	2	11	20	0	3	1
<i>Main Building Constructio 2, Utility Trenching, and Architectural Coating</i>	38	14	25	0	3	1
<i>Main Building Construction 2, Utility Trenching, Architectural Coating, and Finishing/Landscaping 1</i>	39	15	27	0	3	1
<i>Main Building Construction 2, Utility Trenching, and Finishing/Landscaping 1</i>	2	13	22	0	3	1
<i>Main Building Construction 2, Utility Trenching, and Finishing/Landscaping 1, Linear, Grubbing, and Land Clearing</i>	2	19	27	0	3	1
<i>Main Building Construction 2, Utility Trenching, and Finishing/Landscaping 1, and Linear, Grading & Excavation</i>	6	58	60	0	9	4
<i>Main Building Construction 2, Utility Trenching, and Finishing/Landscaping 1, Linear, Drainage, Utilities, and Sub-Grade</i>	5	47	53	0	6	3

Main Building Construction 2, Utility Trenching, Finishing/Landscaping & Fine Grading, Linear, Drainage, Utilities, and Sub-Grade	5	49	57	0	6	3
Main Building Construction 2, Finishing/Landscaping & Fine Grading, Linear, Drainage, Utilities, and Sub-Grade	5	46	50	0	5	2
Main Building Construction 2, Finishing/Landscaping & Fine Grading, Linear and Paving	10	23	35	0	3	2
Main Building Construction 2 and Finishing/Landscaping 2, Linear and Paving	10	21	31	0	3	1
Main Building Construction 2 and Finishing/Landscaping 2	1	9	15	0	2	1
Main Building Construction 2, Finishing/Landscaping 2, and Paving	2	17	26	0	3	1
Main Building Construction 2 and Paving	2	16	24	0	3	1
Main Building Construction 2	1	8	13	0	2	1
MAX DAILY	39	58	60	0	12	6
Regional Daily Thresholds	137	137	548	137	82	65
Exceeds Thresholds?	No	No	No	No	No	No

Regional Construction Emissions Worksheet

School Construction (Tons/year)

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Year	tons/year						
	2022	0.03	0.3	0.2	0.0004	0.1	0.04
	2023	1	1	2	0.005	0.25	0.09
	Maximum	1	1	2	0.005	0.25	0.09
	Regional Thresholds	25	25	100	25	15	12
	Exceeds Thresholds?	No	No	No	No	No	No

Roadway Improvements (tons/year)

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Year	tons/year						
	2022						
	2023	0	1	0.5	0.001	0.06	0.03
	Maximum	0	1	0.5	0.001	0.06	0.03
	Regional Thresholds	25	25	100	25	15	12
	Exceeds Thresholds?	No	No	No	No	No	No

Total (tons/year)

		ROG	NOx	CO	SO2	PM10 Total	PM2.5 Total
Year	tons/year						
	2022	0.03	0.31	0.19	0.0004	0.08	0.04
	2023	0.93	1.60	2.29	0.01	0.31	0.12
	Maximum	0.9	1.6	2.3	0.0	0.3	0.1
	Regional Thresholds	25	25	100	25	15	12
	Exceeds Thresholds?	No	No	No	No	No	No

GHG Emissions Inventory

Source: CalEEMod 2020.4

Construction

	K-8 Charter School MTCO ₂ e	Roadway Improvements MTCO ₂ e	TOTAL MTCO ₂ e	TOTAL average lbs/day
2022	38	0	38	231
2023	438	95	533	3219
Total Construction	476	95	571	3,450
30-Year Amortization¹	16	3	19	115

Notes:

¹ Total construction emissions are amortized over 30 years per South Coast AQMD methodology; South coast AQMD. 2009, November 19. Greenhouse Gases (GHG) CEQA Significance Thresholds Working Group Meeting 14. [http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-\(ghg\)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-14/ghg-meeting-14-main-presentation.pdf?sfvrsn=2](http://www.aqmd.gov/docs/default-source/ceqa/handbook/greenhouse-gases-(ghg)-ceqa-significance-thresholds/year-2008-2009/ghg-meeting-14/ghg-meeting-14-main-presentation.pdf?sfvrsn=2).

Operation (2023)

	average lbs/day	MTCO ₂ e	Percent of Emissions
Area	0.2	0.03	0.003%
Energy	784	130	12%
Mobile	5,128	849	81%
Solid Waste	225	37	4%
Water	83	14	1%
30-Yr Amortized Construction Emissions ¹	115	19	2%
Total	6,335	1,049	100%
MDAQMD Threshold (MTCO ₂ e/year) ²	548,000	90,719	
Exceed Threshold?	No	No	

Notes:

² MDAQMD Threshold is in tons per year (100,000 tons)

CalEEMod Construction Model

School Construction

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Pathways to College K-8 School Project, Construction
San Bernardino-Mojave Desert County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	700.00	Student	1.38	60,180.00	0
Other Asphalt Surfaces	4.70	1000sqft	0.11	4,700.00	0
Other Non-Asphalt Surfaces	403.28	1000sqft	9.26	403,284.00	0
Parking Lot	45.41	1000sqft	1.04	45,408.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	509.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on 2020 Sustainability report

Land Use - Based on information provided by District, see assumptions file

Construction Phase - Based on District info., see assumptions file

Off-road Equipment - See assumptions file

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-road Equipment - See assumptions file

Trips and VMT - See assumptions file

Grading -

Architectural Coating - See assumptions file

Construction Off-road Equipment Mitigation - MDAQMD Rule 403 and 1186

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	27,204.00	2,724.00
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	39.00
tblConstructionPhase	NumDays	300.00	22.00
tblConstructionPhase	NumDays	300.00	24.00
tblConstructionPhase	NumDays	300.00	140.00
tblConstructionPhase	NumDays	30.00	10.00
tblConstructionPhase	NumDays	30.00	10.00
tblConstructionPhase	NumDays	20.00	27.00
tblConstructionPhase	NumDays	10.00	4.00
tblLandUse	LandUseSquareFeet	58,522.36	60,180.00
tblLandUse	LandUseSquareFeet	403,280.00	403,284.00
tblLandUse	LandUseSquareFeet	45,410.00	45,408.00
tblLandUse	LotAcreage	1.34	1.38
tblOffRoadEquipment	LoadFactor	0.20	0.20

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	LoadFactor	0.31	0.31
tblOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	UsageHours	8.00	6.00
tblOffRoadEquipment	UsageHours	8.00	6.00

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	UsageHours	8.00	6.00
tblProjectCharacteristics	CO2IntensityFactor	390.98	509.98
tblTripsAndVMT	VendorTripNumber	0.00	18.00
tblTripsAndVMT	VendorTripNumber	0.00	26.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.0293	0.3079	0.1937	4.3000e-004	0.1480	0.0140	0.1620	0.0722	0.0129	0.0852	0.0000	37.7417	37.7417	0.0109	5.0000e-004	38.1648
2023	0.8563	1.0841	1.8199	4.6700e-003	0.2274	0.0363	0.2636	0.0616	0.0335	0.0951	0.0000	429.4528	429.4528	0.0561	0.0254	438.4142
Maximum	0.8563	1.0841	1.8199	4.6700e-003	0.2274	0.0363	0.2636	0.0722	0.0335	0.0951	0.0000	429.4528	429.4528	0.0561	0.0254	438.4142

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Year	tons/yr										MT/yr					
2022	0.0293	0.3079	0.1937	4.3000e-004	0.0645	0.0140	0.0785	0.0312	0.0129	0.0442	0.0000	37.7417	37.7417	0.0109	5.0000e-004	38.1647
2023	0.8563	1.0841	1.8199	4.6700e-003	0.2104	0.0363	0.2467	0.0574	0.0335	0.0909	0.0000	429.4526	429.4526	0.0561	0.0254	438.4140
Maximum	0.8563	1.0841	1.8199	4.6700e-003	0.2104	0.0363	0.2467	0.0574	0.0335	0.0909	0.0000	429.4526	429.4526	0.0561	0.0254	438.4140

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	26.77	0.00	23.61	33.76	0.00	25.07	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
2	9-9-2022	12-8-2022	0.1283	0.1283
3	12-9-2022	3-8-2023	0.4754	0.4754
4	3-9-2023	6-8-2023	1.2250	1.2250
5	6-9-2023	9-8-2023	0.4583	0.4583
6	9-9-2023	9-30-2023	0.0393	0.0393
		Highest	1.2250	1.2250

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	12/5/2022	12/8/2022	5	4	a
2	Site Preparation and Rough Grading	Grading	12/9/2022	12/22/2022	5	10	b
3	Main Building Construction 1	Building Construction	1/4/2023	2/2/2023	5	22	c
4	Main Building Construction and Modular Building Installation	Building Construction	2/3/2023	3/8/2023	5	24	d
5	Main Building Construction 2	Building Construction	3/9/2023	9/20/2023	5	140	e
6	Utility Trenching	Trenching	3/13/2023	6/7/2023	5	63	f
7	Architectural Coating	Architectural Coating	3/16/2023	6/9/2023	5	39	g
8	Finishing/Landscaping 1	Trenching	4/10/2023	6/6/2023	5	42	h
9	Finishing/Landscaping and Fine Grading	Grading	6/7/2023	6/20/2023	5	10	i
10	Finishing/Landscaping 2	Trenching	6/21/2023	8/14/2023	5	39	j
11	Paving	Paving	7/18/2023	8/23/2023	5	27	k

Acres of Grading (Site Preparation Phase): 6

Acres of Grading (Grading Phase): 30

Acres of Paving: 10.41

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 90,270; Non-Residential Outdoor: 30,090; Striped Parking Area: 2,724

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation and Rough Grading	Excavators	0	8.00	158	0.38
Site Preparation and Rough Grading	Graders	0	8.00	187	0.41
Site Preparation and Rough Grading	Plate Compactors	1	6.00	8	0.43
Site Preparation and Rough Grading	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation and Rough Grading	Scrapers	2	6.00	367	0.48
Site Preparation and Rough Grading	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Finishing/Landscaping and Fine Grading	Excavators	0	8.00	158	0.38
Finishing/Landscaping and Fine Grading	Graders	0	8.00	187	0.41
Finishing/Landscaping and Fine Grading	Rubber Tired Dozers	0	8.00	247	0.40
Finishing/Landscaping and Fine Grading	Scrapers	0	8.00	367	0.48
Finishing/Landscaping and Fine Grading	Skid Steer Loaders	2	6.00	65	0.37
Finishing/Landscaping and Fine Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Finishing/Landscaping 2	Skid Steer Loaders	2	6.00	65	0.37
Main Building Construction 1	Cranes	0	7.00	231	0.29
Main Building Construction 1	Forklifts	3	8.00	89	0.20
Main Building Construction 1	Forklifts	0	8.00	89	0.20
Main Building Construction 1	Generator Sets	0	8.00	84	0.74
Main Building Construction 1	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Main Building Construction 1	Welders	0	8.00	46	0.45
Utility Trenching	Excavators	2	6.00	158	0.38
Utility Trenching	Plate Compactors	1	6.00	8	0.43
Utility Trenching	Skid Steer Loaders	1	6.00	65	0.37
Finishing/Landscaping 1	Skid Steer Loaders	2	6.00	65	0.37

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Main Building Construction and Modular Building Installation	Aerial Lifts	3	8.00	63	0.31
Main Building Construction and Modular Building Installation	Cranes	0	7.00	231	0.29
Main Building Construction and Modular Building Installation	Forklifts	3	8.00	89	0.20
Main Building Construction and Modular Building Installation	Generator Sets	0	8.00	84	0.74
Main Building Construction and Modular Building Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Main Building Construction and Modular Building Installation	Welders	0	8.00	46	0.45
Main Building Construction 2	Aerial Lifts	3	8.00	63	0.31
Main Building Construction 2	Cranes	0	7.00	231	0.29
Main Building Construction 2	Forklifts	3	8.00	89	0.20
Main Building Construction 2	Generator Sets	0	8.00	84	0.74
Main Building Construction 2	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Main Building Construction 2	Welders	0	8.00	46	0.45
Paving	Pavers	0	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Skid Steer Loaders	1	6.00	65	0.37
Paving	Sweepers/Scrubbers	1	6.00	64	0.46
Architectural Coating	Aerial Lifts	3	8.00	63	0.31
Architectural Coating	Air Compressors	0	6.00	78	0.48
Architectural Coating	Forklifts	1	8.00	89	0.20
Main Building Construction 1	Aerial Lifts	3	8.00	63	0.31

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation and Rough Grading	10	25.00	26.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping and Fine Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping 2	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Main Building Construction 1	6	216.00	84.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utility Trenching	4	10.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping 1	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Main Building Construction and Main Building Construction 2	6	216.00	84.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	4	43.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0393	0.0000	0.0393	0.0202	0.0000	0.0202	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.3400e-003	0.0662	0.0394	8.0000e-005		3.2300e-003	3.2300e-003		2.9700e-003	2.9700e-003	0.0000	6.6879	6.6879	2.1600e-003	0.0000	6.7420
Total	6.3400e-003	0.0662	0.0394	8.0000e-005	0.0393	3.2300e-003	0.0425	0.0202	2.9700e-003	0.0232	0.0000	6.6879	6.6879	2.1600e-003	0.0000	6.7420

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	1.7300e-003	6.0000e-004	1.0000e-005	2.4000e-004	2.0000e-005	2.6000e-004	7.0000e-005	2.0000e-005	9.0000e-005	0.0000	0.6879	0.6879	2.0000e-005	1.0000e-004	0.7187
Worker	1.1000e-004	8.0000e-005	9.9000e-004	0.0000	2.9000e-004	0.0000	2.9000e-004	8.0000e-005	0.0000	8.0000e-005	0.0000	0.2329	0.2329	1.0000e-005	1.0000e-005	0.2352
Total	1.7000e-004	1.8100e-003	1.5900e-003	1.0000e-005	5.3000e-004	2.0000e-005	5.5000e-004	1.5000e-004	2.0000e-005	1.7000e-004	0.0000	0.9207	0.9207	3.0000e-005	1.1000e-004	0.9539

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0168	0.0000	0.0168	8.6400e-003	0.0000	8.6400e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	6.3400e-003	0.0662	0.0394	8.0000e-005		3.2300e-003	3.2300e-003		2.9700e-003	2.9700e-003	0.0000	6.6879	6.6879	2.1600e-003	0.0000	6.7419
Total	6.3400e-003	0.0662	0.0394	8.0000e-005	0.0168	3.2300e-003	0.0200	8.6400e-003	2.9700e-003	0.0116	0.0000	6.6879	6.6879	2.1600e-003	0.0000	6.7419

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.0000e-005	1.7300e-003	6.0000e-004	1.0000e-005	2.2000e-004	2.0000e-005	2.4000e-004	7.0000e-005	2.0000e-005	8.0000e-005	0.0000	0.6879	0.6879	2.0000e-005	1.0000e-004	0.7187
Worker	1.1000e-004	8.0000e-005	9.9000e-004	0.0000	2.7000e-004	0.0000	2.7000e-004	7.0000e-005	0.0000	7.0000e-005	0.0000	0.2329	0.2329	1.0000e-005	1.0000e-005	0.2352
Total	1.7000e-004	1.8100e-003	1.5900e-003	1.0000e-005	4.9000e-004	2.0000e-005	5.1000e-004	1.4000e-004	2.0000e-005	1.5000e-004	0.0000	0.9207	0.9207	3.0000e-005	1.1000e-004	0.9539

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation and Rough Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1062	0.0000	0.1062	0.0514	0.0000	0.0514	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0222	0.2334	0.1471	3.1000e-004		0.0107	0.0107		9.8600e-003	9.8600e-003	0.0000	26.8407	26.8407	8.6600e-003	0.0000	27.0571
Total	0.0222	0.2334	0.1471	3.1000e-004	0.1062	0.0107	0.1170	0.0514	9.8600e-003	0.0612	0.0000	26.8407	26.8407	8.6600e-003	0.0000	27.0571

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3000e-004	6.2300e-003	2.1700e-003	3.0000e-005	8.7000e-004	7.0000e-005	9.4000e-004	2.5000e-004	7.0000e-005	3.2000e-004	0.0000	2.4839	2.4839	7.0000e-005	3.7000e-004	2.5952
Worker	3.9000e-004	2.9000e-004	3.4400e-003	1.0000e-005	1.0100e-003	1.0000e-005	1.0100e-003	2.7000e-004	1.0000e-005	2.7000e-004	0.0000	0.8085	0.8085	3.0000e-005	3.0000e-005	0.8167
Total	6.2000e-004	6.5200e-003	5.6100e-003	4.0000e-005	1.8800e-003	8.0000e-005	1.9500e-003	5.2000e-004	8.0000e-005	5.9000e-004	0.0000	3.2924	3.2924	1.0000e-004	4.0000e-004	3.4119

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0454	0.0000	0.0454	0.0220	0.0000	0.0220	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0222	0.2334	0.1471	3.1000e-004		0.0107	0.0107		9.8600e-003	9.8600e-003	0.0000	26.8407	26.8407	8.6600e-003	0.0000	27.0571
Total	0.0222	0.2334	0.1471	3.1000e-004	0.0454	0.0107	0.0561	0.0220	9.8600e-003	0.0318	0.0000	26.8407	26.8407	8.6600e-003	0.0000	27.0571

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3000e-004	6.2300e-003	2.1700e-003	3.0000e-005	8.1000e-004	7.0000e-005	8.8000e-004	2.4000e-004	7.0000e-005	3.1000e-004	0.0000	2.4839	2.4839	7.0000e-005	3.7000e-004	2.5952
Worker	3.9000e-004	2.9000e-004	3.4400e-003	1.0000e-005	9.3000e-004	1.0000e-005	9.3000e-004	2.5000e-004	1.0000e-005	2.5000e-004	0.0000	0.8085	0.8085	3.0000e-005	3.0000e-005	0.8167
Total	6.2000e-004	6.5200e-003	5.6100e-003	4.0000e-005	1.7400e-003	8.0000e-005	1.8100e-003	4.9000e-004	8.0000e-005	5.6000e-004	0.0000	3.2924	3.2924	1.0000e-004	4.0000e-004	3.4119

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Main Building Construction 1 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.5200e-003	0.0492	0.0736	1.1000e-004		2.2600e-003	2.2600e-003		2.0800e-003	2.0800e-003	0.0000	9.2717	9.2717	3.0000e-003	0.0000	9.3467
Total	4.5200e-003	0.0492	0.0736	1.1000e-004		2.2600e-003	2.2600e-003		2.0800e-003	2.0800e-003	0.0000	9.2717	9.2717	3.0000e-003	0.0000	9.3467

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0600e-003	0.0354	0.0140	1.7000e-004	6.1600e-003	2.6000e-004	6.4200e-003	1.7800e-003	2.5000e-004	2.0300e-003	0.0000	16.9448	16.9448	4.4000e-004	2.5000e-003	17.7018
Worker	6.9200e-003	4.8600e-003	0.0600	1.6000e-004	0.0192	1.0000e-004	0.0193	5.0900e-003	9.0000e-005	5.1800e-003	0.0000	14.8736	14.8736	4.7000e-004	4.4000e-004	15.0168
Total	7.9800e-003	0.0402	0.0740	3.3000e-004	0.0253	3.6000e-004	0.0257	6.8700e-003	3.4000e-004	7.2100e-003	0.0000	31.8184	31.8184	9.1000e-004	2.9400e-003	32.7186

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.5200e-003	0.0492	0.0736	1.1000e-004		2.2600e-003	2.2600e-003		2.0800e-003	2.0800e-003	0.0000	9.2717	9.2717	3.0000e-003	0.0000	9.3467
Total	4.5200e-003	0.0492	0.0736	1.1000e-004		2.2600e-003	2.2600e-003		2.0800e-003	2.0800e-003	0.0000	9.2717	9.2717	3.0000e-003	0.0000	9.3467

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.0600e-003	0.0354	0.0140	1.7000e-004	5.7700e-003	2.6000e-004	6.0300e-003	1.6800e-003	2.5000e-004	1.9300e-003	0.0000	16.9448	16.9448	4.4000e-004	2.5000e-003	17.7018
Worker	6.9200e-003	4.8600e-003	0.0600	1.6000e-004	0.0177	1.0000e-004	0.0178	4.7200e-003	9.0000e-005	4.8100e-003	0.0000	14.8736	14.8736	4.7000e-004	4.4000e-004	15.0168
Total	7.9800e-003	0.0402	0.0740	3.3000e-004	0.0234	3.6000e-004	0.0238	6.4000e-003	3.4000e-004	6.7400e-003	0.0000	31.8184	31.8184	9.1000e-004	2.9400e-003	32.7186

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Main Building Construction and Modular Building Installation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.9400e-003	0.0538	0.0805	1.2000e-004		2.4700e-003	2.4700e-003		2.2700e-003	2.2700e-003	0.0000	10.1454	10.1454	3.2800e-003	0.0000	10.2275
Total	4.9400e-003	0.0538	0.0805	1.2000e-004		2.4700e-003	2.4700e-003		2.2700e-003	2.2700e-003	0.0000	10.1454	10.1454	3.2800e-003	0.0000	10.2275

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1600e-003	0.0386	0.0153	1.9000e-004	6.7200e-003	2.8000e-004	7.0100e-003	1.9400e-003	2.7000e-004	2.2100e-003	0.0000	18.4853	18.4853	4.8000e-004	2.7300e-003	19.3111
Worker	7.5500e-003	5.3000e-003	0.0654	1.8000e-004	0.0209	1.1000e-004	0.0210	5.5500e-003	1.0000e-004	5.6500e-003	0.0000	16.2257	16.2257	5.1000e-004	4.8000e-004	16.3819
Total	8.7100e-003	0.0439	0.0807	3.7000e-004	0.0276	3.9000e-004	0.0280	7.4900e-003	3.7000e-004	7.8600e-003	0.0000	34.7110	34.7110	9.9000e-004	3.2100e-003	35.6930

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.9400e-003	0.0537	0.0805	1.2000e-004		2.4700e-003	2.4700e-003		2.2700e-003	2.2700e-003	0.0000	10.1454	10.1454	3.2800e-003	0.0000	10.2275
Total	4.9400e-003	0.0537	0.0805	1.2000e-004		2.4700e-003	2.4700e-003		2.2700e-003	2.2700e-003	0.0000	10.1454	10.1454	3.2800e-003	0.0000	10.2275

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1600e-003	0.0386	0.0153	1.9000e-004	6.3000e-003	2.8000e-004	6.5800e-003	1.8400e-003	2.7000e-004	2.1000e-003	0.0000	18.4853	18.4853	4.8000e-004	2.7300e-003	19.3111
Worker	7.5500e-003	5.3000e-003	0.0654	1.8000e-004	0.0193	1.1000e-004	0.0194	5.1500e-003	1.0000e-004	5.2500e-003	0.0000	16.2257	16.2257	5.1000e-004	4.8000e-004	16.3819
Total	8.7100e-003	0.0439	0.0807	3.7000e-004	0.0256	3.9000e-004	0.0260	6.9900e-003	3.7000e-004	7.3500e-003	0.0000	34.7110	34.7110	9.9000e-004	3.2100e-003	35.6930

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.6 Main Building Construction 2 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0288	0.3135	0.4697	6.7000e-004		0.0144	0.0144		0.0132	0.0132	0.0000	59.1817	59.1817	0.0191	0.0000	59.6602
Total	0.0288	0.3135	0.4697	6.7000e-004		0.0144	0.0144		0.0132	0.0132	0.0000	59.1817	59.1817	0.0191	0.0000	59.6602

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.7600e-003	0.2251	0.0892	1.1100e-003	0.0392	1.6400e-003	0.0409	0.0113	1.5700e-003	0.0129	0.0000	107.8308	107.8308	2.8100e-003	0.0159	112.6478
Worker	0.0440	0.0309	0.3816	1.0300e-003	0.1218	6.3000e-004	0.1225	0.0324	5.8000e-004	0.0330	0.0000	94.6499	94.6499	2.9800e-003	2.8100e-003	95.5612
Total	0.0508	0.2560	0.4707	2.1400e-003	0.1611	2.2700e-003	0.1633	0.0437	2.1500e-003	0.0458	0.0000	202.4807	202.4807	5.7900e-003	0.0187	208.2090

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0288	0.3135	0.4697	6.7000e-004		0.0144	0.0144		0.0132	0.0132	0.0000	59.1816	59.1816	0.0191	0.0000	59.6601
Total	0.0288	0.3135	0.4697	6.7000e-004		0.0144	0.0144		0.0132	0.0132	0.0000	59.1816	59.1816	0.0191	0.0000	59.6601

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	6.7600e-003	0.2251	0.0892	1.1100e-003	0.0367	1.6400e-003	0.0384	0.0107	1.5700e-003	0.0123	0.0000	107.8308	107.8308	2.8100e-003	0.0159	112.6478
Worker	0.0440	0.0309	0.3816	1.0300e-003	0.1123	6.3000e-004	0.1130	0.0300	5.8000e-004	0.0306	0.0000	94.6499	94.6499	2.9800e-003	2.8100e-003	95.5612
Total	0.0508	0.2560	0.4707	2.1400e-003	0.1491	2.2700e-003	0.1513	0.0407	2.1500e-003	0.0429	0.0000	202.4807	202.4807	5.7900e-003	0.0187	208.2090

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.7 Utility Trenching - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0114	0.0995	0.1916	3.0000e-004		4.5000e-003	4.5000e-003		4.1600e-003	4.1600e-003	0.0000	26.4726	26.4726	8.4000e-003	0.0000	26.6826
Total	0.0114	0.0995	0.1916	3.0000e-004		4.5000e-003	4.5000e-003		4.1600e-003	4.1600e-003	0.0000	26.4726	26.4726	8.4000e-003	0.0000	26.6826

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.0000e-005	2.4100e-003	9.6000e-004	1.0000e-005	4.2000e-004	2.0000e-005	4.4000e-004	1.2000e-004	2.0000e-005	1.4000e-004	0.0000	1.1553	1.1553	3.0000e-005	1.7000e-004	1.2069
Worker	9.2000e-004	6.4000e-004	7.9500e-003	2.0000e-005	2.5400e-003	1.0000e-005	2.5500e-003	6.7000e-004	1.0000e-005	6.9000e-004	0.0000	1.9719	1.9719	6.0000e-005	6.0000e-005	1.9909
Total	9.9000e-004	3.0500e-003	8.9100e-003	3.0000e-005	2.9600e-003	3.0000e-005	2.9900e-003	7.9000e-004	3.0000e-005	8.3000e-004	0.0000	3.1272	3.1272	9.0000e-005	2.3000e-004	3.1978

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0114	0.0995	0.1916	3.0000e-004		4.5000e-003	4.5000e-003		4.1600e-003	4.1600e-003	0.0000	26.4726	26.4726	8.4000e-003	0.0000	26.6826
Total	0.0114	0.0995	0.1916	3.0000e-004		4.5000e-003	4.5000e-003		4.1600e-003	4.1600e-003	0.0000	26.4726	26.4726	8.4000e-003	0.0000	26.6826

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.0000e-005	2.4100e-003	9.6000e-004	1.0000e-005	3.9000e-004	2.0000e-005	4.1000e-004	1.1000e-004	2.0000e-005	1.3000e-004	0.0000	1.1553	1.1553	3.0000e-005	1.7000e-004	1.2069
Worker	9.2000e-004	6.4000e-004	7.9500e-003	2.0000e-005	2.3400e-003	1.0000e-005	2.3500e-003	6.3000e-004	1.0000e-005	6.4000e-004	0.0000	1.9719	1.9719	6.0000e-005	6.0000e-005	1.9909
Total	9.9000e-004	3.0500e-003	8.9100e-003	3.0000e-005	2.7300e-003	3.0000e-005	2.7600e-003	7.4000e-004	3.0000e-005	7.7000e-004	0.0000	3.1272	3.1272	9.0000e-005	2.3000e-004	3.1978

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.8 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.7131					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0200e-003	0.0499	0.0862	1.3000e-004		1.7000e-003	1.7000e-003		1.5600e-003	1.5600e-003	0.0000	11.2490	11.2490	3.6400e-003	0.0000	11.3399
Total	0.7171	0.0499	0.0862	1.3000e-004		1.7000e-003	1.7000e-003		1.5600e-003	1.5600e-003	0.0000	11.2490	11.2490	3.6400e-003	0.0000	11.3399

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4400e-003	1.7200e-003	0.0212	6.0000e-005	6.7600e-003	3.0000e-005	6.7900e-003	1.7900e-003	3.0000e-005	1.8300e-003	0.0000	5.2489	5.2489	1.7000e-004	1.6000e-004	5.2995
Total	2.4400e-003	1.7200e-003	0.0212	6.0000e-005	6.7600e-003	3.0000e-005	6.7900e-003	1.7900e-003	3.0000e-005	1.8300e-003	0.0000	5.2489	5.2489	1.7000e-004	1.6000e-004	5.2995

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.7131					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.0200e-003	0.0499	0.0862	1.3000e-004		1.7000e-003	1.7000e-003		1.5600e-003	1.5600e-003	0.0000	11.2490	11.2490	3.6400e-003	0.0000	11.3399
Total	0.7171	0.0499	0.0862	1.3000e-004		1.7000e-003	1.7000e-003		1.5600e-003	1.5600e-003	0.0000	11.2490	11.2490	3.6400e-003	0.0000	11.3399

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.4400e-003	1.7200e-003	0.0212	6.0000e-005	6.2300e-003	3.0000e-005	6.2600e-003	1.6700e-003	3.0000e-005	1.7000e-003	0.0000	5.2489	5.2489	1.7000e-004	1.6000e-004	5.2995
Total	2.4400e-003	1.7200e-003	0.0212	6.0000e-005	6.2300e-003	3.0000e-005	6.2600e-003	1.6700e-003	3.0000e-005	1.7000e-003	0.0000	5.2489	5.2489	1.7000e-004	1.6000e-004	5.2995

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.9 Finishing/Landscaping 1 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0500e-003	0.0272	0.0436	7.0000e-005		9.2000e-004	9.2000e-004		8.5000e-004	8.5000e-004	0.0000	5.7292	5.7292	1.8500e-003	0.0000	5.7755
Total	2.0500e-003	0.0272	0.0436	7.0000e-005		9.2000e-004	9.2000e-004		8.5000e-004	8.5000e-004	0.0000	5.7292	5.7292	1.8500e-003	0.0000	5.7755

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1000e-004	2.1000e-004	2.6500e-003	1.0000e-005	8.5000e-004	0.0000	8.5000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6573	0.6573	2.0000e-005	2.0000e-005	0.6636
Total	3.1000e-004	2.1000e-004	2.6500e-003	1.0000e-005	8.5000e-004	0.0000	8.5000e-004	2.2000e-004	0.0000	2.3000e-004	0.0000	0.6573	0.6573	2.0000e-005	2.0000e-005	0.6636

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.0500e-003	0.0272	0.0436	7.0000e-005		9.2000e-004	9.2000e-004		8.5000e-004	8.5000e-004	0.0000	5.7292	5.7292	1.8500e-003	0.0000	5.7755
Total	2.0500e-003	0.0272	0.0436	7.0000e-005		9.2000e-004	9.2000e-004		8.5000e-004	8.5000e-004	0.0000	5.7292	5.7292	1.8500e-003	0.0000	5.7755

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.1000e-004	2.1000e-004	2.6500e-003	1.0000e-005	7.8000e-004	0.0000	7.8000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6573	0.6573	2.0000e-005	2.0000e-005	0.6636
Total	3.1000e-004	2.1000e-004	2.6500e-003	1.0000e-005	7.8000e-004	0.0000	7.8000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6573	0.6573	2.0000e-005	2.0000e-005	0.6636

3.10 Finishing/Landscaping and Fine Grading - 2023

Unmitigated Construction On-Site

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6200e-003	0.0180	0.0271	4.0000e-005		7.9000e-004	7.9000e-004		7.2000e-004	7.2000e-004	0.0000	3.4160	3.4160	1.1000e-003	0.0000	3.4436
Total	1.6200e-003	0.0180	0.0271	4.0000e-005	0.0000	7.9000e-004	7.9000e-004	0.0000	7.2000e-004	7.2000e-004	0.0000	3.4160	3.4160	1.1000e-003	0.0000	3.4436

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	1.0000e-004	1.2600e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3130	0.3130	1.0000e-005	1.0000e-005	0.3160
Total	1.5000e-004	1.0000e-004	1.2600e-003	0.0000	4.0000e-004	0.0000	4.0000e-004	1.1000e-004	0.0000	1.1000e-004	0.0000	0.3130	0.3130	1.0000e-005	1.0000e-005	0.3160

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.6200e-003	0.0180	0.0271	4.0000e-005		7.9000e-004	7.9000e-004		7.2000e-004	7.2000e-004	0.0000	3.4160	3.4160	1.1000e-003	0.0000	3.4436
Total	1.6200e-003	0.0180	0.0271	4.0000e-005	0.0000	7.9000e-004	7.9000e-004	0.0000	7.2000e-004	7.2000e-004	0.0000	3.4160	3.4160	1.1000e-003	0.0000	3.4436

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.5000e-004	1.0000e-004	1.2600e-003	0.0000	3.7000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3130	0.3130	1.0000e-005	1.0000e-005	0.3160
Total	1.5000e-004	1.0000e-004	1.2600e-003	0.0000	3.7000e-004	0.0000	3.7000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.3130	0.3130	1.0000e-005	1.0000e-005	0.3160

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.11 Finishing/Landscaping 2 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9000e-003	0.0253	0.0405	6.0000e-005		8.6000e-004	8.6000e-004		7.9000e-004	7.9000e-004	0.0000	5.3199	5.3199	1.7200e-003	0.0000	5.3630
Total	1.9000e-003	0.0253	0.0405	6.0000e-005		8.6000e-004	8.6000e-004		7.9000e-004	7.9000e-004	0.0000	5.3199	5.3199	1.7200e-003	0.0000	5.3630

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.0000e-004	2.4600e-003	1.0000e-005	7.9000e-004	0.0000	7.9000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6103	0.6103	2.0000e-005	2.0000e-005	0.6162
Total	2.8000e-004	2.0000e-004	2.4600e-003	1.0000e-005	7.9000e-004	0.0000	7.9000e-004	2.1000e-004	0.0000	2.1000e-004	0.0000	0.6103	0.6103	2.0000e-005	2.0000e-005	0.6162

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	1.9000e-003	0.0253	0.0405	6.0000e-005		8.6000e-004	8.6000e-004		7.9000e-004	7.9000e-004	0.0000	5.3199	5.3199	1.7200e-003	0.0000	5.3629
Total	1.9000e-003	0.0253	0.0405	6.0000e-005		8.6000e-004	8.6000e-004		7.9000e-004	7.9000e-004	0.0000	5.3199	5.3199	1.7200e-003	0.0000	5.3629

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.8000e-004	2.0000e-004	2.4600e-003	1.0000e-005	7.2000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6103	0.6103	2.0000e-005	2.0000e-005	0.6162
Total	2.8000e-004	2.0000e-004	2.4600e-003	1.0000e-005	7.2000e-004	0.0000	7.3000e-004	1.9000e-004	0.0000	2.0000e-004	0.0000	0.6103	0.6103	2.0000e-005	2.0000e-005	0.6162

3.12 Paving - 2023

Unmitigated Construction On-Site

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0102	0.1019	0.1400	2.1000e-004		5.3000e-003	5.3000e-003		4.8700e-003	4.8700e-003	0.0000	18.4329	18.4329	5.9600e-003	0.0000	18.5819
Paving	1.5100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0117	0.1019	0.1400	2.1000e-004		5.3000e-003	5.3000e-003		4.8700e-003	4.8700e-003	0.0000	18.4329	18.4329	5.9600e-003	0.0000	18.5819

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9000e-004	4.1000e-004	5.1100e-003	1.0000e-005	1.6300e-003	1.0000e-005	1.6400e-003	4.3000e-004	1.0000e-005	4.4000e-004	0.0000	1.2676	1.2676	4.0000e-005	4.0000e-005	1.2798
Total	5.9000e-004	4.1000e-004	5.1100e-003	1.0000e-005	1.6300e-003	1.0000e-005	1.6400e-003	4.3000e-004	1.0000e-005	4.4000e-004	0.0000	1.2676	1.2676	4.0000e-005	4.0000e-005	1.2798

Mitigated Construction On-Site

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0102	0.1019	0.1400	2.1000e-004		5.3000e-003	5.3000e-003		4.8700e-003	4.8700e-003	0.0000	18.4328	18.4328	5.9600e-003	0.0000	18.5819
Paving	1.5100e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0117	0.1019	0.1400	2.1000e-004		5.3000e-003	5.3000e-003		4.8700e-003	4.8700e-003	0.0000	18.4328	18.4328	5.9600e-003	0.0000	18.5819

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.9000e-004	4.1000e-004	5.1100e-003	1.0000e-005	1.5000e-003	1.0000e-005	1.5100e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.2676	1.2676	4.0000e-005	4.0000e-005	1.2798
Total	5.9000e-004	4.1000e-004	5.1100e-003	1.0000e-005	1.5000e-003	1.0000e-005	1.5100e-003	4.0000e-004	1.0000e-005	4.1000e-004	0.0000	1.2676	1.2676	4.0000e-005	4.0000e-005	1.2798

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Pathways to College K-8 School Project, Construction
San Bernardino-Mojave Desert County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	700.00	Student	1.38	60,180.00	0
Other Asphalt Surfaces	4.70	1000sqft	0.11	4,700.00	0
Other Non-Asphalt Surfaces	403.28	1000sqft	9.26	403,284.00	0
Parking Lot	45.41	1000sqft	1.04	45,408.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	509.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on 2020 Sustainability report

Land Use - Based on information provided by District, see assumptions file

Construction Phase - Based on District info., see assumptions file

Off-road Equipment - See assumptions file

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-road Equipment - See assumptions file

Trips and VMT - See assumptions file

Grading -

Architectural Coating - See assumptions file

Construction Off-road Equipment Mitigation - MDAQMD Rule 403 and 1186

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	27,204.00	2,724.00
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	39.00
tblConstructionPhase	NumDays	300.00	22.00
tblConstructionPhase	NumDays	300.00	24.00
tblConstructionPhase	NumDays	300.00	140.00
tblConstructionPhase	NumDays	30.00	10.00
tblConstructionPhase	NumDays	30.00	10.00
tblConstructionPhase	NumDays	20.00	27.00
tblConstructionPhase	NumDays	10.00	4.00
tblLandUse	LandUseSquareFeet	58,522.36	60,180.00
tblLandUse	LandUseSquareFeet	403,280.00	403,284.00
tblLandUse	LandUseSquareFeet	45,410.00	45,408.00
tblLandUse	LotAcreage	1.34	1.38
tblOffRoadEquipment	LoadFactor	0.20	0.20

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tbiOffRoadEquipment	LoadFactor	0.31	0.31
tbiOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	UsageHours	8.00	6.00
tbiOffRoadEquipment	UsageHours	8.00	6.00

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	UsageHours	8.00	6.00
tblProjectCharacteristics	CO2IntensityFactor	390.98	509.98
tblTripsAndVMT	VendorTripNumber	0.00	18.00
tblTripsAndVMT	VendorTripNumber	0.00	26.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	4.5658	47.9249	30.6320	0.0682	21.6293	2.1590	23.7883	10.3794	1.9874	12.3668	0.0000	6,657.6097	6,657.6097	1.9287	0.0862	6,731.5105
2023	38.6603	16.8188	28.4715	0.0654	2.8336	0.6750	3.3483	0.7648	0.6218	1.3000	0.0000	6,577.1585	6,577.1585	1.0010	0.3091	6,694.2846
Maximum	38.6603	47.9249	30.6320	0.0682	21.6293	2.1590	23.7883	10.3794	1.9874	12.3668	0.0000	6,657.6097	6,657.6097	1.9287	0.3091	6,731.5105

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	4.5658	47.9249	30.6320	0.0682	9.4376	2.1590	11.5966	4.4907	1.9874	6.4781	0.0000	6,657.6097	6,657.6097	1.9287	0.0862	6,731.5105
2023	38.6603	16.8188	28.4715	0.0654	2.6202	0.6750	3.1349	0.7124	0.6218	1.2538	0.0000	6,577.1585	6,577.1585	1.0010	0.3091	6,694.2846
Maximum	38.6603	47.9249	30.6320	0.0682	9.4376	2.1590	11.5966	4.4907	1.9874	6.4781	0.0000	6,657.6097	6,657.6097	1.9287	0.3091	6,731.5105

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	50.71	0.00	45.71	53.31	0.00	43.43	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	12/5/2022	12/8/2022	5	4	a
2	Site Preparation and Rough Grading	Grading	12/9/2022	12/22/2022	5	10	b
3	Main Building Construction 1	Building Construction	1/4/2023	2/2/2023	5	22	c
4	Main Building Construction and Modular Building Installation	Building Construction	2/3/2023	3/8/2023	5	24	d
5	Main Building Construction 2	Building Construction	3/9/2023	9/20/2023	5	140	e
6	Utility Trenching	Trenching	3/13/2023	6/7/2023	5	63	f
7	Architectural Coating	Architectural Coating	3/16/2023	5/9/2023	5	39	g
8	Finishing/Landscaping 1	Trenching	4/10/2023	6/6/2023	5	42	h
9	Finishing/Landscaping and Fine Grading	Grading	6/7/2023	6/20/2023	5	10	i
10	Finishing/Landscaping 2	Trenching	6/21/2023	8/14/2023	5	39	j
11	Paving	Paving	7/18/2023	8/23/2023	5	27	k

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Acres of Grading (Site Preparation Phase): 6

Acres of Grading (Grading Phase): 30

Acres of Paving: 10.41

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 90,270; Non-Residential Outdoor: 30,090; Striped Parking Area: 2,724

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation and Rough Grading	Excavators	0	8.00	158	0.38
Site Preparation and Rough Grading	Graders	0	8.00	187	0.41
Site Preparation and Rough Grading	Plate Compactors	1	6.00	8	0.43
Site Preparation and Rough Grading	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation and Rough Grading	Scrapers	2	6.00	367	0.48
Site Preparation and Rough Grading	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Finishing/Landscaping and Fine Grading	Excavators	0	8.00	158	0.38
Finishing/Landscaping and Fine Grading	Graders	0	8.00	187	0.41
Finishing/Landscaping and Fine Grading	Rubber Tired Dozers	0	8.00	247	0.40
Finishing/Landscaping and Fine Grading	Scrapers	0	8.00	367	0.48
Finishing/Landscaping and Fine Grading	Skid Steer Loaders	2	6.00	65	0.37
Finishing/Landscaping and Fine Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Finishing/Landscaping 2	Skid Steer Loaders	2	6.00	65	0.37
Main Building Construction 1	Cranes	0	7.00	231	0.29
Main Building Construction 1	Forklifts	3	8.00	89	0.20
Main Building Construction 1	Forklifts	0	8.00	89	0.20
Main Building Construction 1	Generator Sets	0	8.00	84	0.74

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Main Building Construction 1	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Main Building Construction 1	Welders	0	8.00	46	0.45
Utility Trenching	Excavators	2	6.00	158	0.38
Utility Trenching	Plate Compactors	1	6.00	8	0.43
Utility Trenching	Skid Steer Loaders	1	6.00	65	0.37
Finishing/Landscaping 1	Skid Steer Loaders	2	6.00	65	0.37
Main Building Construction and Modular Building Installation	Aerial Lifts	3	8.00	63	0.31
Main Building Construction and Modular Building Installation	Cranes	0	7.00	231	0.29
Main Building Construction and Modular Building Installation	Forklifts	3	8.00	89	0.20
Main Building Construction and Modular Building Installation	Generator Sets	0	8.00	84	0.74
Main Building Construction and Modular Building Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Main Building Construction and Modular Building Installation	Welders	0	8.00	46	0.45
Main Building Construction 2	Aerial Lifts	3	8.00	63	0.31
Main Building Construction 2	Cranes	0	7.00	231	0.29
Main Building Construction 2	Forklifts	3	8.00	89	0.20
Main Building Construction 2	Generator Sets	0	8.00	84	0.74
Main Building Construction 2	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Main Building Construction 2	Welders	0	8.00	46	0.45
Paving	Pavers	0	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Skid Steer Loaders	1	6.00	65	0.37
Paving	Sweepers/Scrubbers	1	6.00	64	0.46
Architectural Coating	Aerial Lifts	3	8.00	63	0.31
Architectural Coating	Air Compressors	0	6.00	78	0.48
Architectural Coating	Forklifts	1	8.00	89	0.20
Main Building Construction 1	Aerial Lifts	3	8.00	63	0.31

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation and Rough Grading	10	25.00	26.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping and Fine Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping 2	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Main Building Construction 1	6	216.00	84.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utility Trenching	4	10.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping 1	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Main Building Construction and Main Building Construction 2	6	216.00	84.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	4	43.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836		3,686.0619	3,686.0619	1.1922		3,715.8655
Total	3.1701	33.0835	19.6978	0.0380	19.6570	1.6126	21.2696	10.1025	1.4836	11.5860		3,686.0619	3,686.0619	1.1922		3,715.8655

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0324	0.8204	0.2953	3.5300e-003	0.1220	9.9100e-003	0.1319	0.0351	9.4800e-003	0.0446		378.9483	378.9483	0.0102	0.0561	395.9091
Worker	0.0648	0.0379	0.5660	1.3700e-003	0.1479	8.0000e-004	0.1487	0.0392	7.4000e-004	0.0400		138.8720	138.8720	4.2000e-003	3.7500e-003	140.0952
Total	0.0972	0.8583	0.8613	4.9000e-003	0.2699	0.0107	0.2806	0.0743	0.0102	0.0846		517.8203	517.8203	0.0144	0.0598	536.0043

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.4034	0.0000	8.4034	4.3188	0.0000	4.3188			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655
Total	3.1701	33.0835	19.6978	0.0380	8.4034	1.6126	10.0159	4.3188	1.4836	5.8024	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0324	0.8204	0.2953	3.5300e-003	0.1142	9.9100e-003	0.1241	0.0332	9.4800e-003	0.0427		378.9483	378.9483	0.0102	0.0561	395.9091
Worker	0.0648	0.0379	0.5660	1.3700e-003	0.1363	8.0000e-004	0.1371	0.0364	7.4000e-004	0.0371		138.8720	138.8720	4.2000e-003	3.7500e-003	140.0952
Total	0.0972	0.8583	0.8613	4.9000e-003	0.2505	0.0107	0.2612	0.0696	0.0102	0.0798		517.8203	517.8203	0.0144	0.0598	536.0043

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation and Rough Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					21.2478	0.0000	21.2478	10.2742	0.0000	10.2742			0.0000			0.0000
Off-Road	4.4291	46.6872	29.4193	0.0612		2.1436	2.1436		1.9727	1.9727		5,917.3623	5,917.3623	1.9081		5,965.0652
Total	4.4291	46.6872	29.4193	0.0612	21.2478	2.1436	23.3914	10.2742	1.9727	12.2469		5,917.3623	5,917.3623	1.9081		5,965.0652

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0468	1.1850	0.4266	5.1100e-003	0.1762	0.0143	0.1905	0.0507	0.0137	0.0644		547.3698	547.3698	0.0148	0.0810	571.8687
Worker	0.0900	0.0527	0.7862	1.9100e-003	0.2054	1.1100e-003	0.2065	0.0545	1.0200e-003	0.0555		192.8777	192.8777	5.8300e-003	5.2100e-003	194.5766
Total	0.1368	1.2376	1.2127	7.0200e-003	0.3816	0.0154	0.3970	0.1052	0.0147	0.1199		740.2475	740.2475	0.0206	0.0862	766.4454

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.0834	0.0000	9.0834	4.3922	0.0000	4.3922			0.0000			0.0000
Off-Road	4.4291	46.6872	29.4193	0.0612		2.1436	2.1436		1.9727	1.9727	0.0000	5,917.3623	5,917.3623	1.9081		5,965.0652
Total	4.4291	46.6872	29.4193	0.0612	9.0834	2.1436	11.2270	4.3922	1.9727	6.3649	0.0000	5,917.3623	5,917.3623	1.9081		5,965.0652

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0468	1.1850	0.4266	5.1100e-003	0.1649	0.0143	0.1792	0.0480	0.0137	0.0617		547.3698	547.3698	0.0148	0.0810	571.8687
Worker	0.0900	0.0527	0.7862	1.9100e-003	0.1893	1.1100e-003	0.1904	0.0505	1.0200e-003	0.0516		192.8777	192.8777	5.8300e-003	5.2100e-003	194.5766
Total	0.1368	1.2376	1.2127	7.0200e-003	0.3542	0.0154	0.3696	0.0985	0.0147	0.1132		740.2475	740.2475	0.0206	0.0862	766.4454

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Main Building Construction 1 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4109	4.4695	6.6914	9.6000e-003		0.2054	0.2054		0.1890	0.1890		929.1193	929.1193	0.3005		936.6317
Total	0.4109	4.4695	6.6914	9.6000e-003		0.2054	0.2054		0.1890	0.1890		929.1193	929.1193	0.3005		936.6317

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1002	3.0554	1.2555	0.0158	0.5692	0.0234	0.5926	0.1639	0.0224	0.1863		1,696.3984	1,696.3984	0.0443	0.2504	1,772.1287
Worker	0.7175	0.4016	6.2224	0.0160	1.7744	9.0100e-003	1.7834	0.4707	8.2900e-003	0.4789		1,612.4441	1,612.4441	0.0452	0.0415	1,625.9529
Total	0.8177	3.4569	7.4780	0.0318	2.3436	0.0324	2.3760	0.6346	0.0307	0.6652		3,308.8425	3,308.8425	0.0895	0.2920	3,398.0815

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4109	4.4695	6.6914	9.6000e-003		0.2054	0.2054		0.1890	0.1890	0.0000	929.1193	929.1193	0.3005		936.6317
Total	0.4109	4.4695	6.6914	9.6000e-003		0.2054	0.2054		0.1890	0.1890	0.0000	929.1193	929.1193	0.3005		936.6317

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1002	3.0554	1.2555	0.0158	0.5328	0.0234	0.5562	0.1549	0.0224	0.1773		1,696.3984	1,696.3984	0.0443	0.2504	1,772.1287
Worker	0.7175	0.4016	6.2224	0.0160	1.6356	9.0100e-003	1.6446	0.4366	8.2900e-003	0.4449		1,612.4441	1,612.4441	0.0452	0.0415	1,625.9529
Total	0.8177	3.4569	7.4780	0.0318	2.1684	0.0324	2.2008	0.5915	0.0307	0.6222		3,308.8425	3,308.8425	0.0895	0.2920	3,398.0815

3.5 Main Building Construction and Modular Building Installation - 2023

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4115	4.4788	6.7104	9.6300e-003		0.2055	0.2055		0.1891	0.1891		931.9520	931.9520	0.3014		939.4873
Total	0.4115	4.4788	6.7104	9.6300e-003		0.2055	0.2055		0.1891	0.1891		931.9520	931.9520	0.3014		939.4873

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1002	3.0554	1.2555	0.0158	0.5692	0.0234	0.5926	0.1639	0.0224	0.1863		1,696.3984	1,696.3984	0.0443	0.2504	1,772.1287
Worker	0.7175	0.4016	6.2224	0.0160	1.7744	9.0100e-003	1.7834	0.4707	8.2900e-003	0.4789		1,612.4441	1,612.4441	0.0452	0.0415	1,625.9529
Total	0.8177	3.4569	7.4780	0.0318	2.3436	0.0324	2.3760	0.6346	0.0307	0.6652		3,308.8425	3,308.8425	0.0895	0.2920	3,398.0815

Mitigated Construction On-Site

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4115	4.4788	6.7104	9.6300e-003		0.2055	0.2055		0.1891	0.1891	0.0000	931.9520	931.9520	0.3014		939.4873
Total	0.4115	4.4788	6.7104	9.6300e-003		0.2055	0.2055		0.1891	0.1891	0.0000	931.9520	931.9520	0.3014		939.4873

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1002	3.0554	1.2555	0.0158	0.5328	0.0234	0.5562	0.1549	0.0224	0.1773		1,696.3984	1,696.3984	0.0443	0.2504	1,772.1287
Worker	0.7175	0.4016	6.2224	0.0160	1.6356	9.0100e-003	1.6446	0.4366	8.2900e-003	0.4449		1,612.4441	1,612.4441	0.0452	0.0415	1,625.9529
Total	0.8177	3.4569	7.4780	0.0318	2.1684	0.0324	2.2008	0.5915	0.0307	0.6222		3,308.8425	3,308.8425	0.0895	0.2920	3,398.0815

3.6 Main Building Construction 2 - 2023

Unmitigated Construction On-Site

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4115	4.4788	6.7104	9.6300e-003		0.2055	0.2055		0.1891	0.1891		931.9520	931.9520	0.3014		939.4873
Total	0.4115	4.4788	6.7104	9.6300e-003		0.2055	0.2055		0.1891	0.1891		931.9520	931.9520	0.3014		939.4873

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1002	3.0554	1.2555	0.0158	0.5692	0.0234	0.5926	0.1639	0.0224	0.1863		1,696.3984	1,696.3984	0.0443	0.2504	1,772.1287
Worker	0.7175	0.4016	6.2224	0.0160	1.7744	9.0100e-003	1.7834	0.4707	8.2900e-003	0.4789		1,612.4441	1,612.4441	0.0452	0.0415	1,625.9529
Total	0.8177	3.4569	7.4780	0.0318	2.3436	0.0324	2.3760	0.6346	0.0307	0.6652		3,308.8425	3,308.8425	0.0895	0.2920	3,398.0815

Mitigated Construction On-Site

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4115	4.4788	6.7104	9.6300e-003		0.2055	0.2055		0.1891	0.1891	0.0000	931.9520	931.9520	0.3014		939.4873
Total	0.4115	4.4788	6.7104	9.6300e-003		0.2055	0.2055		0.1891	0.1891	0.0000	931.9520	931.9520	0.3014		939.4873

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.1002	3.0554	1.2555	0.0158	0.5328	0.0234	0.5562	0.1549	0.0224	0.1773		1,696.3984	1,696.3984	0.0443	0.2504	1,772.1287
Worker	0.7175	0.4016	6.2224	0.0160	1.6356	9.0100e-003	1.6446	0.4366	8.2900e-003	0.4449		1,612.4441	1,612.4441	0.0452	0.0415	1,625.9529
Total	0.8177	3.4569	7.4780	0.0318	2.1684	0.0324	2.2008	0.5915	0.0307	0.6222		3,308.8425	3,308.8425	0.0895	0.2920	3,398.0815

3.7 Utility Trenching - 2023

Unmitigated Construction On-Site

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3619	3.1599	6.0835	9.6700e-003		0.1430	0.1430		0.1321	0.1321		926.3827	926.3827	0.2939		933.7310
Total	0.3619	3.1599	6.0835	9.6700e-003		0.1430	0.1430		0.1321	0.1321		926.3827	926.3827	0.2939		933.7310

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3900e-003	0.0728	0.0299	3.8000e-004	0.0136	5.6000e-004	0.0141	3.9000e-003	5.3000e-004	4.4400e-003		40.3904	40.3904	1.0500e-003	5.9600e-003	42.1935
Worker	0.0332	0.0186	0.2881	7.4000e-004	0.0822	4.2000e-004	0.0826	0.0218	3.8000e-004	0.0222		74.6502	74.6502	2.0900e-003	1.9200e-003	75.2756
Total	0.0356	0.0913	0.3180	1.1200e-003	0.0957	9.8000e-004	0.0967	0.0257	9.1000e-004	0.0266		115.0406	115.0406	3.1400e-003	7.8800e-003	117.4691

Mitigated Construction On-Site

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3619	3.1599	6.0835	9.6700e-003		0.1430	0.1430		0.1321	0.1321	0.0000	926.3827	926.3827	0.2939		933.7310
Total	0.3619	3.1599	6.0835	9.6700e-003		0.1430	0.1430		0.1321	0.1321	0.0000	926.3827	926.3827	0.2939		933.7310

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.3900e-003	0.0728	0.0299	3.8000e-004	0.0127	5.6000e-004	0.0132	3.6900e-003	5.3000e-004	4.2200e-003		40.3904	40.3904	1.0500e-003	5.9600e-003	42.1935
Worker	0.0332	0.0186	0.2881	7.4000e-004	0.0757	4.2000e-004	0.0761	0.0202	3.8000e-004	0.0206		74.6502	74.6502	2.0900e-003	1.9200e-003	75.2756
Total	0.0356	0.0913	0.3180	1.1200e-003	0.0884	9.8000e-004	0.0894	0.0239	9.1000e-004	0.0248		115.0406	115.0406	3.1400e-003	7.8800e-003	117.4691

3.8 Architectural Coating - 2023

Unmitigated Construction On-Site

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	36.5702					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2064	2.5594	4.4208	6.5700e-003		0.0869	0.0869		0.0800	0.0800		635.8904	635.8904	0.2057		641.0319
Total	36.7765	2.5594	4.4208	6.5700e-003		0.0869	0.0869		0.0800	0.0800		635.8904	635.8904	0.2057		641.0319

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1428	0.0799	1.2387	3.1800e-003	0.3532	1.7900e-003	0.3550	0.0937	1.6500e-003	0.0954		320.9958	320.9958	9.0000e-003	8.2700e-003	323.6851
Total	0.1428	0.0799	1.2387	3.1800e-003	0.3532	1.7900e-003	0.3550	0.0937	1.6500e-003	0.0954		320.9958	320.9958	9.0000e-003	8.2700e-003	323.6851

Mitigated Construction On-Site

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	36.5702					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2064	2.5594	4.4208	6.5700e-003		0.0869	0.0869		0.0800	0.0800	0.0000	635.8904	635.8904	0.2057		641.0319
Total	36.7765	2.5594	4.4208	6.5700e-003		0.0869	0.0869		0.0800	0.0800	0.0000	635.8904	635.8904	0.2057		641.0319

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1428	0.0799	1.2387	3.1800e-003	0.3256	1.7900e-003	0.3274	0.0869	1.6500e-003	0.0886		320.9958	320.9958	9.0000e-003	8.2700e-003	323.6851
Total	0.1428	0.0799	1.2387	3.1800e-003	0.3256	1.7900e-003	0.3274	0.0869	1.6500e-003	0.0886		320.9958	320.9958	9.0000e-003	8.2700e-003	323.6851

3.9 Finishing/Landscaping 1 - 2023

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0976	1.2970	2.0781	3.1100e-003		0.0439	0.0439		0.0404	0.0404		300.7293	300.7293	0.0973		303.1609
Total	0.0976	1.2970	2.0781	3.1100e-003		0.0439	0.0439		0.0404	0.0404		300.7293	300.7293	0.0973		303.1609

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0166	9.3000e-003	0.1440	3.7000e-004	0.0411	2.1000e-004	0.0413	0.0109	1.9000e-004	0.0111		37.3251	37.3251	1.0500e-003	9.6000e-004	37.6378
Total	0.0166	9.3000e-003	0.1440	3.7000e-004	0.0411	2.1000e-004	0.0413	0.0109	1.9000e-004	0.0111		37.3251	37.3251	1.0500e-003	9.6000e-004	37.6378

Mitigated Construction On-Site

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0976	1.2970	2.0781	3.1100e-003		0.0439	0.0439		0.0404	0.0404	0.0000	300.7293	300.7293	0.0973		303.1609
Total	0.0976	1.2970	2.0781	3.1100e-003		0.0439	0.0439		0.0404	0.0404	0.0000	300.7293	300.7293	0.0973		303.1609

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0166	9.3000e-003	0.1440	3.7000e-004	0.0379	2.1000e-004	0.0381	0.0101	1.9000e-004	0.0103		37.3251	37.3251	1.0500e-003	9.6000e-004	37.6378
Total	0.0166	9.3000e-003	0.1440	3.7000e-004	0.0379	2.1000e-004	0.0381	0.0101	1.9000e-004	0.0103		37.3251	37.3251	1.0500e-003	9.6000e-004	37.6378

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.10 Finishing/Landscaping and Fine Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3247	3.6006	5.4251	7.7800e-003		0.1576	0.1576		0.1450	0.1450		753.0941	753.0941	0.2436		759.1832
Total	0.3247	3.6006	5.4251	7.7800e-003	0.0000	0.1576	0.1576	0.0000	0.1450	0.1450		753.0941	753.0941	0.2436		759.1832

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0332	0.0186	0.2881	7.4000e-004	0.0822	4.2000e-004	0.0826	0.0218	3.8000e-004	0.0222		74.6502	74.6502	2.0900e-003	1.9200e-003	75.2756
Total	0.0332	0.0186	0.2881	7.4000e-004	0.0822	4.2000e-004	0.0826	0.0218	3.8000e-004	0.0222		74.6502	74.6502	2.0900e-003	1.9200e-003	75.2756

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3247	3.6006	5.4251	7.7800e-003		0.1576	0.1576		0.1450	0.1450	0.0000	753.0941	753.0941	0.2436		759.1832
Total	0.3247	3.6006	5.4251	7.7800e-003	0.0000	0.1576	0.1576	0.0000	0.1450	0.1450	0.0000	753.0941	753.0941	0.2436		759.1832

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0332	0.0186	0.2881	7.4000e-004	0.0757	4.2000e-004	0.0761	0.0202	3.8000e-004	0.0206		74.6502	74.6502	2.0900e-003	1.9200e-003	75.2756
Total	0.0332	0.0186	0.2881	7.4000e-004	0.0757	4.2000e-004	0.0761	0.0202	3.8000e-004	0.0206		74.6502	74.6502	2.0900e-003	1.9200e-003	75.2756

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.11 Finishing/Landscaping 2 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0976	1.2970	2.0781	3.1100e-003		0.0439	0.0439		0.0404	0.0404		300.7293	300.7293	0.0973		303.1609
Total	0.0976	1.2970	2.0781	3.1100e-003		0.0439	0.0439		0.0404	0.0404		300.7293	300.7293	0.0973		303.1609

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0166	9.3000e-003	0.1440	3.7000e-004	0.0411	2.1000e-004	0.0413	0.0109	1.9000e-004	0.0111		37.3251	37.3251	1.0500e-003	9.6000e-004	37.6378
Total	0.0166	9.3000e-003	0.1440	3.7000e-004	0.0411	2.1000e-004	0.0413	0.0109	1.9000e-004	0.0111		37.3251	37.3251	1.0500e-003	9.6000e-004	37.6378

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0976	1.2970	2.0781	3.1100e-003		0.0439	0.0439		0.0404	0.0404	0.0000	300.7293	300.7293	0.0973		303.1609
Total	0.0976	1.2970	2.0781	3.1100e-003		0.0439	0.0439		0.0404	0.0404	0.0000	300.7293	300.7293	0.0973		303.1609

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0166	9.3000e-003	0.1440	3.7000e-004	0.0379	2.1000e-004	0.0381	0.0101	1.9000e-004	0.0103		37.3251	37.3251	1.0500e-003	9.6000e-004	37.6378
Total	0.0166	9.3000e-003	0.1440	3.7000e-004	0.0379	2.1000e-004	0.0381	0.0101	1.9000e-004	0.0103		37.3251	37.3251	1.0500e-003	9.6000e-004	37.6378

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.12 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7574	7.5489	10.3698	0.0156		0.3923	0.3923		0.3609	0.3609		1,505.0926	1,505.0926	0.4868		1,517.2620
Paving	0.1116					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8690	7.5489	10.3698	0.0156		0.3923	0.3923		0.3609	0.3609		1,505.0926	1,505.0926	0.4868		1,517.2620

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0498	0.0279	0.4321	1.1100e-003	0.1232	6.3000e-004	0.1239	0.0327	5.8000e-004	0.0333		111.9753	111.9753	3.1400e-003	2.8800e-003	112.9134
Total	0.0498	0.0279	0.4321	1.1100e-003	0.1232	6.3000e-004	0.1239	0.0327	5.8000e-004	0.0333		111.9753	111.9753	3.1400e-003	2.8800e-003	112.9134

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7574	7.5489	10.3698	0.0156		0.3923	0.3923		0.3609	0.3609	0.0000	1,505.0926	1,505.0926	0.4868		1,517.2620
Paving	0.1116					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8690	7.5489	10.3698	0.0156		0.3923	0.3923		0.3609	0.3609	0.0000	1,505.0926	1,505.0926	0.4868		1,517.2620

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0498	0.0279	0.4321	1.1100e-003	0.1136	6.3000e-004	0.1142	0.0303	5.8000e-004	0.0309		111.9753	111.9753	3.1400e-003	2.8800e-003	112.9134
Total	0.0498	0.0279	0.4321	1.1100e-003	0.1136	6.3000e-004	0.1142	0.0303	5.8000e-004	0.0309		111.9753	111.9753	3.1400e-003	2.8800e-003	112.9134

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Pathways to College K-8 School Project, Construction
San Bernardino-Mojave Desert County, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	700.00	Student	1.38	60,180.00	0
Other Asphalt Surfaces	4.70	1000sqft	0.11	4,700.00	0
Other Non-Asphalt Surfaces	403.28	1000sqft	9.26	403,284.00	0
Parking Lot	45.41	1000sqft	1.04	45,408.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	509.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on 2020 Sustainability report

Land Use - Based on information provided by District, see assumptions file

Construction Phase - Based on District info., see assumptions file

Off-road Equipment - See assumptions file

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Off-road Equipment - See assumptions file

Trips and VMT - See assumptions file

Grading -

Architectural Coating - See assumptions file

Construction Off-road Equipment Mitigation - MDAQMD Rule 403 and 1186

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	27,204.00	2,724.00
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	20.00	39.00
tblConstructionPhase	NumDays	300.00	22.00
tblConstructionPhase	NumDays	300.00	24.00
tblConstructionPhase	NumDays	300.00	140.00
tblConstructionPhase	NumDays	30.00	10.00
tblConstructionPhase	NumDays	30.00	10.00
tblConstructionPhase	NumDays	20.00	27.00
tblConstructionPhase	NumDays	10.00	4.00
tblLandUse	LandUseSquareFeet	58,522.36	60,180.00
tblLandUse	LandUseSquareFeet	403,280.00	403,284.00
tblLandUse	LandUseSquareFeet	45,410.00	45,408.00
tblLandUse	LotAcreage	1.34	1.38
tblOffRoadEquipment	LoadFactor	0.20	0.20

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tbiOffRoadEquipment	LoadFactor	0.31	0.31
tbiOffRoadEquipment	OffRoadEquipmentType		Aerial Lifts
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	3.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	4.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	UsageHours	8.00	6.00
tbiOffRoadEquipment	UsageHours	8.00	6.00

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tblOffRoadEquipment	UsageHours	8.00	6.00
tblProjectCharacteristics	CO2IntensityFactor	390.98	509.98
tblTripsAndVMT	VendorTripNumber	0.00	18.00
tblTripsAndVMT	VendorTripNumber	0.00	26.00
tblTripsAndVMT	VendorTripNumber	0.00	2.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	4.5586	47.9865	30.5168	0.0680	21.6293	2.1591	23.7884	10.3794	1.9874	12.3668	0.0000	6,640.0877	6,640.0877	1.9288	0.0865	6,714.0817
2023	38.5994	17.0125	27.2239	0.0636	2.8336	0.6751	3.3484	0.7648	0.6219	1.3001	0.0000	6,389.8331	6,389.8331	1.0021	0.3116	6,507.7336
Maximum	38.5994	47.9865	30.5168	0.0680	21.6293	2.1591	23.7884	10.3794	1.9874	12.3668	0.0000	6,640.0877	6,640.0877	1.9288	0.3116	6,714.0817

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	4.5586	47.9865	30.5168	0.0680	9.4376	2.1591	11.5967	4.4907	1.9874	6.4781	0.0000	6,640.0877	6,640.0877	1.9288	0.0865	6,714.0817
2023	38.5994	17.0125	27.2239	0.0636	2.6202	0.6751	3.1350	0.7124	0.6219	1.2539	0.0000	6,389.8331	6,389.8331	1.0021	0.3116	6,507.7336
Maximum	38.5994	47.9865	30.5168	0.0680	9.4376	2.1591	11.5967	4.4907	1.9874	6.4781	0.0000	6,640.0877	6,640.0877	1.9288	0.3116	6,714.0817

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	50.71	0.00	45.71	53.31	0.00	43.43	0.00	0.00	0.00	0.00	0.00	0.00

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Site Preparation	Site Preparation	12/5/2022	12/8/2022	5	4	a
2	Site Preparation and Rough Grading	Grading	12/9/2022	12/22/2022	5	10	b
3	Main Building Construction 1	Building Construction	1/4/2023	2/2/2023	5	22	c
4	Main Building Construction and Modular Building Installation	Building Construction	2/3/2023	3/8/2023	5	24	d
5	Main Building Construction 2	Building Construction	3/9/2023	9/20/2023	5	140	e
6	Utility Trenching	Trenching	3/13/2023	6/7/2023	5	63	f
7	Architectural Coating	Architectural Coating	3/16/2023	5/9/2023	5	39	g
8	Finishing/Landscaping 1	Trenching	4/10/2023	6/6/2023	5	42	h
9	Finishing/Landscaping and Fine Grading	Grading	6/7/2023	6/20/2023	5	10	i
10	Finishing/Landscaping 2	Trenching	6/21/2023	8/14/2023	5	39	j
11	Paving	Paving	7/18/2023	8/23/2023	5	27	k

Acres of Grading (Site Preparation Phase): 6

Acres of Grading (Grading Phase): 30

Acres of Paving: 10.41

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 90,270; Non-Residential Outdoor: 30,090; Striped Parking Area: 2,724

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Preparation and Rough Grading	Excavators	0	8.00	158	0.38
Site Preparation and Rough Grading	Graders	0	8.00	187	0.41
Site Preparation and Rough Grading	Plate Compactors	1	6.00	8	0.43
Site Preparation and Rough Grading	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation and Rough Grading	Scrapers	2	6.00	367	0.48
Site Preparation and Rough Grading	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Finishing/Landscaping and Fine Grading	Excavators	0	8.00	158	0.38
Finishing/Landscaping and Fine Grading	Graders	0	8.00	187	0.41
Finishing/Landscaping and Fine Grading	Rubber Tired Dozers	0	8.00	247	0.40
Finishing/Landscaping and Fine Grading	Scrapers	0	8.00	367	0.48
Finishing/Landscaping and Fine Grading	Skid Steer Loaders	2	6.00	65	0.37
Finishing/Landscaping and Fine Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Finishing/Landscaping 2	Skid Steer Loaders	2	6.00	65	0.37
Main Building Construction 1	Cranes	0	7.00	231	0.29
Main Building Construction 1	Forklifts	3	8.00	89	0.20
Main Building Construction 1	Forklifts	0	8.00	89	0.20
Main Building Construction 1	Generator Sets	0	8.00	84	0.74
Main Building Construction 1	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Main Building Construction 1	Welders	0	8.00	46	0.45
Utility Trenching	Excavators	2	6.00	158	0.38
Utility Trenching	Plate Compactors	1	6.00	8	0.43
Utility Trenching	Skid Steer Loaders	1	6.00	65	0.37
Finishing/Landscaping 1	Skid Steer Loaders	2	6.00	65	0.37

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Main Building Construction and Modular Building Installation	Aerial Lifts	3	8.00	63	0.31
Main Building Construction and Modular Building Installation	Cranes	0	7.00	231	0.29
Main Building Construction and Modular Building Installation	Forklifts	3	8.00	89	0.20
Main Building Construction and Modular Building Installation	Generator Sets	0	8.00	84	0.74
Main Building Construction and Modular Building Installation	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Main Building Construction and Modular Building Installation	Welders	0	8.00	46	0.45
Main Building Construction 2	Aerial Lifts	3	8.00	63	0.31
Main Building Construction 2	Cranes	0	7.00	231	0.29
Main Building Construction 2	Forklifts	3	8.00	89	0.20
Main Building Construction 2	Generator Sets	0	8.00	84	0.74
Main Building Construction 2	Tractors/Loaders/Backhoes	0	7.00	97	0.37
Main Building Construction 2	Welders	0	8.00	46	0.45
Paving	Pavers	0	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	6.00	80	0.38
Paving	Skid Steer Loaders	1	6.00	65	0.37
Paving	Sweepers/Scrubbers	1	6.00	64	0.46
Architectural Coating	Aerial Lifts	3	8.00	63	0.31
Architectural Coating	Air Compressors	0	6.00	78	0.48
Architectural Coating	Forklifts	1	8.00	89	0.20
Main Building Construction 1	Aerial Lifts	3	8.00	63	0.31

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Site Preparation	7	18.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation and Rough Grading	10	25.00	26.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping and Fine Grading	4	10.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping 2	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Main Building Construction 1	6	216.00	84.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Utility Trenching	4	10.00	2.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Finishing/Landscaping 1	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Main Building Construction and Modular Building Installation	6	216.00	84.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Main Building Construction 2	6	216.00	84.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	4	43.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					19.6570	0.0000	19.6570	10.1025	0.0000	10.1025			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836		3,686.0619	3,686.0619	1.1922		3,715.8655
Total	3.1701	33.0835	19.6978	0.0380	19.6570	1.6126	21.2696	10.1025	1.4836	11.5860		3,686.0619	3,686.0619	1.1922		3,715.8655

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0312	0.8611	0.3055	3.5400e-003	0.1220	9.9400e-003	0.1319	0.0351	9.5100e-003	0.0446		379.3455	379.3455	0.0102	0.0562	396.3328
Worker	0.0608	0.0399	0.4725	1.2500e-003	0.1479	8.0000e-004	0.1487	0.0392	7.4000e-004	0.0400		125.8431	125.8431	4.2900e-003	3.8800e-003	127.1058
Total	0.0920	0.9010	0.7780	4.7900e-003	0.2699	0.0107	0.2806	0.0743	0.0103	0.0846		505.1885	505.1885	0.0145	0.0600	523.4386

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.4034	0.0000	8.4034	4.3188	0.0000	4.3188			0.0000			0.0000
Off-Road	3.1701	33.0835	19.6978	0.0380		1.6126	1.6126		1.4836	1.4836	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655
Total	3.1701	33.0835	19.6978	0.0380	8.4034	1.6126	10.0159	4.3188	1.4836	5.8024	0.0000	3,686.0619	3,686.0619	1.1922		3,715.8655

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0312	0.8611	0.3055	3.5400e-003	0.1142	9.9400e-003	0.1241	0.0332	9.5100e-003	0.0427		379.3455	379.3455	0.0102	0.0562	396.3328
Worker	0.0608	0.0399	0.4725	1.2500e-003	0.1363	8.0000e-004	0.1371	0.0364	7.4000e-004	0.0371		125.8431	125.8431	4.2900e-003	3.8800e-003	127.1058
Total	0.0920	0.9010	0.7780	4.7900e-003	0.2505	0.0107	0.2612	0.0696	0.0103	0.0798		505.1885	505.1885	0.0145	0.0600	523.4386

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Site Preparation and Rough Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					21.2478	0.0000	21.2478	10.2742	0.0000	10.2742			0.0000			0.0000
Off-Road	4.4291	46.6872	29.4193	0.0612		2.1436	2.1436		1.9727	1.9727		5,917.3623	5,917.3623	1.9081		5,965.0652
Total	4.4291	46.6872	29.4193	0.0612	21.2478	2.1436	23.3914	10.2742	1.9727	12.2469		5,917.3623	5,917.3623	1.9081		5,965.0652

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0450	1.2438	0.4412	5.1100e-003	0.1762	0.0144	0.1906	0.0507	0.0137	0.0645		547.9434	547.9434	0.0147	0.0811	572.4807
Worker	0.0845	0.0555	0.6563	1.7300e-003	0.2054	1.1100e-003	0.2065	0.0545	1.0200e-003	0.0555		174.7820	174.7820	5.9600e-003	5.3900e-003	176.5359
Total	0.1295	1.2992	1.0975	6.8400e-003	0.3816	0.0155	0.3970	0.1052	0.0148	0.1200		722.7255	722.7255	0.0207	0.0865	749.0166

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.0834	0.0000	9.0834	4.3922	0.0000	4.3922			0.0000			0.0000
Off-Road	4.4291	46.6872	29.4193	0.0612		2.1436	2.1436		1.9727	1.9727	0.0000	5,917.3623	5,917.3623	1.9081		5,965.0652
Total	4.4291	46.6872	29.4193	0.0612	9.0834	2.1436	11.2270	4.3922	1.9727	6.3649	0.0000	5,917.3623	5,917.3623	1.9081		5,965.0652

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0450	1.2438	0.4412	5.1100e-003	0.1649	0.0144	0.1793	0.0480	0.0137	0.0617		547.9434	547.9434	0.0147	0.0811	572.4807
Worker	0.0845	0.0555	0.6563	1.7300e-003	0.1893	1.1100e-003	0.1904	0.0505	1.0200e-003	0.0516		174.7820	174.7820	5.9600e-003	5.3900e-003	176.5359
Total	0.1295	1.2992	1.0975	6.8400e-003	0.3542	0.0155	0.3697	0.0985	0.0148	0.1132		722.7255	722.7255	0.0207	0.0865	749.0166

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Main Building Construction 1 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4109	4.4695	6.6914	9.6000e-003		0.2054	0.2054		0.1890	0.1890		929.1193	929.1193	0.3005		936.6317
Total	0.4109	4.4695	6.6914	9.6000e-003		0.2054	0.2054		0.1890	0.1890		929.1193	929.1193	0.3005		936.6317

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0934	3.2262	1.2936	0.0159	0.5692	0.0235	0.5927	0.1639	0.0225	0.1864		1,700.3077	1,700.3077	0.0440	0.2512	1,776.2518
Worker	0.6750	0.4224	5.2082	0.0145	1.7744	9.0100e-003	1.7834	0.4707	8.2900e-003	0.4789		1,461.6164	1,461.6164	0.0464	0.0429	1,475.5630
Total	0.7684	3.6487	6.5017	0.0303	2.3436	0.0325	2.3761	0.6346	0.0308	0.6653		3,161.9241	3,161.9241	0.0903	0.2941	3,251.8148

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4109	4.4695	6.6914	9.6000e-003		0.2054	0.2054		0.1890	0.1890	0.0000	929.1193	929.1193	0.3005		936.6317
Total	0.4109	4.4695	6.6914	9.6000e-003		0.2054	0.2054		0.1890	0.1890	0.0000	929.1193	929.1193	0.3005		936.6317

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0934	3.2262	1.2936	0.0159	0.5328	0.0235	0.5562	0.1549	0.0225	0.1774		1,700.3077	1,700.3077	0.0440	0.2512	1,776.2518
Worker	0.6750	0.4224	5.2082	0.0145	1.6356	9.0100e-003	1.6446	0.4366	8.2900e-003	0.4449		1,461.6164	1,461.6164	0.0464	0.0429	1,475.5630
Total	0.7684	3.6487	6.5017	0.0303	2.1684	0.0325	2.2009	0.5915	0.0308	0.6223		3,161.9241	3,161.9241	0.0903	0.2941	3,251.8148

3.5 Main Building Construction and Modular Building Installation - 2023

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4115	4.4788	6.7104	9.6300e-003		0.2055	0.2055		0.1891	0.1891		931.9520	931.9520	0.3014		939.4873
Total	0.4115	4.4788	6.7104	9.6300e-003		0.2055	0.2055		0.1891	0.1891		931.9520	931.9520	0.3014		939.4873

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0934	3.2262	1.2936	0.0159	0.5692	0.0235	0.5927	0.1639	0.0225	0.1864		1,700.3077	1,700.3077	0.0440	0.2512	1,776.2518
Worker	0.6750	0.4224	5.2082	0.0145	1.7744	9.0100e-003	1.7834	0.4707	8.2900e-003	0.4789		1,461.6164	1,461.6164	0.0464	0.0429	1,475.5630
Total	0.7684	3.6487	6.5017	0.0303	2.3436	0.0325	2.3761	0.6346	0.0308	0.6653		3,161.9241	3,161.9241	0.0903	0.2941	3,251.8148

Mitigated Construction On-Site

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4115	4.4788	6.7104	9.6300e-003		0.2055	0.2055		0.1891	0.1891	0.0000	931.9520	931.9520	0.3014		939.4873
Total	0.4115	4.4788	6.7104	9.6300e-003		0.2055	0.2055		0.1891	0.1891	0.0000	931.9520	931.9520	0.3014		939.4873

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0934	3.2262	1.2936	0.0159	0.5328	0.0235	0.5562	0.1549	0.0225	0.1774		1,700.3077	1,700.3077	0.0440	0.2512	1,776.2518
Worker	0.6750	0.4224	5.2082	0.0145	1.6356	9.0100e-003	1.6446	0.4366	8.2900e-003	0.4449		1,461.6164	1,461.6164	0.0464	0.0429	1,475.5630
Total	0.7684	3.6487	6.5017	0.0303	2.1684	0.0325	2.2009	0.5915	0.0308	0.6223		3,161.9241	3,161.9241	0.0903	0.2941	3,251.8148

3.6 Main Building Construction 2 - 2023

Unmitigated Construction On-Site

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4115	4.4788	6.7104	9.6300e-003		0.2055	0.2055		0.1891	0.1891		931.9520	931.9520	0.3014		939.4873
Total	0.4115	4.4788	6.7104	9.6300e-003		0.2055	0.2055		0.1891	0.1891		931.9520	931.9520	0.3014		939.4873

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0934	3.2262	1.2936	0.0159	0.5692	0.0235	0.5927	0.1639	0.0225	0.1864		1,700.3077	1,700.3077	0.0440	0.2512	1,776.2518
Worker	0.6750	0.4224	5.2082	0.0145	1.7744	9.0100e-003	1.7834	0.4707	8.2900e-003	0.4789		1,461.6164	1,461.6164	0.0464	0.0429	1,475.5630
Total	0.7684	3.6487	6.5017	0.0303	2.3436	0.0325	2.3761	0.6346	0.0308	0.6653		3,161.9241	3,161.9241	0.0903	0.2941	3,251.8148

Mitigated Construction On-Site

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.4115	4.4788	6.7104	9.6300e-003		0.2055	0.2055		0.1891	0.1891	0.0000	931.9520	931.9520	0.3014		939.4873
Total	0.4115	4.4788	6.7104	9.6300e-003		0.2055	0.2055		0.1891	0.1891	0.0000	931.9520	931.9520	0.3014		939.4873

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0934	3.2262	1.2936	0.0159	0.5328	0.0235	0.5562	0.1549	0.0225	0.1774		1,700.3077	1,700.3077	0.0440	0.2512	1,776.2518
Worker	0.6750	0.4224	5.2082	0.0145	1.6356	9.0100e-003	1.6446	0.4366	8.2900e-003	0.4449		1,461.6164	1,461.6164	0.0464	0.0429	1,475.5630
Total	0.7684	3.6487	6.5017	0.0303	2.1684	0.0325	2.2009	0.5915	0.0308	0.6223		3,161.9241	3,161.9241	0.0903	0.2941	3,251.8148

3.7 Utility Trenching - 2023

Unmitigated Construction On-Site

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3619	3.1599	6.0835	9.6700e-003		0.1430	0.1430		0.1321	0.1321		926.3827	926.3827	0.2939		933.7310
Total	0.3619	3.1599	6.0835	9.6700e-003		0.1430	0.1430		0.1321	0.1321		926.3827	926.3827	0.2939		933.7310

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2200e-003	0.0768	0.0308	3.8000e-004	0.0136	5.6000e-004	0.0141	3.9000e-003	5.3000e-004	4.4400e-003		40.4835	40.4835	1.0500e-003	5.9800e-003	42.2917
Worker	0.0313	0.0196	0.2411	6.7000e-004	0.0822	4.2000e-004	0.0826	0.0218	3.8000e-004	0.0222		67.6674	67.6674	2.1500e-003	1.9900e-003	68.3131
Total	0.0335	0.0964	0.2719	1.0500e-003	0.0957	9.8000e-004	0.0967	0.0257	9.1000e-004	0.0266		108.1509	108.1509	3.2000e-003	7.9700e-003	110.6048

Mitigated Construction On-Site

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.3619	3.1599	6.0835	9.6700e-003		0.1430	0.1430		0.1321	0.1321	0.0000	926.3827	926.3827	0.2939		933.7310
Total	0.3619	3.1599	6.0835	9.6700e-003		0.1430	0.1430		0.1321	0.1321	0.0000	926.3827	926.3827	0.2939		933.7310

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.2200e-003	0.0768	0.0308	3.8000e-004	0.0127	5.6000e-004	0.0132	3.6900e-003	5.3000e-004	4.2200e-003		40.4835	40.4835	1.0500e-003	5.9800e-003	42.2917
Worker	0.0313	0.0196	0.2411	6.7000e-004	0.0757	4.2000e-004	0.0761	0.0202	3.8000e-004	0.0206		67.6674	67.6674	2.1500e-003	1.9900e-003	68.3131
Total	0.0335	0.0964	0.2719	1.0500e-003	0.0884	9.8000e-004	0.0894	0.0239	9.1000e-004	0.0248		108.1509	108.1509	3.2000e-003	7.9700e-003	110.6048

3.8 Architectural Coating - 2023

Unmitigated Construction On-Site

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	36.5702					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2064	2.5594	4.4208	6.5700e-003		0.0869	0.0869		0.0800	0.0800		635.8904	635.8904	0.2057		641.0319
Total	36.7765	2.5594	4.4208	6.5700e-003		0.0869	0.0869		0.0800	0.0800		635.8904	635.8904	0.2057		641.0319

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1344	0.0841	1.0368	2.8800e-003	0.3532	1.7900e-003	0.3550	0.0937	1.6500e-003	0.0954		290.9699	290.9699	9.2300e-003	8.5400e-003	293.7463
Total	0.1344	0.0841	1.0368	2.8800e-003	0.3532	1.7900e-003	0.3550	0.0937	1.6500e-003	0.0954		290.9699	290.9699	9.2300e-003	8.5400e-003	293.7463

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	36.5702					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2064	2.5594	4.4208	6.5700e-003		0.0869	0.0869		0.0800	0.0800	0.0000	635.8904	635.8904	0.2057		641.0319
Total	36.7765	2.5594	4.4208	6.5700e-003		0.0869	0.0869		0.0800	0.0800	0.0000	635.8904	635.8904	0.2057		641.0319

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.1344	0.0841	1.0368	2.8800e-003	0.3256	1.7900e-003	0.3274	0.0869	1.6500e-003	0.0886		290.9699	290.9699	9.2300e-003	8.5400e-003	293.7463
Total	0.1344	0.0841	1.0368	2.8800e-003	0.3256	1.7900e-003	0.3274	0.0869	1.6500e-003	0.0886		290.9699	290.9699	9.2300e-003	8.5400e-003	293.7463

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.9 Finishing/Landscaping 1 - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Off-Road	0.0976	1.2970	2.0781	3.1100e-003		0.0439	0.0439		0.0404	0.0404		300.7293	300.7293	0.0973			303.1609
Total	0.0976	1.2970	2.0781	3.1100e-003		0.0439	0.0439		0.0404	0.0404		300.7293	300.7293	0.0973			303.1609

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
Category	lb/day										lb/day						
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0156	9.7800e-003	0.1206	3.3000e-004	0.0411	2.1000e-004	0.0413	0.0109	1.9000e-004	0.0111		33.8337	33.8337	1.0700e-003	9.9000e-004		34.1566
Total	0.0156	9.7800e-003	0.1206	3.3000e-004	0.0411	2.1000e-004	0.0413	0.0109	1.9000e-004	0.0111		33.8337	33.8337	1.0700e-003	9.9000e-004		34.1566

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0976	1.2970	2.0781	3.1100e-003		0.0439	0.0439		0.0404	0.0404	0.0000	300.7293	300.7293	0.0973		303.1609
Total	0.0976	1.2970	2.0781	3.1100e-003		0.0439	0.0439		0.0404	0.0404	0.0000	300.7293	300.7293	0.0973		303.1609

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0156	9.7800e-003	0.1206	3.3000e-004	0.0379	2.1000e-004	0.0381	0.0101	1.9000e-004	0.0103		33.8337	33.8337	1.0700e-003	9.9000e-004	34.1566
Total	0.0156	9.7800e-003	0.1206	3.3000e-004	0.0379	2.1000e-004	0.0381	0.0101	1.9000e-004	0.0103		33.8337	33.8337	1.0700e-003	9.9000e-004	34.1566

3.10 Finishing/Landscaping and Fine Grading - 2023

Unmitigated Construction On-Site

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3247	3.6006	5.4251	7.7800e-003		0.1576	0.1576		0.1450	0.1450		753.0941	753.0941	0.2436		759.1832
Total	0.3247	3.6006	5.4251	7.7800e-003	0.0000	0.1576	0.1576	0.0000	0.1450	0.1450		753.0941	753.0941	0.2436		759.1832

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0313	0.0196	0.2411	6.7000e-004	0.0822	4.2000e-004	0.0826	0.0218	3.8000e-004	0.0222		67.6674	67.6674	2.1500e-003	1.9900e-003	68.3131
Total	0.0313	0.0196	0.2411	6.7000e-004	0.0822	4.2000e-004	0.0826	0.0218	3.8000e-004	0.0222		67.6674	67.6674	2.1500e-003	1.9900e-003	68.3131

Mitigated Construction On-Site

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.0000	0.0000	0.0000	0.0000	0.0000	0.0000			0.0000			0.0000
Off-Road	0.3247	3.6006	5.4251	7.7800e-003		0.1576	0.1576		0.1450	0.1450	0.0000	753.0941	753.0941	0.2436		759.1832
Total	0.3247	3.6006	5.4251	7.7800e-003	0.0000	0.1576	0.1576	0.0000	0.1450	0.1450	0.0000	753.0941	753.0941	0.2436		759.1832

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0313	0.0196	0.2411	6.7000e-004	0.0757	4.2000e-004	0.0761	0.0202	3.8000e-004	0.0206		67.6674	67.6674	2.1500e-003	1.9900e-003	68.3131
Total	0.0313	0.0196	0.2411	6.7000e-004	0.0757	4.2000e-004	0.0761	0.0202	3.8000e-004	0.0206		67.6674	67.6674	2.1500e-003	1.9900e-003	68.3131

3.11 Finishing/Landscaping 2 - 2023

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0976	1.2970	2.0781	3.1100e-003		0.0439	0.0439		0.0404	0.0404		300.7293	300.7293	0.0973		303.1609
Total	0.0976	1.2970	2.0781	3.1100e-003		0.0439	0.0439		0.0404	0.0404		300.7293	300.7293	0.0973		303.1609

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0156	9.7800e-003	0.1206	3.3000e-004	0.0411	2.1000e-004	0.0413	0.0109	1.9000e-004	0.0111		33.8337	33.8337	1.0700e-003	9.9000e-004	34.1566
Total	0.0156	9.7800e-003	0.1206	3.3000e-004	0.0411	2.1000e-004	0.0413	0.0109	1.9000e-004	0.0111		33.8337	33.8337	1.0700e-003	9.9000e-004	34.1566

Mitigated Construction On-Site

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0976	1.2970	2.0781	3.1100e-003		0.0439	0.0439		0.0404	0.0404	0.0000	300.7293	300.7293	0.0973		303.1609
Total	0.0976	1.2970	2.0781	3.1100e-003		0.0439	0.0439		0.0404	0.0404	0.0000	300.7293	300.7293	0.0973		303.1609

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0156	9.7800e-003	0.1206	3.3000e-004	0.0379	2.1000e-004	0.0381	0.0101	1.9000e-004	0.0103		33.8337	33.8337	1.0700e-003	9.9000e-004	34.1566
Total	0.0156	9.7800e-003	0.1206	3.3000e-004	0.0379	2.1000e-004	0.0381	0.0101	1.9000e-004	0.0103		33.8337	33.8337	1.0700e-003	9.9000e-004	34.1566

3.12 Paving - 2023

Unmitigated Construction On-Site

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7574	7.5489	10.3698	0.0156		0.3923	0.3923		0.3609	0.3609		1,505.0926	1,505.0926	0.4868		1,517.2620
Paving	0.1116					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8690	7.5489	10.3698	0.0156		0.3923	0.3923		0.3609	0.3609		1,505.0926	1,505.0926	0.4868		1,517.2620

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0469	0.0293	0.3617	1.0000e-003	0.1232	6.3000e-004	0.1239	0.0327	5.8000e-004	0.0333		101.5011	101.5011	3.2200e-003	2.9800e-003	102.4697
Total	0.0469	0.0293	0.3617	1.0000e-003	0.1232	6.3000e-004	0.1239	0.0327	5.8000e-004	0.0333		101.5011	101.5011	3.2200e-003	2.9800e-003	102.4697

Mitigated Construction On-Site

Pathways to College K-8 School Project, Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7574	7.5489	10.3698	0.0156		0.3923	0.3923		0.3609	0.3609	0.0000	1,505.0926	1,505.0926	0.4868		1,517.2620
Paving	0.1116					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	0.8690	7.5489	10.3698	0.0156		0.3923	0.3923		0.3609	0.3609	0.0000	1,505.0926	1,505.0926	0.4868		1,517.2620

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0469	0.0293	0.3617	1.0000e-003	0.1136	6.3000e-004	0.1142	0.0303	5.8000e-004	0.0309		101.5011	101.5011	3.2200e-003	2.9800e-003	102.4697
Total	0.0469	0.0293	0.3617	1.0000e-003	0.1136	6.3000e-004	0.1142	0.0303	5.8000e-004	0.0309		101.5011	101.5011	3.2200e-003	2.9800e-003	102.4697

CalEEMod Construction Model

Roadway Improvements

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Annual
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Pathways to College K-8 School Project, Roadway Improvements Construction
San Bernardino-Mojave Desert County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	627.26	1000sqft	14.40	627,264.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	509.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on 2020 Sustainability Report

Land Use - See assumptions file, based on information from District

Construction Phase - See assumptions file

Off-road Equipment - See assumptions file

Trips and VMT - See assumptions file

Grading -

Construction Off-road Equipment Mitigation - MDAQMD Rule 403 and 1186

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	30.00	13.00
tblConstructionPhase	NumDays	30.00	11.00
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	NumDays	10.00	3.00
tblLandUse	LandUseSquareFeet	627,260.00	627,264.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	390.98	509.98
tblTripsAndVMT	VendorTripNumber	0.00	24.00
tblTripsAndVMT	VendorTripNumber	0.00	18.00

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0699	0.5200	0.4717	1.0300e-003	0.0835	0.0217	0.1051	0.0271	0.0201	0.0472	0.0000	90.4923	90.4923	0.0249	7.6000e-004	91.3422
Maximum	0.0699	0.5200	0.4717	1.0300e-003	0.0835	0.0217	0.1051	0.0271	0.0201	0.0472	0.0000	90.4923	90.4923	0.0249	7.6000e-004	91.3422

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.0699	0.5200	0.4717	1.0300e-003	0.0381	0.0217	0.0597	0.0123	0.0201	0.0323	0.0000	90.4922	90.4922	0.0249	7.6000e-004	91.3421
Maximum	0.0699	0.5200	0.4717	1.0300e-003	0.0381	0.0217	0.0597	0.0123	0.0201	0.0323	0.0000	90.4922	90.4922	0.0249	7.6000e-004	91.3421

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
--	-----	-----	----	-----	---------------	--------------	------------	----------------	---------------	-------------	----------	-----------	-----------	-----	-----	------

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Annual
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Percent Reduction	0.00	0.00	0.00	0.00	54.38	0.00	43.17	54.80	0.00	31.47	0.00	0.00	0.00	0.00	0.00	0.00
-------------------	------	------	------	------	-------	------	-------	-------	------	-------	------	------	------	------	------	------

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
2	3-5-2023	6-4-2023	0.3549	0.3549
3	6-5-2023	9-4-2023	0.2161	0.2161
		Highest	0.3549	0.3549

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Linear, Grubbing, and Land Clearing	Site Preparation	5/11/2023	5/15/2023	5	3	a
2	Linear, Grading & Excavation	Grading	5/16/2023	6/1/2023	5	13	b
3	Linear, Drainage, Utilities, & Sub-Grade	Grading	6/2/2023	6/17/2023	5	11	c
4	Linear, Paving	Paving	6/18/2023	6/23/2023	5	5	d

Acres of Grading (Site Preparation Phase): 1.5

Acres of Grading (Grading Phase): 45.5

Acres of Paving: 14.4

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Linear, Paving	Pavers	1	8.00	130	0.42
Linear, Paving	Paving Equipment	1	8.00	132	0.36
Linear, Paving	Rollers	3	8.00	80	0.38
Linear, Paving	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Linear, Grubbing, and Land Clearing	Crawler Tractors	1	8.00	212	0.43
Linear, Grubbing, and Land Clearing	Excavators	1	8.00	158	0.38
Linear, Grubbing, and Land Clearing	Rubber Tired Dozers	0	8.00	247	0.40
Linear, Grubbing, and Land Clearing	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Linear, Grading & Excavation	Crawler Tractors	1	8.00	212	0.43
Linear, Grading & Excavation	Excavators	3	8.00	158	0.38
Linear, Grading & Excavation	Graders	1	8.00	187	0.41
Linear, Grading & Excavation	Rollers	2	8.00	80	0.38
Linear, Grading & Excavation	Rubber Tired Dozers	1	8.00	247	0.40
Linear, Grading & Excavation	Scrapers	2	8.00	367	0.48
Linear, Grading & Excavation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	1	8.00	78	0.48
Linear, Drainage, Utilities, & Sub-Grade	Excavators	0	8.00	158	0.38
Linear, Drainage, Utilities, & Sub-Grade	Generator Sets	1	8.00	84	0.74
Linear, Drainage, Utilities, & Sub-Grade	Graders	1	8.00	187	0.41
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	1	8.00	8	0.43
Linear, Drainage, Utilities, & Sub-Grade	Pumps	1	8.00	84	0.74
Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	1	8.00	100	0.40
Linear, Drainage, Utilities, & Sub-Grade	Rubber Tired Dozers	0	8.00	247	0.40
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	2	8.00	367	0.48
Linear, Drainage, Utilities, & Sub-Grade	Tractors/Loaders/Backhoes	2	8.00	97	0.37

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Annual
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Linear, Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Linear, Grubbing, and Land Clearing	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Linear, Grading & Excavation	12	30.00	24.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Linear, Drainage, Utilities & Sub-Grade	10	25.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

- Replace Ground Cover
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads
- Clean Paved Roads

3.2 Linear, Grubbing, and Land Clearing - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.0000e-004	0.0000	8.0000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	0.0100	8.2500e-003	2.0000e-005	4.1000e-004	4.1000e-004	4.1000e-004	3.8000e-004	3.8000e-004	3.8000e-004	0.0000	1.7124	1.7124	5.5000e-004	0.0000	1.7262
Total	9.5000e-004	0.0100	8.2500e-003	2.0000e-005	8.0000e-004	4.1000e-004	1.2100e-003	9.0000e-005	3.8000e-004	4.7000e-004	0.0000	1.7124	1.7124	5.5000e-004	0.0000	1.7262

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Annual
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	2.0000e-005	1.9000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0470	0.0470	0.0000	0.0000	0.0474
Total	2.0000e-005	2.0000e-005	1.9000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0470	0.0470	0.0000	0.0000	0.0474

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.4000e-004	0.0000	3.4000e-004	4.0000e-005	0.0000	4.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	0.0100	8.2500e-003	2.0000e-005		4.1000e-004	4.1000e-004		3.8000e-004	3.8000e-004	0.0000	1.7124	1.7124	5.5000e-004	0.0000	1.7262
Total	9.5000e-004	0.0100	8.2500e-003	2.0000e-005	3.4000e-004	4.1000e-004	7.5000e-004	4.0000e-005	3.8000e-004	4.2000e-004	0.0000	1.7124	1.7124	5.5000e-004	0.0000	1.7262

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Annual
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.0000e-005	2.0000e-005	1.9000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0470	0.0470	0.0000	0.0000	0.0474
Total	2.0000e-005	2.0000e-005	1.9000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	1.0000e-005	0.0000	2.0000e-005	0.0000	0.0470	0.0470	0.0000	0.0000	0.0474

3.3 Linear, Grading & Excavation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0633	0.0000	0.0633	0.0241	0.0000	0.0241	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0277	0.2887	0.2422	5.2000e-004		0.0122	0.0122		0.0112	0.0112	0.0000	45.8650	45.8650	0.0148	0.0000	46.2358
Total	0.0277	0.2887	0.2422	5.2000e-004	0.0633	0.0122	0.0755	0.0241	0.0112	0.0353	0.0000	45.8650	45.8650	0.0148	0.0000	46.2358

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Annual
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.8000e-004	5.9700e-003	2.3700e-003	3.0000e-005	1.0400e-003	4.0000e-005	1.0800e-003	3.0000e-004	4.0000e-005	3.4000e-004	0.0000	2.8608	2.8608	7.0000e-005	4.2000e-004	2.9886
Worker	5.7000e-004	4.0000e-004	4.9200e-003	1.0000e-005	1.5700e-003	1.0000e-005	1.5800e-003	4.2000e-004	1.0000e-005	4.2000e-004	0.0000	1.2207	1.2207	4.0000e-005	4.0000e-005	1.2324
Total	7.5000e-004	6.3700e-003	7.2900e-003	4.0000e-005	2.6100e-003	5.0000e-005	2.6600e-003	7.2000e-004	5.0000e-005	7.6000e-004	0.0000	4.0815	4.0815	1.1000e-004	4.6000e-004	4.2211

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0271	0.0000	0.0271	0.0103	0.0000	0.0103	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0277	0.2887	0.2422	5.2000e-004		0.0122	0.0122		0.0112	0.0112	0.0000	45.8649	45.8649	0.0148	0.0000	46.2357
Total	0.0277	0.2887	0.2422	5.2000e-004	0.0271	0.0122	0.0393	0.0103	0.0112	0.0215	0.0000	45.8649	45.8649	0.0148	0.0000	46.2357

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Annual
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.8000e-004	5.9700e-003	2.3700e-003	3.0000e-005	9.7000e-004	4.0000e-005	1.0200e-003	2.8000e-004	4.0000e-005	3.3000e-004	0.0000	2.8608	2.8608	7.0000e-005	4.2000e-004	2.9886
Worker	5.7000e-004	4.0000e-004	4.9200e-003	1.0000e-005	1.4500e-003	1.0000e-005	1.4600e-003	3.9000e-004	1.0000e-005	3.9000e-004	0.0000	1.2207	1.2207	4.0000e-005	4.0000e-005	1.2324
Total	7.5000e-004	6.3700e-003	7.2900e-003	4.0000e-005	2.4200e-003	5.0000e-005	2.4800e-003	6.7000e-004	5.0000e-005	7.2000e-004	0.0000	4.0815	4.0815	1.1000e-004	4.6000e-004	4.2211

3.4 Linear, Drainage, Utilities, & Sub-Grade - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0146	0.0000	0.0146	1.5700e-003	0.0000	1.5700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0181	0.1823	0.1691	3.5000e-004		7.5000e-003	7.5000e-003		7.0600e-003	7.0600e-003	0.0000	30.8047	30.8047	7.7000e-003	0.0000	30.9972
Total	0.0181	0.1823	0.1691	3.5000e-004	0.0146	7.5000e-003	0.0221	1.5700e-003	7.0600e-003	8.6300e-003	0.0000	30.8047	30.8047	7.7000e-003	0.0000	30.9972

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Annual
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1000e-004	3.7900e-003	1.5000e-003	2.0000e-005	6.6000e-004	3.0000e-005	6.9000e-004	1.9000e-004	3.0000e-005	2.2000e-004	0.0000	1.8155	1.8155	5.0000e-005	2.7000e-004	1.8966
Worker	4.0000e-004	2.8000e-004	3.4700e-003	1.0000e-005	1.1100e-003	1.0000e-005	1.1100e-003	2.9000e-004	1.0000e-005	3.0000e-004	0.0000	0.8607	0.8607	3.0000e-005	3.0000e-005	0.8690
Total	5.1000e-004	4.0700e-003	4.9700e-003	3.0000e-005	1.7700e-003	4.0000e-005	1.8000e-003	4.8000e-004	4.0000e-005	5.2000e-004	0.0000	2.6763	2.6763	8.0000e-005	3.0000e-004	2.7657

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					6.2300e-003	0.0000	6.2300e-003	6.7000e-004	0.0000	6.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0181	0.1823	0.1691	3.5000e-004		7.5000e-003	7.5000e-003		7.0600e-003	7.0600e-003	0.0000	30.8047	30.8047	7.7000e-003	0.0000	30.9971
Total	0.0181	0.1823	0.1691	3.5000e-004	6.2300e-003	7.5000e-003	0.0137	6.7000e-004	7.0600e-003	7.7300e-003	0.0000	30.8047	30.8047	7.7000e-003	0.0000	30.9971

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Annual
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.1000e-004	3.7900e-003	1.5000e-003	2.0000e-005	6.2000e-004	3.0000e-005	6.5000e-004	1.8000e-004	3.0000e-005	2.1000e-004	0.0000	1.8155	1.8155	5.0000e-005	2.7000e-004	1.8966
Worker	4.0000e-004	2.8000e-004	3.4700e-003	1.0000e-005	1.0200e-003	1.0000e-005	1.0300e-003	2.7000e-004	1.0000e-005	2.8000e-004	0.0000	0.8607	0.8607	3.0000e-005	3.0000e-005	0.8690
Total	5.1000e-004	4.0700e-003	4.9700e-003	3.0000e-005	1.6400e-003	4.0000e-005	1.6800e-003	4.5000e-004	4.0000e-005	4.9000e-004	0.0000	2.6763	2.6763	8.0000e-005	3.0000e-004	2.7657

3.5 Linear, Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8200e-003	0.0285	0.0387	6.0000e-005		1.4600e-003	1.4600e-003		1.3400e-003	1.3400e-003	0.0000	5.0239	5.0239	1.6200e-003	0.0000	5.0645
Paving	0.0189					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0217	0.0285	0.0387	6.0000e-005		1.4600e-003	1.4600e-003		1.3400e-003	1.3400e-003	0.0000	5.0239	5.0239	1.6200e-003	0.0000	5.0645

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Annual
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	9.0000e-005	1.1400e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2817	0.2817	1.0000e-005	1.0000e-005	0.2844
Total	1.3000e-004	9.0000e-005	1.1400e-003	0.0000	3.6000e-004	0.0000	3.6000e-004	1.0000e-004	0.0000	1.0000e-004	0.0000	0.2817	0.2817	1.0000e-005	1.0000e-005	0.2844

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	2.8200e-003	0.0285	0.0387	6.0000e-005		1.4600e-003	1.4600e-003		1.3400e-003	1.3400e-003	0.0000	5.0239	5.0239	1.6200e-003	0.0000	5.0645
Paving	0.0189					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0217	0.0285	0.0387	6.0000e-005		1.4600e-003	1.4600e-003		1.3400e-003	1.3400e-003	0.0000	5.0239	5.0239	1.6200e-003	0.0000	5.0645

Mitigated Construction Off-Site

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Annual
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	9.0000e-005	1.1400e-003	0.0000	3.3000e-004	0.0000	3.4000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2817	0.2817	1.0000e-005	1.0000e-005	0.2844
Total	1.3000e-004	9.0000e-005	1.1400e-003	0.0000	3.3000e-004	0.0000	3.4000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2817	0.2817	1.0000e-005	1.0000e-005	0.2844

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Summer
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Pathways to College K-8 School Project, Roadway Improvements Construction
San Bernardino-Mojave Desert County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	627.26	1000sqft	14.40	627,264.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	509.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on 2020 Sustainabilit Report

Land Use - See assumptions file, based on information from District

Construction Phase - See assumptions file

Off-road Equipment - See assumptions file

Trips and VMT - See assumptions file

Grading -

Construction Off-road Equipment Mitigation - MDAQMD Rule 403 and 1186

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Summer
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Table Name	Column Name	Default Value	New Value
tbiConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tbiConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tbiConstructionPhase	NumDays	30.00	13.00
tbiConstructionPhase	NumDays	30.00	11.00
tbiConstructionPhase	NumDays	20.00	5.00
tbiConstructionPhase	NumDays	10.00	3.00
tbiLandUse	LandUseSquareFeet	627,260.00	627,264.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tbiOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tbiProjectCharacteristics	CO2IntensityFactor	390.98	509.98
tbiTripsAndVMT	VendorTripNumber	0.00	24.00
tbiTripsAndVMT	VendorTripNumber	0.00	18.00

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	8.7319	45.3378	38.4800	0.0871	10.1429	1.8841	12.0271	3.8232	1.7337	5.5569	0.0000	8,486.7063	8,486.7063	2.5345	0.0773	8,573.1093
Maximum	8.7319	45.3378	38.4800	0.0871	10.1429	1.8841	12.0271	3.8232	1.7337	5.5569	0.0000	8,486.7063	8,486.7063	2.5345	0.0773	8,573.1093

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	8.7319	45.3378	38.4800	0.0871	4.5406	1.8841	6.4247	1.6914	1.7337	3.4250	0.0000	8,486.7063	8,486.7063	2.5345	0.0773	8,573.1093
Maximum	8.7319	45.3378	38.4800	0.0871	4.5406	1.8841	6.4247	1.6914	1.7337	3.4250	0.0000	8,486.7063	8,486.7063	2.5345	0.0773	8,573.1093

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	55.23	0.00	46.58	55.76	0.00	38.36	0.00	0.00	0.00	0.00	0.00	0.00

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Summer
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Linear, Grubbing, and Land Clearing	Site Preparation	5/11/2023	5/15/2023	5	3	a
2	Linear, Grading & Excavation	Grading	5/16/2023	6/1/2023	5	13	b
3	Linear, Drainage, Utilities, & Sub-Grade	Grading	6/2/2023	6/17/2023	5	11	c
4	Linear, Paving	Paving	6/18/2023	6/23/2023	5	5	d

Acres of Grading (Site Preparation Phase): 1.5

Acres of Grading (Grading Phase): 45.5

Acres of Paving: 14.4

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Linear, Paving	Pavers	1	8.00	130	0.42
Linear, Paving	Paving Equipment	1	8.00	132	0.36
Linear, Paving	Rollers	3	8.00	80	0.38
Linear, Paving	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Linear, Grubbing, and Land Clearing	Crawler Tractors	1	8.00	212	0.43
Linear, Grubbing, and Land Clearing	Excavators	1	8.00	158	0.38
Linear, Grubbing, and Land Clearing	Rubber Tired Dozers	0	8.00	247	0.40
Linear, Grubbing, and Land Clearing	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Linear, Grading & Excavation	Crawler Tractors	1	8.00	212	0.43

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Linear, Grading & Excavation	Excavators	3	8.00	158	0.38
Linear, Grading & Excavation	Graders	1	8.00	187	0.41
Linear, Grading & Excavation	Rollers	2	8.00	80	0.38
Linear, Grading & Excavation	Rubber Tired Dozers	1	8.00	247	0.40
Linear, Grading & Excavation	Scrapers	2	8.00	367	0.48
Linear, Grading & Excavation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	1	8.00	78	0.48
Linear, Drainage, Utilities, & Sub-Grade	Excavators	0	8.00	158	0.38
Linear, Drainage, Utilities, & Sub-Grade	Generator Sets	1	8.00	84	0.74
Linear, Drainage, Utilities, & Sub-Grade	Graders	1	8.00	187	0.41
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	1	8.00	8	0.43
Linear, Drainage, Utilities, & Sub-Grade	Pumps	1	8.00	84	0.74
Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	1	8.00	100	0.40
Linear, Drainage, Utilities, & Sub-Grade	Rubber Tired Dozers	0	8.00	247	0.40
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	2	8.00	367	0.48
Linear, Drainage, Utilities, & Sub-Grade	Tractors/Loaders/Backhoes	2	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Linear, Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Linear, Grubbing, and Land Clearing	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Linear, Grading & Excavation	12	30.00	24.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Linear, Drainage, Utilities, & Sub-Grade	10	25.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Summer
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.1 Mitigation Measures Construction

- Replace Ground Cover
- Water Exposed Area
- Reduce Vehicle Speed on Unpaved Roads
- Clean Paved Roads

3.2 Linear, Grubbing, and Land Clearing - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.6328	6.6732	5.5014	0.0130		0.2745	0.2745		0.2526	0.2526		1,258.3774	1,258.3774	0.4070		1,268.5520
Total	0.6328	6.6732	5.5014	0.0130	0.5303	0.2745	0.8048	0.0573	0.2526	0.3098		1,258.3774	1,258.3774	0.4070		1,268.5520

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0166	9.3000e-003	0.1440	3.7000e-004	0.0411	2.1000e-004	0.0413	0.0109	1.9000e-004	0.0111		37.3251	37.3251	1.0500e-003	9.6000e-004	37.6378
Total	0.0166	9.3000e-003	0.1440	3.7000e-004	0.0411	2.1000e-004	0.0413	0.0109	1.9000e-004	0.0111		37.3251	37.3251	1.0500e-003	9.6000e-004	37.6378

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2267	0.0000	0.2267	0.0245	0.0000	0.0245			0.0000			0.0000
Off-Road	0.6328	6.6732	5.5014	0.0130		0.2745	0.2745		0.2526	0.2526	0.0000	1,258.3774	1,258.3774	0.4070		1,268.5520
Total	0.6328	6.6732	5.5014	0.0130	0.2267	0.2745	0.5012	0.0245	0.2526	0.2771	0.0000	1,258.3774	1,258.3774	0.4070		1,268.5520

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0166	9.3000e-003	0.1440	3.7000e-004	0.0379	2.1000e-004	0.0381	0.0101	1.9000e-004	0.0103		37.3251	37.3251	1.0500e-003	9.6000e-004	37.6378
Total	0.0166	9.3000e-003	0.1440	3.7000e-004	0.0379	2.1000e-004	0.0381	0.0101	1.9000e-004	0.0103		37.3251	37.3251	1.0500e-003	9.6000e-004	37.6378

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Summer
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.3 Linear, Grading & Excavation - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.7338	0.0000	9.7338	3.7110	0.0000	3.7110			0.0000			0.0000
Off-Road	4.2620	44.4090	37.2571	0.0803		1.8762	1.8762		1.7261	1.7261		7,778.0704	7,778.0704	2.5156		7,840.9601
Total	4.2620	44.4090	37.2571	0.0803	9.7338	1.8762	11.6100	3.7110	1.7261	5.4371		7,778.0704	7,778.0704	2.5156		7,840.9601

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0286	0.8730	0.3587	4.5200e-003	0.1626	6.6800e-003	0.1693	0.0468	6.3900e-003	0.0532		484.6853	484.6853	0.0127	0.0716	506.3225
Worker	0.0997	0.0558	0.8642	2.2200e-003	0.2464	1.2500e-003	0.2477	0.0654	1.1500e-003	0.0665		223.9506	223.9506	6.2800e-003	5.7700e-003	225.8268
Total	0.1283	0.9287	1.2230	6.7400e-003	0.4091	7.9300e-003	0.4170	0.1122	7.5400e-003	0.1197		708.6358	708.6358	0.0189	0.0773	732.1493

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Summer
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.1612	0.0000	4.1612	1.5865	0.0000	1.5865			0.0000			0.0000
Off-Road	4.2620	44.4090	37.2571	0.0803		1.8762	1.8762		1.7261	1.7261	0.0000	7,778.0704	7,778.0704	2.5156		7,840.9601
Total	4.2620	44.4090	37.2571	0.0803	4.1612	1.8762	6.0374	1.5865	1.7261	3.3126	0.0000	7,778.0704	7,778.0704	2.5156		7,840.9601

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0286	0.8730	0.3587	4.5200e-003	0.1522	6.6800e-003	0.1589	0.0443	6.3900e-003	0.0507		484.6853	484.6853	0.0127	0.0716	506.3225
Worker	0.0997	0.0558	0.8642	2.2200e-003	0.2272	1.2500e-003	0.2284	0.0606	1.1500e-003	0.0618		223.9506	223.9506	6.2800e-003	5.7700e-003	225.8268
Total	0.1283	0.9287	1.2230	6.7400e-003	0.3794	7.9300e-003	0.3873	0.1049	7.5400e-003	0.1125		708.6358	708.6358	0.0189	0.0773	732.1493

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Summer
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Linear, Drainage, Utilities, & Sub-Grade - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.6513	0.0000	2.6513	0.2863	0.0000	0.2863			0.0000			0.0000
Off-Road	3.2948	33.1476	30.7365	0.0643		1.3642	1.3642		1.2845	1.2845		6,173.8818	6,173.8818	1.5432		6,212.4612
Total	3.2948	33.1476	30.7365	0.0643	2.6513	1.3642	4.0155	0.2863	1.2845	1.5707		6,173.8818	6,173.8818	1.5432		6,212.4612

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0215	0.6547	0.2690	3.3900e-003	0.1220	5.0100e-003	0.1270	0.0351	4.7900e-003	0.0399		363.5139	363.5139	9.4900e-003	0.0537	379.7419
Worker	0.0830	0.0465	0.7202	1.8500e-003	0.2054	1.0400e-003	0.2064	0.0545	9.6000e-004	0.0554		186.6255	186.6255	5.2300e-003	4.8100e-003	188.1890
Total	0.1045	0.7012	0.9892	5.2400e-003	0.3274	6.0500e-003	0.3334	0.0896	5.7500e-003	0.0954		550.1394	550.1394	0.0147	0.0585	567.9309

Mitigated Construction On-Site

**Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Summer
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.1334	0.0000	1.1334	0.1224	0.0000	0.1224			0.0000			0.0000
Off-Road	3.2948	33.1476	30.7365	0.0643		1.3642	1.3642		1.2845	1.2845	0.0000	6,173.8818	6,173.8818	1.5432		6,212.4612
Total	3.2948	33.1476	30.7365	0.0643	1.1334	1.3642	2.4976	0.1224	1.2845	1.4069	0.0000	6,173.8818	6,173.8818	1.5432		6,212.4612

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0215	0.6547	0.2690	3.3900e-003	0.1142	5.0100e-003	0.1192	0.0332	4.7900e-003	0.0380		363.5139	363.5139	9.4900e-003	0.0537	379.7419
Worker	0.0830	0.0465	0.7202	1.8500e-003	0.1893	1.0400e-003	0.1904	0.0505	9.6000e-004	0.0515		186.6255	186.6255	5.2300e-003	4.8100e-003	188.1890
Total	0.1045	0.7012	0.9892	5.2400e-003	0.3035	6.0500e-003	0.3095	0.0837	5.7500e-003	0.0895		550.1394	550.1394	0.0147	0.0585	567.9309

3.5 Linear, Paving - 2023

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Summer
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1265	11.3874	15.4592	0.0229		0.5839	0.5839		0.5372	0.5372		2,215.1604	2,215.1604	0.7164		2,233.0711
Paving	7.5456					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	8.6721	11.3874	15.4592	0.0229		0.5839	0.5839		0.5372	0.5372		2,215.1604	2,215.1604	0.7164		2,233.0711

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0598	0.0335	0.5185	1.3300e-003	0.1479	7.5000e-004	0.1486	0.0392	6.9000e-004	0.0399		134.3703	134.3703	3.7700e-003	3.4600e-003	135.4961
Total	0.0598	0.0335	0.5185	1.3300e-003	0.1479	7.5000e-004	0.1486	0.0392	6.9000e-004	0.0399		134.3703	134.3703	3.7700e-003	3.4600e-003	135.4961

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Summer
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1265	11.3874	15.4592	0.0229		0.5839	0.5839		0.5372	0.5372	0.0000	2,215.1604	2,215.1604	0.7164		2,233.0711
Paving	7.5456					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	8.6721	11.3874	15.4592	0.0229		0.5839	0.5839		0.5372	0.5372	0.0000	2,215.1604	2,215.1604	0.7164		2,233.0711

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0598	0.0335	0.5185	1.3300e-003	0.1363	7.5000e-004	0.1371	0.0364	6.9000e-004	0.0371		134.3703	134.3703	3.7700e-003	3.4600e-003	135.4961
Total	0.0598	0.0335	0.5185	1.3300e-003	0.1363	7.5000e-004	0.1371	0.0364	6.9000e-004	0.0371		134.3703	134.3703	3.7700e-003	3.4600e-003	135.4961

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Winter
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Pathways to College K-8 School Project, Roadway Improvements Construction
San Bernardino-Mojave Desert County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	627.26	1000sqft	14.40	627,264.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	509.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on 2020 Sustainabilit Report
 Land Use - See assumptions file, based on information from District
 Construction Phase - See assumptions file
 Off-road Equipment - See assumptions file
 Trips and VMT - See assumptions file
 Grading -
 Construction Off-road Equipment Mitigation - MDAQMD Rule 403 and 1186

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Table Name	Column Name	Default Value	New Value
tblConstDustMitigation	CleanPavedRoadPercentReduction	0	9
tblConstDustMitigation	WaterUnpavedRoadVehicleSpeed	0	15
tblConstructionPhase	NumDays	30.00	13.00
tblConstructionPhase	NumDays	30.00	11.00
tblConstructionPhase	NumDays	20.00	5.00
tblConstructionPhase	NumDays	10.00	3.00
tblLandUse	LandUseSquareFeet	627,260.00	627,264.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	3.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	390.98	509.98
tblTripsAndVMT	VendorTripNumber	0.00	24.00
tblTripsAndVMT	VendorTripNumber	0.00	18.00

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Winter
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	8.7284	45.3895	38.3500	0.0869	10.1429	1.8842	12.0271	3.8232	1.7337	5.5569	0.0000	8,466.8749	8,466.8749	2.5346	0.0777	8,553.3999
Maximum	8.7284	45.3895	38.3500	0.0869	10.1429	1.8842	12.0271	3.8232	1.7337	5.5569	0.0000	8,466.8749	8,466.8749	2.5346	0.0777	8,553.3999

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2023	8.7284	45.3895	38.3500	0.0869	4.5406	1.8842	6.4248	1.6914	1.7337	3.4251	0.0000	8,466.8749	8,466.8749	2.5346	0.0777	8,553.3999
Maximum	8.7284	45.3895	38.3500	0.0869	4.5406	1.8842	6.4248	1.6914	1.7337	3.4251	0.0000	8,466.8749	8,466.8749	2.5346	0.0777	8,553.3999

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	55.23	0.00	46.58	55.76	0.00	38.36	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Winter
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Linear, Grubbing, and Land Clearing	Site Preparation	5/11/2023	5/15/2023	5	3	a
2	Linear, Grading & Excavation	Grading	5/16/2023	6/1/2023	5	13	b
3	Linear, Drainage, Utilities, & Sub-Grade	Grading	6/2/2023	6/17/2023	5	11	c
4	Linear, Paving	Paving	6/18/2023	6/23/2023	5	5	d

Acres of Grading (Site Preparation Phase): 1.5

Acres of Grading (Grading Phase): 45.5

Acres of Paving: 14.4

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating –

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Linear, Paving	Pavers	1	8.00	130	0.42
Linear, Paving	Paving Equipment	1	8.00	132	0.36
Linear, Paving	Rollers	3	8.00	80	0.38
Linear, Paving	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Linear, Grubbing, and Land Clearing	Crawler Tractors	1	8.00	212	0.43
Linear, Grubbing, and Land Clearing	Excavators	1	8.00	158	0.38
Linear, Grubbing, and Land Clearing	Rubber Tired Dozers	0	8.00	247	0.40
Linear, Grubbing, and Land Clearing	Tractors/Loaders/Backhoes	0	8.00	97	0.37
Linear, Grading & Excavation	Crawler Tractors	1	8.00	212	0.43
Linear, Grading & Excavation	Excavators	3	8.00	158	0.38
Linear, Grading & Excavation	Graders	1	8.00	187	0.41
Linear, Grading & Excavation	Rollers	2	8.00	80	0.38

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Linear, Grading & Excavation	Rubber Tired Dozers	1	8.00	247	0.40
Linear, Grading & Excavation	Scrapers	2	8.00	367	0.48
Linear, Grading & Excavation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Linear, Drainage, Utilities, & Sub-Grade	Air Compressors	1	8.00	78	0.48
Linear, Drainage, Utilities, & Sub-Grade	Excavators	0	8.00	158	0.38
Linear, Drainage, Utilities, & Sub-Grade	Generator Sets	1	8.00	84	0.74
Linear, Drainage, Utilities, & Sub-Grade	Graders	1	8.00	187	0.41
Linear, Drainage, Utilities, & Sub-Grade	Plate Compactors	1	8.00	8	0.43
Linear, Drainage, Utilities, & Sub-Grade	Pumps	1	8.00	84	0.74
Linear, Drainage, Utilities, & Sub-Grade	Rough Terrain Forklifts	1	8.00	100	0.40
Linear, Drainage, Utilities, & Sub-Grade	Rubber Tired Dozers	0	8.00	247	0.40
Linear, Drainage, Utilities, & Sub-Grade	Scrapers	2	8.00	367	0.48
Linear, Drainage, Utilities, & Sub-Grade	Tractors/Loaders/Backhoes	2	8.00	97	0.37

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Linear, Paving	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Linear, Grubbing, and Land Clearing	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Linear, Grading & Excavation	12	30.00	24.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Linear, Drainage, Utilities, & Sub-Grade	10	25.00	18.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

Clean Paved Roads

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Winter
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.2 Linear, Grubbing, and Land Clearing - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.6328	6.6732	5.5014	0.0130		0.2745	0.2745		0.2526	0.2526		1,258.3774	1,258.3774	0.4070		1,268.5520
Total	0.6328	6.6732	5.5014	0.0130	0.5303	0.2745	0.8048	0.0573	0.2526	0.3098		1,258.3774	1,258.3774	0.4070		1,268.5520

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0156	9.7800e-003	0.1206	3.3000e-004	0.0411	2.1000e-004	0.0413	0.0109	1.9000e-004	0.0111		33.8337	33.8337	1.0700e-003	9.9000e-004	34.1566
Total	0.0156	9.7800e-003	0.1206	3.3000e-004	0.0411	2.1000e-004	0.0413	0.0109	1.9000e-004	0.0111		33.8337	33.8337	1.0700e-003	9.9000e-004	34.1566

Mitigated Construction On-Site

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Winter
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.2267	0.0000	0.2267	0.0245	0.0000	0.0245			0.0000			0.0000
Off-Road	0.6328	6.6732	5.5014	0.0130		0.2745	0.2745		0.2526	0.2526	0.0000	1,258.3774	1,258.3774	0.4070		1,268.5520
Total	0.6328	6.6732	5.5014	0.0130	0.2267	0.2745	0.5012	0.0245	0.2526	0.2771	0.0000	1,258.3774	1,258.3774	0.4070		1,268.5520

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0156	9.7800e-003	0.1206	3.3000e-004	0.0379	2.1000e-004	0.0381	0.0101	1.9000e-004	0.0103		33.8337	33.8337	1.0700e-003	9.9000e-004	34.1566
Total	0.0156	9.7800e-003	0.1206	3.3000e-004	0.0379	2.1000e-004	0.0381	0.0101	1.9000e-004	0.0103		33.8337	33.8337	1.0700e-003	9.9000e-004	34.1566

3.3 Linear, Grading & Excavation - 2023

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Winter
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					9.7338	0.0000	9.7338	3.7110	0.0000	3.7110			0.0000			0.0000
Off-Road	4.2620	44.4090	37.2571	0.0803		1.8762	1.8762		1.7261	1.7261		7,778.0704	7,778.0704	2.5156		7,840.9601
Total	4.2620	44.4090	37.2571	0.0803	9.7338	1.8762	11.6100	3.7110	1.7261	5.4371		7,778.0704	7,778.0704	2.5156		7,840.9601

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0267	0.9218	0.3696	4.5300e-003	0.1626	6.7100e-003	0.1694	0.0468	6.4200e-003	0.0533		485.8022	485.8022	0.0126	0.0718	507.5005
Worker	0.0938	0.0587	0.7234	2.0100e-003	0.2464	1.2500e-003	0.2477	0.0654	1.1500e-003	0.0665		203.0023	203.0023	6.4400e-003	5.9600e-003	204.9393
Total	0.1204	0.9805	1.0930	6.5400e-003	0.4091	7.9600e-003	0.4170	0.1122	7.5700e-003	0.1198		688.8045	688.8045	0.0190	0.0777	712.4398

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Winter
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.1612	0.0000	4.1612	1.5865	0.0000	1.5865			0.0000			0.0000
Off-Road	4.2620	44.4090	37.2571	0.0803		1.8762	1.8762		1.7261	1.7261	0.0000	7,778.0704	7,778.0704	2.5156		7,840.9601
Total	4.2620	44.4090	37.2571	0.0803	4.1612	1.8762	6.0374	1.5865	1.7261	3.3126	0.0000	7,778.0704	7,778.0704	2.5156		7,840.9601

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0267	0.9218	0.3696	4.5300e-003	0.1522	6.7100e-003	0.1589	0.0443	6.4200e-003	0.0507		485.8022	485.8022	0.0126	0.0718	507.5005
Worker	0.0938	0.0587	0.7234	2.0100e-003	0.2272	1.2500e-003	0.2284	0.0606	1.1500e-003	0.0618		203.0023	203.0023	6.4400e-003	5.9600e-003	204.9393
Total	0.1204	0.9805	1.0930	6.5400e-003	0.3794	7.9600e-003	0.3873	0.1049	7.5700e-003	0.1125		688.8045	688.8045	0.0190	0.0777	712.4398

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Winter
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.4 Linear, Drainage, Utilities, & Sub-Grade - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.6513	0.0000	2.6513	0.2863	0.0000	0.2863			0.0000			0.0000
Off-Road	3.2948	33.1476	30.7365	0.0643		1.3642	1.3642		1.2845	1.2845		6,173.8818	6,173.8818	1.5432		6,212.4612
Total	3.2948	33.1476	30.7365	0.0643	2.6513	1.3642	4.0155	0.2863	1.2845	1.5707		6,173.8818	6,173.8818	1.5432		6,212.4612

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0200	0.6913	0.2772	3.4000e-003	0.1220	5.0300e-003	0.1270	0.0351	4.8100e-003	0.0399		364.3517	364.3517	9.4200e-003	0.0538	380.6254
Worker	0.0781	0.0489	0.6028	1.6700e-003	0.2054	1.0400e-003	0.2064	0.0545	9.6000e-004	0.0554		169.1686	169.1686	5.3700e-003	4.9700e-003	170.7828
Total	0.0982	0.7402	0.8800	5.0700e-003	0.3274	6.0700e-003	0.3334	0.0896	5.7700e-003	0.0954		533.5202	533.5202	0.0148	0.0588	551.4081

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Winter
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.1334	0.0000	1.1334	0.1224	0.0000	0.1224			0.0000			0.0000
Off-Road	3.2948	33.1476	30.7365	0.0643		1.3642	1.3642		1.2845	1.2845	0.0000	6,173.8818	6,173.8818	1.5432		6,212.4612
Total	3.2948	33.1476	30.7365	0.0643	1.1334	1.3642	2.4976	0.1224	1.2845	1.4069	0.0000	6,173.8818	6,173.8818	1.5432		6,212.4612

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0200	0.6913	0.2772	3.4000e-003	0.1142	5.0300e-003	0.1192	0.0332	4.8100e-003	0.0380		364.3517	364.3517	9.4200e-003	0.0538	380.6254
Worker	0.0781	0.0489	0.6028	1.6700e-003	0.1893	1.0400e-003	0.1904	0.0505	9.6000e-004	0.0515		169.1686	169.1686	5.3700e-003	4.9700e-003	170.7828
Total	0.0982	0.7402	0.8800	5.0700e-003	0.3035	6.0700e-003	0.3095	0.0837	5.7700e-003	0.0895		533.5202	533.5202	0.0148	0.0588	551.4081

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Winter
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

3.5 Linear, Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1265	11.3874	15.4592	0.0229		0.5839	0.5839		0.5372	0.5372		2,215.1604	2,215.1604	0.7164		2,233.0711
Paving	7.5456					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	8.6721	11.3874	15.4592	0.0229		0.5839	0.5839		0.5372	0.5372		2,215.1604	2,215.1604	0.7164		2,233.0711

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0563	0.0352	0.4340	1.2100e-003	0.1479	7.5000e-004	0.1486	0.0392	6.9000e-004	0.0399		121.8014	121.8014	3.8600e-003	3.5800e-003	122.9636
Total	0.0563	0.0352	0.4340	1.2100e-003	0.1479	7.5000e-004	0.1486	0.0392	6.9000e-004	0.0399		121.8014	121.8014	3.8600e-003	3.5800e-003	122.9636

Pathways to College K-8 School Project, Roadway Improvements Construction - San Bernardino-Mojave Desert County, Winter
EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1265	11.3874	15.4592	0.0229		0.5839	0.5839		0.5372	0.5372	0.0000	2,215.1604	2,215.1604	0.7164		2,233.0711
Paving	7.5456					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	8.6721	11.3874	15.4592	0.0229		0.5839	0.5839		0.5372	0.5372	0.0000	2,215.1604	2,215.1604	0.7164		2,233.0711

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0563	0.0352	0.4340	1.2100e-003	0.1363	7.5000e-004	0.1371	0.0364	6.9000e-004	0.0371		121.8014	121.8014	3.8600e-003	3.5800e-003	122.9636
Total	0.0563	0.0352	0.4340	1.2100e-003	0.1363	7.5000e-004	0.1371	0.0364	6.9000e-004	0.0371		121.8014	121.8014	3.8600e-003	3.5800e-003	122.9636

CalEEMod Operations Model

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Pathways to College K-8 School Project, Operation
San Bernardino-Mojave Desert County, Annual**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	700.00	Student	1.38	60,180.00	0
Parking Lot	45.41	1000sqft	1.04	45,408.00	0
Other Asphalt Surfaces	631.96	1000sqft	14.51	631,964.00	0
Other Non-Asphalt Surfaces	403.28	1000sqft	9.26	403,284.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	509.98	CH4 Intensity (lb/MWhr)	0.033	N2O Intensity (lb/MWhr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on 2020 Sustainability Report

Land Use - Based on information from District, See assumptions file

Construction Phase -

Vehicle Trips - Assume 100% primary trips, see assumptions file

Fleet Mix - fleet mix adjustment, see assumptions file

Area Coating - See assumptions file

Water And Wastewater - Assume 100% aerobic treatment, see assumptions file

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Solid Waste - See assumptions file

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	64839	2724
tblFleetMix	HHD	0.02	2.7490e-003
tblFleetMix	LDA	0.54	0.66
tblFleetMix	LDT1	0.06	0.07
tblFleetMix	LDT2	0.17	0.21
tblFleetMix	LHD1	0.03	4.2950e-003
tblFleetMix	LHD2	7.1960e-003	1.1440e-003
tblFleetMix	MCY	0.03	0.03
tblFleetMix	MDV	0.14	0.02
tblFleetMix	MH	5.0710e-003	0.00
tblFleetMix	MHD	0.01	1.8120e-003
tblFleetMix	OBUS	5.5900e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	UBUS	2.5400e-004	0.00
tblLandUse	LandUseSquareFeet	58,522.36	60,180.00
tblLandUse	LandUseSquareFeet	45,410.00	45,408.00
tblLandUse	LandUseSquareFeet	631,960.00	631,964.00
tblLandUse	LandUseSquareFeet	403,280.00	403,284.00
tblLandUse	LotAcreage	1.34	1.38
tblProjectCharacteristics	CO2IntensityFactor	390.98	509.98
tblSolidWaste	SolidWasteGenerationRate	127.75	73.91
tblVehicleTrips	DV_TP	25.00	0.00
tblVehicleTrips	PB_TP	12.00	0.00
tblVehicleTrips	PR_TP	63.00	100.00
tblVehicleTrips	WD_TR	1.89	1.85

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tbWater	AerobicPercent	87.46	100.00
tbWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tbWater	IndoorWaterUseRate	1,696,968.00	1,718,055.00
tbWater	OutdoorWaterUseRate	4,363,632.00	2,934,600.00
tbWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3777	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0318	0.0318	8.0000e-005	0.0000	0.0339
Energy	2.8200e-003	0.0256	0.0215	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	129.1701	129.1701	7.0900e-003	1.3100e-003	129.7364
Mobile	0.5433	0.4251	5.4244	9.1200e-003	1.0939	5.8400e-003	1.0997	0.2902	5.3900e-003	0.2956	0.0000	837.4103	837.4103	0.0621	0.0338	849.0334
Waste						0.0000	0.0000		0.0000	0.0000	15.0031	0.0000	15.0031	0.8867	0.0000	37.1695
Water						0.0000	0.0000		0.0000	0.0000	0.6079	12.7168	13.3247	2.9200e-003	1.4200e-003	13.8212
Total	0.9238	0.4509	5.4622	9.2700e-003	1.0939	7.8500e-003	1.1017	0.2902	7.4000e-003	0.2976	15.6109	979.3290	994.9399	0.9588	0.0365	1,029.7943

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3777	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0318	0.0318	8.0000e-005	0.0000	0.0339
Energy	2.8200e-003	0.0256	0.0215	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	129.1701	129.1701	7.0900e-003	1.3100e-003	129.7364
Mobile	0.5433	0.4251	5.4244	9.1200e-003	1.0939	5.8400e-003	1.0997	0.2902	5.3900e-003	0.2956	0.0000	837.4103	837.4103	0.0621	0.0338	849.0334
Waste						0.0000	0.0000		0.0000	0.0000	15.0031	0.0000	15.0031	0.8867	0.0000	37.1695
Water						0.0000	0.0000		0.0000	0.0000	0.6079	12.7168	13.3247	2.9200e-003	1.4200e-003	13.8212
Total	0.9238	0.4509	5.4622	9.2700e-003	1.0939	7.8500e-003	1.1017	0.2902	7.4000e-003	0.2976	15.6109	979.3290	994.9399	0.9588	0.0365	1,029.7943

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.5433	0.4251	5.4244	9.1200e-003	1.0939	5.8400e-003	1.0997	0.2902	5.3900e-003	0.2956	0.0000	837.4103	837.4103	0.0621	0.0338	849.0334
Unmitigated	0.5433	0.4251	5.4244	9.1200e-003	1.0939	5.8400e-003	1.0997	0.2902	5.3900e-003	0.2956	0.0000	837.4103	837.4103	0.0621	0.0338	849.0334

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Elementary School	1,295.00	0.00	0.00	2,939,391	2,939,391
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	1,295.00	0.00	0.00	2,939,391	2,939,391

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Elementary School	9.50	7.30	7.30	65.00	30.00	5.00	100	0	0
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Elementary School	0.656966	0.068213	0.210549	0.020000	0.004295	0.001144	0.001812	0.002749	0.000000	0.000000	0.034272	0.000000	0.000000
Other Asphalt Surfaces	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071
Other Non-Asphalt Surfaces	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071
Parking Lot	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	101.2627	101.2627	6.5500e-003	7.9000e-004	101.6632
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	101.2627	101.2627	6.5500e-003	7.9000e-004	101.6632
NaturalGas Mitigated	2.8200e-003	0.0256	0.0215	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	27.9074	27.9074	5.3000e-004	5.1000e-004	28.0732
NaturalGas Unmitigated	2.8200e-003	0.0256	0.0215	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	27.9074	27.9074	5.3000e-004	5.1000e-004	28.0732

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Elementary School	522964	2.8200e-003	0.0256	0.0215	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	27.9074	27.9074	5.3000e-004	5.1000e-004	28.0732
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		2.8200e-003	0.0256	0.0215	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	27.9074	27.9074	5.3000e-004	5.1000e-004	28.0732

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Elementary School	522964	2.8200e-003	0.0256	0.0215	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	27.9074	27.9074	5.3000e-004	5.1000e-004	28.0732
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		2.8200e-003	0.0256	0.0215	1.5000e-004		1.9500e-003	1.9500e-003		1.9500e-003	1.9500e-003	0.0000	27.9074	27.9074	5.3000e-004	5.1000e-004	28.0732

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Elementary School	421862	97.5864	6.3100e-003	7.7000e-004	97.9723
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	15892.8	3.6764	2.4000e-004	3.0000e-005	3.6909
Total		101.2627	6.5500e-003	8.0000e-004	101.6632

Mitigated

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Elementary School	421862	97.5864	6.3100e-003	7.7000e-004	97.9723
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	15892.8	3.6764	2.4000e-004	3.0000e-005	3.6909
Total		101.2627	6.5500e-003	8.0000e-004	101.6632

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3777	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0318	0.0318	8.0000e-005	0.0000	0.0339
Unmitigated	0.3777	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0318	0.0318	8.0000e-005	0.0000	0.0339

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
SubCategory	tons/yr										MT/yr						
Architectural Coating	0.0713					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3049					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.5200e-003	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0318	0.0318	8.0000e-005	0.0000	0.0339	
Total	0.3777	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0318	0.0318	8.0000e-005	0.0000	0.0339	

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e	
SubCategory	tons/yr										MT/yr						
Architectural Coating	0.0713					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.3049					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.5200e-003	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0318	0.0318	8.0000e-005	0.0000	0.0339	
Total	0.3777	1.5000e-004	0.0164	0.0000		6.0000e-005	6.0000e-005		6.0000e-005	6.0000e-005	0.0000	0.0318	0.0318	8.0000e-005	0.0000	0.0339	

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	13.3247	2.9200e-003	1.4200e-003	13.8212
Unmitigated	13.3247	2.9200e-003	1.4200e-003	13.8212

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Elementary School	1.71806 / 2.9346	13.3247	2.9200e-003	1.4200e-003	13.8212
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		13.3247	2.9200e-003	1.4200e-003	13.8212

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Elementary School	1.71806 / 2.9346	13.3247	2.9200e-003	1.4200e-003	13.8212
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		13.3247	2.9200e-003	1.4200e-003	13.8212

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	15.0031	0.8867	0.0000	37.1695
Unmitigated	15.0031	0.8867	0.0000	37.1695

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Elementary School	73.91	15.0031	0.8867	0.0000	37.1695
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		15.0031	0.8867	0.0000	37.1695

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Elementary School	73.91	15.0031	0.8867	0.0000	37.1695
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000
Total		15.0031	0.8867	0.0000	37.1695

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Pathways to College K-8 School Project, Operation
San Bernardino-Mojave Desert County, Summer**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	700.00	Student	1.38	60,180.00	0
Parking Lot	45.41	1000sqft	1.04	45,408.00	0
Other Asphalt Surfaces	631.96	1000sqft	14.51	631,964.00	0
Other Non-Asphalt Surfaces	403.28	1000sqft	9.26	403,284.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	509.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on 2020 Sustainability Report

Land Use - Based on information from District, See assumptions file

Construction Phase -

Vehicle Trips - Assume 100% primary trips, see assumptions file

Fleet Mix - fleet mix adjustment, see assumptions file

Area Coating - See assumptions file

Water And Wastewater - Assume 100% aerobic treatment, see assumptions file

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Solid Waste - See assumptions file

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	64839	2724
tblFleetMix	HHD	0.02	2.7490e-003
tblFleetMix	LDA	0.54	0.66
tblFleetMix	LDT1	0.06	0.07
tblFleetMix	LDT2	0.17	0.21
tblFleetMix	LHD1	0.03	4.2950e-003
tblFleetMix	LHD2	7.1960e-003	1.1440e-003
tblFleetMix	MCY	0.03	0.03
tblFleetMix	MDV	0.14	0.02
tblFleetMix	MH	5.0710e-003	0.00
tblFleetMix	MHD	0.01	1.8120e-003
tblFleetMix	OBUS	5.5900e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	UBUS	2.5400e-004	0.00
tblLandUse	LandUseSquareFeet	58,522.36	60,180.00
tblLandUse	LandUseSquareFeet	45,410.00	45,408.00
tblLandUse	LandUseSquareFeet	631,960.00	631,964.00
tblLandUse	LandUseSquareFeet	403,280.00	403,284.00
tblLandUse	LotAcreage	1.34	1.38
tblProjectCharacteristics	CO2IntensityFactor	390.98	509.98
tblSolidWaste	SolidWasteGenerationRate	127.75	73.91
tblVehicleTrips	DV_TP	25.00	0.00
tblVehicleTrips	PB_TP	12.00	0.00
tblVehicleTrips	PR_TP	63.00	100.00
tblVehicleTrips	WD_TR	1.89	1.85

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tbWater	AerobicPercent	87.46	100.00
tbWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tbWater	IndoorWaterUseRate	1,696,968.00	1,718,055.00
tbWater	OutdoorWaterUseRate	4,363,632.00	2,934,600.00
tbWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.0782	1.6500e-003	0.1818	1.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004		0.3897	0.3897	1.0200e-003		0.4153
Energy	0.0155	0.1405	0.1180	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.5622	168.5622	3.2300e-003	3.0900e-003	169.5639
Mobile	4.8183	2.9397	44.6097	0.0757	8.5781	0.0449	8.6230	2.2724	0.0415	2.3139		7,664.6266	7,664.6266	0.5059	0.2690	7,757.4286
Total	6.9119	3.0818	44.9095	0.0766	8.5781	0.0563	8.6343	2.2724	0.0529	2.3252		7,833.5785	7,833.5785	0.5101	0.2721	7,927.4077

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.0782	1.6500e-003	0.1818	1.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004		0.3897	0.3897	1.0200e-003		0.4153
Energy	0.0155	0.1405	0.1180	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.5622	168.5622	3.2300e-003	3.0900e-003	169.5639
Mobile	4.8183	2.9397	44.6097	0.0757	8.5781	0.0449	8.6230	2.2724	0.0415	2.3139		7,664.6266	7,664.6266	0.5059	0.2690	7,757.4286
Total	6.9119	3.0818	44.9095	0.0766	8.5781	0.0563	8.6343	2.2724	0.0529	2.3252		7,833.5785	7,833.5785	0.5101	0.2721	7,927.4077

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.8183	2.9397	44.6097	0.0757	8.5781	0.0449	8.6230	2.2724	0.0415	2.3139		7,664.6266	7,664.6266	0.5059	0.2690	7,757.4286
Unmitigated	4.8183	2.9397	44.6097	0.0757	8.5781	0.0449	8.6230	2.2724	0.0415	2.3139		7,664.6266	7,664.6266	0.5059	0.2690	7,757.4286

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Elementary School	1,295.00	0.00	0.00	2,939,391	2,939,391
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	1,295.00	0.00	0.00	2,939,391	2,939,391

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Elementary School	9.50	7.30	7.30	65.00	30.00	5.00	100	0	0
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Elementary School	0.656966	0.068213	0.210549	0.020000	0.004295	0.001144	0.001812	0.002749	0.000000	0.000000	0.034272	0.000000	0.000000
Other Asphalt Surfaces	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071
Other Non-Asphalt Surfaces	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071
Parking Lot	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category	lb/day										lb/day					
NaturalGas Mitigated	0.0155	0.1405	0.1180	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.5622	168.5622	3.2300e-003	3.0900e-003	169.5639
NaturalGas Unmitigated	0.0155	0.1405	0.1180	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.5622	168.5622	3.2300e-003	3.0900e-003	169.5639

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Elementary School	1432.78	0.0155	0.1405	0.1180	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.5622	168.5622	3.2300e-003	3.0900e-003	169.5639
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0155	0.1405	0.1180	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.5622	168.5622	3.2300e-003	3.0900e-003	169.5639

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Elementary School	1.43278	0.0155	0.1405	0.1180	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.5622	168.5622	3.2300e-003	3.0900e-003	169.5639
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0155	0.1405	0.1180	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.5622	168.5622	3.2300e-003	3.0900e-003	169.5639

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.0782	1.6500e-003	0.1818	1.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004		0.3897	0.3897	1.0200e-003		0.4153
Unmitigated	2.0782	1.6500e-003	0.1818	1.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004		0.3897	0.3897	1.0200e-003		0.4153

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3908					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.6706					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0168	1.6500e-003	0.1818	1.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004		0.3897	0.3897	1.0200e-003		0.4153
Total	2.0782	1.6500e-003	0.1818	1.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004		0.3897	0.3897	1.0200e-003		0.4153

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3908					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.6706					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0168	1.6500e-003	0.1818	1.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004		0.3897	0.3897	1.0200e-003		0.4153
Total	2.0782	1.6500e-003	0.1818	1.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004		0.3897	0.3897	1.0200e-003		0.4153

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Summer

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

**Pathways to College K-8 School Project, Operation
San Bernardino-Mojave Desert County, Winter**

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Elementary School	700.00	Student	1.38	60,180.00	0
Parking Lot	45.41	1000sqft	1.04	45,408.00	0
Other Asphalt Surfaces	631.96	1000sqft	14.51	631,964.00	0
Other Non-Asphalt Surfaces	403.28	1000sqft	9.26	403,284.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.6	Precipitation Freq (Days)	32
Climate Zone	10			Operational Year	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW hr)	509.98	CH4 Intensity (lb/MW hr)	0.033	N2O Intensity (lb/MW hr)	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Based on 2020 Sustainability Report

Land Use - Based on information from District, See assumptions file

Construction Phase -

Vehicle Trips - Assume 100% primary trips, see assumptions file

Fleet Mix - fleet mix adjustment, see assumptions file

Area Coating - See assumptions file

Water And Wastewater - Assume 100% aerobic treatment, see assumptions file

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Solid Waste - See assumptions file

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_Parking	64839	2724
tblFleetMix	HHD	0.02	2.7490e-003
tblFleetMix	LDA	0.54	0.66
tblFleetMix	LDT1	0.06	0.07
tblFleetMix	LDT2	0.17	0.21
tblFleetMix	LHD1	0.03	4.2950e-003
tblFleetMix	LHD2	7.1960e-003	1.1440e-003
tblFleetMix	MCY	0.03	0.03
tblFleetMix	MDV	0.14	0.02
tblFleetMix	MH	5.0710e-003	0.00
tblFleetMix	MHD	0.01	1.8120e-003
tblFleetMix	OBUS	5.5900e-004	0.00
tblFleetMix	SBUS	9.5400e-004	0.00
tblFleetMix	UBUS	2.5400e-004	0.00
tblLandUse	LandUseSquareFeet	58,522.36	60,180.00
tblLandUse	LandUseSquareFeet	45,410.00	45,408.00
tblLandUse	LandUseSquareFeet	631,960.00	631,964.00
tblLandUse	LandUseSquareFeet	403,280.00	403,284.00
tblLandUse	LotAcreage	1.34	1.38
tblProjectCharacteristics	CO2IntensityFactor	390.98	509.98
tblSolidWaste	SolidWasteGenerationRate	127.75	73.91
tblVehicleTrips	DV_TP	25.00	0.00
tblVehicleTrips	PB_TP	12.00	0.00
tblVehicleTrips	PR_TP	63.00	100.00
tblVehicleTrips	WD_TR	1.89	1.85

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

tbWater	AerobicPercent	87.46	100.00
tbWater	AnaerobicandFacultativeLagoonsPercent	2.21	0.00
tbWater	IndoorWaterUseRate	1,696,968.00	1,718,055.00
tbWater	OutdoorWaterUseRate	4,363,632.00	2,934,600.00
tbWater	SepticTankPercent	10.33	0.00

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.0782	1.6500e-003	0.1818	1.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004		0.3897	0.3897	1.0200e-003		0.4153
Energy	0.0155	0.1405	0.1180	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.5622	168.5622	3.2300e-003	3.0900e-003	169.5639
Mobile	4.2135	3.1619	39.9631	0.0689	8.5781	0.0449	8.6230	2.2724	0.0415	2.3139		6,976.5071	6,976.5071	0.5201	0.2801	7,072.9815
Total	6.3071	3.3040	40.2629	0.0698	8.5781	0.0563	8.6343	2.2724	0.0529	2.3252		7,145.4590	7,145.4590	0.5244	0.2832	7,242.9606

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.0782	1.6500e-003	0.1818	1.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004		0.3897	0.3897	1.0200e-003		0.4153
Energy	0.0155	0.1405	0.1180	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.5622	168.5622	3.2300e-003	3.0900e-003	169.5639
Mobile	4.2135	3.1619	39.9631	0.0689	8.5781	0.0449	8.6230	2.2724	0.0415	2.3139		6,976.5071	6,976.5071	0.5201	0.2801	7,072.9815
Total	6.3071	3.3040	40.2629	0.0698	8.5781	0.0563	8.6343	2.2724	0.0529	2.3252		7,145.4590	7,145.4590	0.5244	0.2832	7,242.9606

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	4.2135	3.1619	39.9631	0.0689	8.5781	0.0449	8.6230	2.2724	0.0415	2.3139		6,976.5071	6,976.5071	0.5201	0.2801	7,072.9815
Unmitigated	4.2135	3.1619	39.9631	0.0689	8.5781	0.0449	8.6230	2.2724	0.0415	2.3139		6,976.5071	6,976.5071	0.5201	0.2801	7,072.9815

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Elementary School	1,295.00	0.00	0.00	2,939,391	2,939,391
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	1,295.00	0.00	0.00	2,939,391	2,939,391

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Elementary School	9.50	7.30	7.30	65.00	30.00	5.00	100	0	0
Other Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0
Parking Lot	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Elementary School	0.656966	0.068213	0.210549	0.020000	0.004295	0.001144	0.001812	0.002749	0.000000	0.000000	0.034272	0.000000	0.000000
Other Asphalt Surfaces	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071
Other Non-Asphalt Surfaces	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071
Parking Lot	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

Category	lb/day										lb/day					
NaturalGas Mitigated	0.0155	0.1405	0.1180	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.5622	168.5622	3.2300e-003	3.0900e-003	169.5639
NaturalGas Unmitigated	0.0155	0.1405	0.1180	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.5622	168.5622	3.2300e-003	3.0900e-003	169.5639

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Elementary School	1432.78	0.0155	0.1405	0.1180	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.5622	168.5622	3.2300e-003	3.0900e-003	169.5639
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0155	0.1405	0.1180	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.5622	168.5622	3.2300e-003	3.0900e-003	169.5639

Mitigated

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Elementary School	1.43278	0.0155	0.1405	0.1180	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.5622	168.5622	3.2300e-003	3.0900e-003	169.5639
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Parking Lot	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0155	0.1405	0.1180	8.4000e-004		0.0107	0.0107		0.0107	0.0107		168.5622	168.5622	3.2300e-003	3.0900e-003	169.5639

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.0782	1.6500e-003	0.1818	1.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004		0.3897	0.3897	1.0200e-003		0.4153
Unmitigated	2.0782	1.6500e-003	0.1818	1.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004		0.3897	0.3897	1.0200e-003		0.4153

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3908					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.6706					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0168	1.6500e-003	0.1818	1.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004		0.3897	0.3897	1.0200e-003		0.4153
Total	2.0782	1.6500e-003	0.1818	1.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004		0.3897	0.3897	1.0200e-003		0.4153

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3908					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.6706					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	0.0168	1.6500e-003	0.1818	1.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004		0.3897	0.3897	1.0200e-003		0.4153
Total	2.0782	1.6500e-003	0.1818	1.0000e-005		6.5000e-004	6.5000e-004		6.5000e-004	6.5000e-004		0.3897	0.3897	1.0200e-003		0.4153

Pathways to College K-8 School Project, Operation - San Bernardino-Mojave Desert County, Winter

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Not Applied

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

Energy Calculations

Operation-Related Vehicle Fuel/Energy Usage

PROJECT LAND USE COMMUTE

Vehicle Type	Gas		Diesel		CNG		Electricity	
	VMT	Gallons	VMT	Gallons	VMT	Gallons	VMT	kWh
All Vehicles	2,804,896	104,897	28,391	2,414	16	2	106,088	38,593
Total	2,804,896	104,897	28,391	2,414	16	2	106,088	38,593

Construction-Related Fuel/Energy Usage

CONSTRUCTION WORKER COMMUTE

Year	Gas		Diesel		Electricity	
	VMT	Gallons	VMT	Gallons	VMT	kWh
2022	3,391	134	8	0	78	28
2023	459,205	17,836	1,046	29	13,470	4,892
Total	462,596	17,971	1,054	29	13,548	4,921

CONSTRUCTION VENDOR TRIPS

Year	Gas		Diesel	
	VMT	Gallons	VMT	Gallons
2022	350	70	2,069	296
2023	16,672	3,294	98,905	14,039
Total	17,022	3,365	100,975	14,335

CONSTRUCTION OFF-ROAD EQUIPMENT

Year	Gasoline gallons	Diesel gallons
2022	0	3,494
2023	331	27,127
Total	331	30,621

CONSTRUCTION TOTAL

Year	Gas		Diesel		Electricity	
	VMT	Gallons	VMT	Gallons	VMT	kWh
2022	3,741	205	2,077	3,790	78	28
2023	475,877	21,462	99,951	41,195	13,470	4,892
Total	479,618	21,666	102,029	44,984	13,548	4,921

Off-Road Construction Equipment Fuel Usage Worksheet

Year	Total Gasoline	Total Diesel Gallons	Total Natural Gas
2022	0	3,494	0
2023	331	27,127	0
Total	331	30,621	0

Equipment Type ¹	Number of Equipment ¹	Horsepower	OFFROAD2017 Horsepower Category	Fuel Type	Working days ¹	Hours Per Day	Total Hours of Operation	Gasoline Gal/Hr ²	Total Gasoline gallons	Diesel Gal/Hr ²	Total Diesel gallons	Natural Gas Gal/Hr ²	Total Natural Gas gallons
2022													
Site Preparation													
Rubber Tired Dozers	3	247	300	Diesel	4	8	96	0.00	0	4.47	429	0.00	0
Tractors/Loaders/Backhoes	4	97	100	Diesel	4	8	128	0.00	0	1.59	204	0.00	0
Site Preparation and Rough Grading													
Tractors/Loaders/Backhoes	4	97	100	Diesel	10	8	320	0.00	0	1.59	510	0.00	0
Rubber Tired Dozers	3	247	300	Diesel	10	8	240	0.00	0	4.47	1,073	0.00	0
Scrapers	2	367	600	Diesel	10	6	120	0.00	0	10.55	1,267	0.00	0
Plate Compactor	1	8	25	Diesel	10	6	60	0.00	0	0.20	12	0.00	0
TOTAL									0		3,494		0
2023													
Main Building Construction 1													
Aerial Lifts	3	63	75	Diesel	22	8	528	0.00	0	1.11	588	0.00	0
Forklifts	3	89	100	Diesel	22	8	528	0.00	0	1.28	673	0.00	0
Main Building Construction and Modular Building Installation													
Aerial Lifts	3	63	75	Diesel	24	8	576	0.00	0	1.11	642	0.00	0
Forklifts	3	89	100	Diesel	24	8	576	0.00	0	1.28	735	0.00	0
Main Building Construction 2													
Aerial Lifts	3	63	75	Diesel	140	8	3,360	0.00	0	1.11	3,744	0.00	0
Forklifts	3	89	100	Diesel	140	8	3,360	0.00	0	1.28	4,285	0.00	0
Utility Trenching													
Excavators	2	158	175	Diesel	63	6	756	0.00	0	2.89	2,182	0.00	0
Skid Steer Loaders	1	65	75	Diesel	63	6	378	0.00	0	1.35	509	0.00	0
Plate Compactor	1	8	25	Diesel	63	6	378	0.00	0	0.20	74	0.00	0
Architectural Coating													
Aerial Lifts	3	63	75	Diesel	39	8	936	0.00	0	1.11	1,043	0.00	0
Forklifts	1	89	100	Diesel	39	8	312	0.00	0	1.28	398	0.00	0
Finishing/Landscaping 1													
Skid Steer Loaders	2	65	75	Diesel	42	6	504	0.00	0	1.35	679	0.00	0
Finishing/Landscaping and Fine Grading													
Skid Steer Loaders	2	65	75	Diesel	10	6	120	0.00	0	1.35	162	0.00	0
Tractors/Loaders/Backhoes	2	97	100	Diesel	10	6	120	0.00	0	1.59	191	0.00	0
Finishing/Landscaping 2													
Skid Steer Loaders	2	65	75	Diesel	39	6	468	0.00	0	1.35	630	0.00	0
Paving													
Rollers	2	80	100	Diesel	27	6	324	0.00	0	1.69	549	0.00	0
Paving Equipment	2	132	175	Diesel	27	8	432	0.00	0	2.67	1,152	0.00	0
Skid Steer Loaders	1	65	75	Diesel	27	6	162	0.00	0	1.35	218	0.00	0
Sweepers/Scrubbers	1	64	75	Diesel	27	6	162	0.00	0	0.00	0	0.00	0
Linear, Grubbing, and Land Clearing													
Crawler Tractors	1	212	300	Diesel	3	8	24	0.00	0	4.55	109	0.00	0
Excavators	1	158	175	Diesel	3	8	24	0.00	0	2.89	69	0.00	0
Linear, Grading & Excavation													
Crawler Tractors	1	212	300	Diesel	13	8	104	0.00	0	4.55	473	0.00	0
Excavators	3	158	175	Diesel	13	8	312	0.00	0	2.89	900	0.00	0
Graders	1	187	300	Diesel	13	8	104	0.00	0	4.55	473	0.00	0
Rollers	2	80	100	Diesel	13	8	208	0.00	0	1.69	352	0.00	0
Rubber Tired Dozers	1	247	300	Diesel	13	8	104	0.00	0	4.47	465	0.00	0
Scrapers	2	367	600	Diesel	13	8	208	0.00	0	10.55	2,195	0.00	0
Tractors/Loaders/Backhoes	2	97	100	Diesel	13	8	208	0.00	0	1.59	331	0.00	0
Linear, Drainage, Utilities, & Sub-Grade													
Air Compressors	1	78	100	Gasoline	11	8	88	3.76	331	0.00	0	0.00	0
Generator Sets	1	84	100	Diesel	11	8	88	0.00	0	0.00	0	0.00	0
Graders	1	187	300	Diesel	11	8	88	0.00	0	4.55	400	0.00	0
Plate Compactor	1	8	25	Diesel	11	8	88	0.00	0	0.20	17	0.00	0
Pumps	1	84	100	Diesel	11	8	88	0.00	0	0.00	0	0.00	0
Rough Terrain Forklifts	1	100	100	Diesel	11	8	88	0.00	0	2.00	176	0.00	0
Scrapers	2	367	600	Diesel	11	8	176	0.00	0	10.55	1,858	0.00	0
Tractors/Loaders/Backhoes	2	97	100	Diesel	11	8	176	0.00	0	1.59	280	0.00	0
Linear, Paving													
Pavers	1	130	175	Diesel	5	8	40	0.00	0	3.40	136	0.00	0
Paving Equipment	1	132	175	Diesel	5	8	40	0.00	0	2.67	107	0.00	0
Rollers	3	80	100	Diesel	5	8	120	0.00	0	1.69	203	0.00	0
Tractors/Loaders/Backhoes	2	97	100	Diesel	5	8	80	0.00	0	1.59	127	0.00	0
TOTAL									331		27,127		0

¹ Based on information provided.
² OFFROAD2021 v.1.1.0.2

OFFROAD 2022

Equipment Type	Horsepower	Gas				Diesel				Natural Gas								
		Fuel (Gal/Hr)	Population	Hrs/Yr	Gal/Hr	Fuel (Gal/Hr)	Population	Hrs/Yr	Gal/Hr	Fuel (Gal/Hr)	Population	Hrs/Yr	Gal/Hr					
Air Compressors25	Air Compressors	25	1280	72662	4.536470554	0	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors50	Air Compressors	50	3365.3	3.14	1518.4	2.216346154	5865.55	7.07	5752.4	1019670051	0	0	0	0	0	0	0	0
Air Compressors75	Air Compressors	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors100	Air Compressors	100	18421.55	10.16	4894.65	3.763609247	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors175	Air Compressors	175	2259.35	0.68	321.2	7.034090909	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors300	Air Compressors	300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors600	Air Compressors	600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors750	Air Compressors	750	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors9999	Air Compressors	9999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Aerial Lifts25	Aerial Lifts	25	132.3995897	0.785712452	0	0	1.062893375	0.484252711	0	605.9	1.36	507.35	1.194244604	0	0	0	0	0
Aerial Lifts50	Aerial Lifts	50	821.25	1.45	521.95	1.573426573	9002.620811	35.97015229	11011.13977	0.817590392	0	0	0	0	0	0	0	0
Aerial Lifts75	Aerial Lifts	75	0	0	0	0	6.765.828893	19.94569558	6072.458901	1.11482739	0	0	0	0	0	0	0	0
Aerial Lifts100	Aerial Lifts	100	1489.2	1.45	521.95	2.853146853	8942.646911	23.62928362	7237.110189	1.235665435	0	0	0	0	0	0	0	0
Aerial Lifts175	Aerial Lifts	175	0	0	0	0	960.0388797	1.510703466	461.7650036	2.07863749	0	0	0	0	0	0	0	0
Aerial Lifts300	Aerial Lifts	300	0	0	0	0	57.3697962	0.05092518	15.65238607	3.665242855	0	0	0	0	0	0	0	0
Aerial Lifts600	Aerial Lifts	600	0	0	0	0	40.74086977	0.01697506	5.217462023	7.808560685	0	0	0	0	0	0	0	0
Bore/Drill rigs25	Bore/Drill rigs	25	13.80311618	0.15488368	0	0	0.64265808	0.101103235	0	0	0	0	0	0	0	0	0	0
Bore/Drill rigs50	Bore/Drill rigs	50	54.75	0.18	0	0	994.5595089	2.40567481	866.2531804	1.14811643	0	0	0	0	0	0	0	0
Bore/Drill rigs75	Bore/Drill rigs	75	0	0	0	0	1460.188325	1.645988471	797.9204026	1.329920335	0	0	0	0	0	0	0	0
Bore/Drill rigs100	Bore/Drill rigs	100	697.15	1.02	109.5	6.366666667	4731.544038	5.697652456	2170.709625	2.17922236	0	0	0	0	0	0	0	0
Bore/Drill rigs175	Bore/Drill rigs	175	237.25	0.26	7.3	32.5	7264.309475	5.798844055	1856.921444	3.912017657	0	0	0	0	0	0	0	0
Bore/Drill rigs300	Bore/Drill rigs	300	0	0	0	0	10595.98108	5.976204354	1956.787078	5.414989296	0	0	0	0	0	0	0	0
Bore/Drill rigs600	Bore/Drill rigs	600	0	0	0	0	16803.89937	4.786608063	1617.074211	10.39155115	0	0	0	0	0	0	0	0
Bore/Drill rigs750	Bore/Drill rigs	750	0	0	0	0	9918.844926	1.02129592	589.8597488	6.81559887	0	0	0	0	0	0	0	0
Bore/Drill rigs9999	Bore/Drill rigs	9999	0	0	0	0	5410.94609	0.151937399	112.096468	48.27044231	0	0	0	0	0	0	0	0
Cement and Mortar Mixers25	Cement and Mortar Mixers	25	6.975600026	0.100478162	0	0	0.188906281	0.072216404	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers50	Cement and Mortar Mixers	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers75	Cement and Mortar Mixers	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers100	Cement and Mortar Mixers	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers175	Cement and Mortar Mixers	175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers300	Cement and Mortar Mixers	300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers600	Cement and Mortar Mixers	600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers750	Cement and Mortar Mixers	750	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers9999	Cement and Mortar Mixers	9999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws25	Concrete/Industrial Saws	25	228.2076222	1.095289096	0	0	0.128224911	0.026816789	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws50	Concrete/Industrial Saws	50	1387	0.82	503.7	2.753623188	405.15	0.48	292	1.3875	0	0	0	0	0	0	0	0
Concrete/Industrial Saws75	Concrete/Industrial Saws	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws100	Concrete/Industrial Saws	100	1354.15	0.46	292	4.6375	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws300	Concrete/Industrial Saws	300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws600	Concrete/Industrial Saws	600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws750	Concrete/Industrial Saws	750	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws9999	Concrete/Industrial Saws	9999	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cranes25	Cranes	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cranes50	Cranes	50	208.05	0.26	109.5	1.9	310.0668957	1.01771052	449.692674	0.689508443	0	0	0	0	0	0	0	0
Cranes75	Cranes	75	0	0	0	0	118.7174473	0.180349704	118.0851729	1.00625446	0	0	0	0	0	0	0	0
Cranes100	Cranes	100	689.85	0.47	215.35	3.203389831	7001.465208	11.92630139	5354.896411	1.30748845	0	0	0	0	0	0	0	0
Cranes175	Cranes	175	40.15	0	0	0	2146.08938	21.30832514	9846.89838	2.179984758	0	0	0	0	0	0	0	0
Cranes300	Cranes	300	0	0	0	0	36817.12127	23.56637154	11232.43148	3.27751692	0	0	0	0	0	0	0	0
Cranes600	Cranes	600	0	0	0	0	64860.08497	23.42920929	20762.8222	8.552136677	0	0	0	0	0	0	0	0
Cranes750	Cranes	750	0	0	0	0	1124.764478	0.28621133	118.4775011	9.493485833	0	0	0	0	0	0	0	0
Cranes9999	Cranes	9999	0	0	0	0	3563.481522	0.508855526	255.1088129	13.96847675	0	0	0	0	0	0	0	0
Crawler Tractors25	Crawler Tractors	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Crawler Tractors50	Crawler Tractors	50	0	0	0	0	1004.260537	2.82264421	974.3845598	1.030661382	0	0	0	0	0	0	0	0
Crawler Tractors75	Crawler Tractors	75	0	0	0	0	355.4233577	0.479869506	100.1292251	1.552272771	0	0	0	0	0	0	0	0
Crawler Tractors100	Crawler Tractors	100	0	0	0	0	44208.74306	48.013178	22744.76116	1.943489043	0	0	0	0	0	0	0	0
Crawler Tractors175	Crawler Tractors	175	0	0	0	0	48412.82184	31.86765313	14614.56163	3.312642765	0	0	0	0	0	0	0	0
Crawler Tractors300	Crawler Tractors	300	0	0	0	0	50692.09763	24.6991039	11144.38275	5.48668604	0	0	0	0	0	0	0	0
Crawler Tractors600	Crawler Tractors	600	0	0	0	0	177566.9085	48.24292029	20762.8222	8.552136677	0	0	0	0	0	0	0	0
Crawler Tractors750	Crawler Tractors	750	0	0	0	0	182.857564	0.310490663	131.8639925	13.74793475	0	0	0	0	0	0	0	0
Crawler Tractors9999	Crawler Tractors	9999	0	0	0	0	10279.69561	0.846793263	474.2602806	21.67521936	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment25	Crushing/Proc. Equipment	25	2.546885846	0.012834192	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment75	Crushing/Proc. Equipment	75	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment100	Crushing/Proc. Equipment	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment300	Crushing/Proc. Equipment	300	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment600	Crushing/Proc. Equipment	600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9																

San Bernardino (MD)	2023 Construction and Mining - Pavers	Aggregate	50 Diesel	4.79354E-05	5.80018E-05	6.9027E-05	0.00024821	0.00024681	0.033947076	1.719566E-05	1.58199E-05	3.12419E-07	2.77071E-07	1101.375505	1188.626196	46108.7988
San Bernardino (MD)	2023 Construction and Mining - Pavers	Aggregate	60 Diesel	1.16635E-05	1.41158E-05	1.67981E-05	0.00012238	0.00015512	0.065979749	4.53541E-06	4.12758E-06	6.09666E-07	5.38518E-07	2140.640284	266.661931	0.6027127269
San Bernardino (MD)	2023 Construction and Mining - Pavers	Aggregate	75 Diesel	7.7389E-05	8.92847E-05	0.00016256	0.00035261	0.0005762	0.04058802	6.49856E-05	5.97867E-05	4.09252E-07	6.63275E-07	1444.538955	945.8027324	2.73427717624
San Bernardino (MD)	2023 Construction and Mining - Paving Equipment	Aggregate	100 Diesel	6.79953E-05	8.22743E-05	9.71331E-05	0.000148307	0.000154603	0.11330461	1.02841E-07	1.21364E-07	1.07696E-07	4.20438554	26.4389343	1.05292197	1.05292197
San Bernardino (MD)	2023 Construction and Mining - Paving Equipment	Aggregate	175 Diesel	8.23253E-05	9.79739E-05	0.000117645	0.000117645	0.000117645	0.189646065	3.96027E-05	3.64355E-05	1.75133E-06	1.54787E-06	6152.857709	2307.814996	333774.793
San Bernardino (MD)	2023 Construction and Mining - Paving Equipment	Aggregate	25 Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0
San Bernardino (MD)	2023 Construction and Mining - Paving Equipment	Aggregate	300 Diesel	3.68032E-05	4.45343E-05	5.29395E-05	0.000217441	0.00024821	0.17780251	1.85556E-05	1.70712E-05	1.11810E-06	1.04358E-06	4148.288778	978.312925	2.065728095
San Bernardino (MD)	2023 Construction and Mining - Paving Equipment	Aggregate	50 Diesel	3.24222E-05	3.93792E-05	4.67456E-05	0.00030781	0.000273943	0.0423057	1.2561E-05	1.15561E-05	3.90163E-07	3.45293E-07	1372.561852	1943.584036	4.078436993
San Bernardino (MD)	2023 Construction and Mining - Paving Equipment	Aggregate	60 Diesel	2.94348E-05	3.56161E-05	4.23861E-05	0.000353589	0.000353589	0.137947202	1.17031E-05	1.07668E-05	1.12591E-06	1.04755E-06	4475.540555	612.719251	2.440160597
San Bernardino (MD)	2023 Construction and Mining - Paving Equipment	Aggregate	75 Diesel	5.19321E-06	6.28378E-06	7.47822E-06	0.00726279	0.00726279	4.73347E-06	6.1673E-05	5.18822E-05	4.3548E-06	6.69923E-06	235.6330288	182.3542886	0.440029378
San Bernardino (MD)	2023 Construction and Mining - Paving Equipment	Aggregate	750 Diesel	5.07751E-06	6.14378E-06	7.31161E-06	4.486129E-05	5.64724E-05	0.016122582	1.48929E-06	1.37842E-06	2.14364E-07	2.12090E-07	847.5384161	72.34410173	0.13781993
San Bernardino (MD)	2023 Construction and Mining - Paving Equipment	Aggregate	999 Diesel	2.05525E-06	2.49298E-06	2.95216E-06	2.33551E-05	5.62382E-05	0.012404743	9.20352E-07	8.46576E-07	1.14262E-07	1.01246E-07	420.838534	25.98238161	0.105511797
San Bernardino (MD)	2023 Construction and Mining - Rollers	Aggregate	100 Diesel	0.00065482	0.000653233	0.000670294	0.000714466	0.0005961282	1.081625155	0.000324708	0.000298732	9.9862E-06	8.82080E-06	35092.13696	2015.9054	61.72164827
San Bernardino (MD)	2023 Construction and Mining - Rollers	Aggregate	175 Diesel	0.000264212	0.000319696	0.000380465	0.000619493	0.000316337	1.125802504	0.00014291	0.000132748	1.04007E-05	9.18867E-06	36255.51001	13701.95395	1883957.514
San Bernardino (MD)	2023 Construction and Mining - Rollers	Aggregate	25 Diesel	6.16667E-07	7.41667E-07	8.88E-07	2.052228E-06	1.422788E-06	0.000190004	1.94513E-07	1.78952E-07	8.99289E-08	8.89678E-08	3.536221112	6.510646611	0.028398623
San Bernardino (MD)	2023 Construction and Mining - Rollers	Aggregate	300 Diesel	6.52209E-05	8.01272E-05	9.590382E-05	0.00055352	0.000951123	0.19038316	3.48662E-05	3.20797E-05	1.75788E-06	1.55356E-06	6175.561467	164.398816	4.64805758
San Bernardino (MD)	2023 Construction and Mining - Rollers	Aggregate	50 Diesel	0.00064519	0.000781852	0.000947852	0.00053552	0.000445654	0.069669273	0.000203032	0.000188E-06	6.68631E-06	5.68631E-06	22603.42325	2921.586177	83.72453671
San Bernardino (MD)	2023 Construction and Mining - Rollers	Aggregate	60 Diesel	2.34596E-05	2.83861E-05	3.37818E-05	0.000279864	0.000320348	0.105239151	1.02835E-05	9.46081E-06	9.7229E-07	8.8952E-07	3414.38665	497.259822	1.618278698
San Bernardino (MD)	2023 Construction and Mining - Rollers	Aggregate	75 Diesel	2.12001E-05	2.56251E-05	3.05281E-05	8.44898E-05	0.000207089	0.007287757	1.46686E-05	1.34951E-05	6.67429E-08	5.94817E-08	236.4432507	171.899928	0.161871392
San Bernardino (MD)	2023 Construction and Mining - Rough Terrain Forklifts	Aggregate	100 Diesel	0.000544211	0.000684946	0.000783664	0.01659238	0.009673961	2.784976448	0.000237006	0.000218046	2.57305E-05	2.27291E-05	90349.65385	45004.15158	157.8880635
San Bernardino (MD)	2023 Construction and Mining - Rough Terrain Forklifts	Aggregate	175 Diesel	0.000131863	0.000259775	0.000379663	0.003176882	0.001225819	0.508909548	0.00014056	0.000136675	5.52323E-06	4.83153E-06	19404.38514	7421.003042	26.5366532
San Bernardino (MD)	2023 Construction and Mining - Rough Terrain Forklifts	Aggregate	25 Diesel	2.04139E-07	2.43936E-07	2.9396E-07	3.10509E-07	0.00063437	1.75052E-07	1.61048E-07	1.36265E-09	2.97394E-09	2.97394E-09	0.000327314	0.000527314	0.005527314
San Bernardino (MD)	2023 Construction and Mining - Rough Terrain Forklifts	Aggregate	300 Diesel	1.917127E-06	2.357264E-06	2.836276E-06	0.000121084	0.000478073	1.28352E-06	2.6085E-06	4.13787E-07	3.65494E-07	3.65494E-07	1682.56109	331.9397427	1.310546283
San Bernardino (MD)	2023 Construction and Mining - Rough Terrain Forklifts	Aggregate	50 Diesel	3.42465E-05	4.14382E-05	4.91498E-05	0.000264573	0.000295711	0.0350829571	1.21218E-05	1.11489E-05	2.33319E-07	2.86331E-07	1138.181641	100.807882	49225.60555
San Bernardino (MD)	2023 Construction and Mining - Rough Terrain Forklifts	Aggregate	60 Diesel	1.8783E-06	2.27274E-06	2.70475E-06	2.99786E-05	1.8753E-05	0.046540493	2.85796E-07	2.62932E-07	1.53793E-07	1.53817E-07	538.824729	67.9141541	0.261205101
San Bernardino (MD)	2023 Construction and Mining - Rough Terrain Forklifts	Aggregate	75 Diesel	2.69189E-06	3.25716E-06	3.87673E-06	1.08516E-05	2.6727E-05	0.000276233	8.84533E-06	8.13378E-06	4.8044E-07	4.78664E-07	31.3895833	22.75723274	0.089282971
San Bernardino (MD)	2023 Construction and Mining - Rough Terrain Forklifts	Aggregate	750 Diesel	5.004617E-07	6.10587E-07	7.26649E-07	6.10587E-07	7.26649E-07	0.00286339	5.18115E-06	4.74666E-06	2.64583E-08	2.33706E-08	6.89525059	1.155179216	0.032763657
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Dozers	Aggregate	100 Diesel	9.74098E-05	0.000117866	0.0001427	0.000974166	0.000999428	0.096673153	7.4408E-05	6.84533E-05	8.80869E-07	7.89033E-07	3116.453973	1802.287828	2.052852075
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Dozers	Aggregate	175 Diesel	0.000133145	0.000161106	0.000191379	0.00097425	0.00145799	0.134184146	9.27051E-05	8.52887E-05	1.2666E-06	1.09519E-06	4353.456846	1503.192141	1.890788379
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Dozers	Aggregate	25 Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Dozers	Aggregate	300 Diesel	0.000106874	0.000129318	0.000153899	0.000750098	0.001409139	0.151105527	6.29839E-05	5.79425E-05	1.39384E-06	1.2333E-06	4902.452409	1006.666714	1.539635659
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Dozers	Aggregate	50 Diesel	2.80785E-05	3.32331E-05	3.93331E-05	0.000191976	0.000739329	7.49513E-06	6.8952E-06	6.8952E-06	2.5089E-07	997.3007461	1064.019835	1.107458939	
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Dozers	Aggregate	60 Diesel	0.001073082	0.001298429	0.001545238	0.01048594	0.013028461	1.53848278	0.000587281	0.000540298	1.28823E-05	50412.71774	6661.742234	9.075784224	244586.491
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Dozers	Aggregate	75 Diesel	4.40058E-05	5.3247E-05	6.33883E-05	0.00074992	0.000472751	0.033027049	3.17538E-05	2.92155E-05	3.04031E-07	2.6952E-07	1073.526216	75.000073	0.999413888
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Dozers	Aggregate	750 Diesel	1.98278E-05	2.38971E-05	2.85251E-05	0.00011777	0.000313893	0.006726233	8.84533E-06	8.13378E-06	4.8044E-07	4.78664E-07	31.3895833	22.75723274	0.089282971
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Loaders	Aggregate	100 Diesel	0.00150659	0.001822973	0.002169489	0.017146608	0.01556862	2.346125992	0.001305366	0.0009694	2.16459E-05	1.91488E-05	76117.47402	47764.34706	51.23998747
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Loaders	Aggregate	175 Diesel	0.002382016	0.00288224	0.003403103	0.035015648	0.023561503	0.015619958	0.001262163	0.00116119	1.56429E-05	1.4873516E-05	18473.9614	9494.49055	97.8838971
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Loaders	Aggregate	25 Diesel	0	0	0	0	0	0	0	0	0	0	0	0	0
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Loaders	Aggregate	300 Diesel	0.002039406	0.002519127	0.003008706	0.01819337	0.031101522	8.0825645	0.00104221	0.00050585	7.44848E-07	6.59691E-07	26232.94509	67409.47821	62.52967021
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Loaders	Aggregate	50 Diesel	0.0001387	0.000167827	0.000197929	0.000970309	0.005793545	0.059798616	4.85496E-05	4.46575E-05	8.81545E-07	7.81895E-07	3108.089599	391.46072	1.491844373
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Loaders	Aggregate	60 Diesel	0.00378051	0.004486742	0.005339594	0.027104668	0.039218269	10.492573	0.001474627	0.001356657	6.9889E-05	6.86392E-05	34020.764	55339.8665	56.1387555
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Loaders	Aggregate	75 Diesel	1.54148E-05	1.86519E-05	2.21973E-05	6.09025E-05	0.000113986	0.006224736	1.07899E-05	9.92669E-06	5.70883E-08	5.08055E-08	201.9547168	15.2073763	0.281383939
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Loaders	Aggregate	750 Diesel	0.000291284	0.000352454	0.000419449	0.002843052	0.002398334	0.996029246	8.62003E-05	7.93043E-05	9.20053E-06	8.12946E-06	3235.01795	2699.126576	1.37906446
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Loaders	Aggregate	999 Diesel	9.55995E-06	1.15675E-05	1.37663E-05	3.25733E-05	2.2962E-05	0.001970292	1.29402E-06	1.29402E-06	1.60813E-07	1.39295E-07	6.81925444	60.40292337	0.246215366
San Bernardino (MD)	2023 Construction and Mining - Scrapers	Aggregate	100 Diesel	7.11792E-05	8.61268E-05	0.000104958	0.000249146	0.000880559	0.002469153	6.51197E-05	5.99101E-05	6.7033E-07	2.675420832	116.124079	1.022035358	10.65213455
San Bernardino (MD)	2023 Construction and Mining - Scrapers	Aggregate	175 Diesel	0.000560247	0.000677899	0.000806756	0.005675987	0.006496708	1.037807647	0.00034312	0.000314007	9.57824E-06	8.47045E-06	33670.52616	8024.582828	1.620772808
San Bernardino (MD)	2023 Construction and Mining - Scrapers	Aggregate	25 Diesel	5.36101E-08	6.46828E-08	7.71985E-08	1.36938E-06	1.20527E-06	0.000247548	4.41823E-09	4.06477E-09	2.2871E-09	2.02045E-09	8.03142318	11.59758097	0.027839923
San Bernardino (MD)	2023 Construction and Mining - Scrapers	Aggregate	300 Diesel	0.00065434	0.000789506	0.000939506	0.00414373	0.003164712	1.26231584	0.000364712	0.000335354	1.64949E-05	1.50231E-05	4098.46926	68.7134265	18.08329599
San Bernardino (MD)	2023 Construction and Mining - Scrapers	Aggregate	50 Diesel	5.05795E-06	6.07002E-06	7.28222E-06	1.37663E-05	2.2962E-05	0.001970292	1.29402E-06	1.29402E-06	1.60813E-07	1.39295E-07	6.81925444	60.40292337	0.246215366
San Bernardino (MD)	2023 Construction and Mining - Scrapers	Aggregate	60 Diesel	0.005709557	0.006942029	0.008216579	0.05189795	0.027206255	15.43943905	0.002765748	0.00254448	0.000142574	0.000126015	500915.5966	47459.07304	97.75078927
San Bernardino (MD)	2023 Construction and Mining - Scrapers	Aggregate	75 Diesel	2.36367E-05	2.86004E-05	3.43069E-05	0.000137021	0.000220282	0.010789273	1.87788E-05	1.72747E-05	1.39577E-07	1.39577E-07	554.794231		

San Bernardino (MD)	2023 Lawn and Garden - Misc - Chippers/Stump Grinders	Aggregate	5 Gasoline	1.16465E-05	1.28163E-05	1.1763E-05	0.00055481	4.32549E-06	0.001301762	2.54345E-06	1.92172E-08	2.15761E-08	2.9783E-08	82.58822847	0	0	13.15057655	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Chippers/Stump Grinders	Aggregate	5 Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	4.866491132	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Lawn Mowers	Aggregate	15 Gasoline	2.23202E-05	2.45729E-05	2.25535E-05	0.001451277	1.01266E-05	0.003037484	3.55644E-07	2.67138E-07	5.26094E-08	7.26205E-08	199.1477059	0	0	28.34403934	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Lawn Mowers	Aggregate	15 Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	11.86623227	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Lawn Mowers	Aggregate	2 Gasoline	1.33255E-06	1.46639E-06	1.34588E-06	0.00155576	6.48342E-07	8.25734E-05	6.50591E-08	4.91557E-08	1.41789E-09	1.95271E-09	5.03036772	0	0	1.868109251	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Lawn Mowers	Aggregate	2 Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0.75621674	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Lawn Mowers	Aggregate	25 Gasoline	1.84431E-05	2.02955E-05	1.86275E-05	0.00119219	6.44756E-06	0.002558691	2.97812E-07	2.25029E-07	4.30999E-08	5.94937E-08	167.7086511	0	0	7.713973779	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Lawn Mowers	Aggregate	25 Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	2.094491717	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Lawn Mowers	Aggregate	5 Gasoline	0.004743363	0.005219781	0.004700796	0.22266573	0.002879851	0.62039593	6.46495E-05	4.88463E-05	9.91737E-06	1.36901E-05	36807.31819	0	0	7746.488857	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Lawn Mowers	Aggregate	5 Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	3107.537546	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Leaf Blowers/Vacuums	Aggregate	15 Gasoline	0.000107955	0.000118798	0.000109034	0.007751219	0.000081701	0.0020025086	3.10169E-07	2.3457E-07	3.31474E-07	1.214.88792	0	0	64.70806679	0	
San Bernardino (MD)	2023 Lawn and Garden - Misc - Leaf Blowers/Vacuums	Aggregate	2 Gasoline	0.012152724	0.013377836	0.010377836	0.075566234	0.000528441	0.031878461	0.000172209	0.000130114	4.56632E-06	6.3032E-06	17896.88226	0	0	2146.626269	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Leaf Blowers/Vacuums	Aggregate	15 Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	4982.223655	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Leaf Blowers/Vacuums	Aggregate	25 Gasoline	2.30956E-06	2.54163E-06	2.33275E-06	0.000168499	2.57867E-06	0.000664117	7.69522E-09	5.81416E-09	8.75262E-09	1.20819E-08	34.27512171	0	0	0.65248851	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Leaf Blowers/Vacuums	Aggregate	5 Gasoline	0.01666886	0.018340891	0.016833556	0.062028927	0.000412476	0.040513523	0.000256237	0.000193602	5.13654E-06	7.33879E-06	20915.05725	0	0	104.1893053	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Leaf Blowers/Vacuums	Aggregate	5 Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	2681.122551	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Leaf Blowers/Vacuums	Aggregate	15 Gasoline	0.00055725	6.11321E-05	5.6282E-05	0.00309531	2.09823E-05	0.00053136	1.83342E-07	1.38525E-07	1.26311E-07	1.74356E-07	489.2284489	0	0	603.6535202	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Other	Aggregate	15 Diesel	1.09377E-07	1.17521E-07	1.13556E-07	7.74568E-07	9.2474E-07	0.000126855	3.25211E-08	2.45715E-08	1.21559E-09	1.04741E-09	4.167266802	0	0	0.01752311	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Other	Aggregate	25 Diesel	1.00343E-05	1.10421E-05	1.01346E-05	0.000940723	6.91917E-06	0.00105023	4.34958E-08	3.28635E-08	3.20401E-08	4.42272E-08	125.5904441	0	0	5.204615485	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Other	Aggregate	25 Gasoline	1.93125E-08	2.7762E-08	2.32287E-08	7.92828E-08	1.46787E-07	1.92549E-05	4.93627E-09	3.72963E-09	1.8411E-10	1.58954E-10	0.63098562	0	0	0.00194853	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Other	Aggregate	5 Gasoline	2.85244E-05	3.11935E-05	2.88116E-05	0.001396044	1.11741E-05	0.003179115	6.09518E-08	5.05858E-08	5.38452E-08	7.42631E-08	204.1092893	0	0	49.14359029	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Rear Engine Riding Mowers	Aggregate	15 Gasoline	0.000251886	0.000277185	0.000254004	0.012470569	0.000189551	0.0360322	1.38535E-06	5.40984E-07	7.52418E-07	2107.620551	0	0	65.1571432	0	
San Bernardino (MD)	2023 Lawn and Garden - Misc - Rear Engine Riding Mowers	Aggregate	15 Diesel	2.81070E-05	4.05102E-05	0.00159666	0.000128927	0.000328257	0.00023855	8.37847E-06	6.3304E-06	1.31281E-07	1.073.685336	0	0	38.00493938	0	
San Bernardino (MD)	2023 Lawn and Garden - Misc - Rear Engine Riding Mowers	Aggregate	15 Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	3.26224788	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Rear Engine Riding Mowers	Aggregate	25 Gasoline	0.008132328	0.008949131	0.008213652	0.44715752	0.004189143	0.934637855	3.84389E-05	2.90427E-05	1.58947E-05	2.13407E-05	62315.7068	0	0	657.5439715	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Rear Engine Riding Mowers	Aggregate	25 Diesel	8.5063E-05	0.00012279	0.000102312	0.000349206	0.000646533	0.084802956	2.11408E-05	1.64263E-05	8.0921E-07	6.98534E-07	2779.212326	0	0	77.45672327	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Rear Engine Riding Mowers	Aggregate	25 Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	17.36261791	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Rear Engine Riding Mowers	Aggregate	5 Gasoline	2.55623E-05	2.81298E-05	2.5818E-05	0.000934067	0.000094626	0.000212997	8.17076E-08	6.17345E-08	3.6194E-08	4.99611E-08	135.8913234	0	0	9.18283875	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Rear Engine Riding Mowers	Aggregate	5 Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0.53099695	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Snowblowers	Aggregate	15 Gasoline	0.000296308	0.000320608	0.000299271	0.02158241	0.000148753	0.038028611	9.5678E-07	7.22901E-07	7.45809E-07	1.02949E-06	2721.892963	0	0	669.9579788	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Snowblowers	Aggregate	15 Diesel	2.41225E-05	2.65448E-05	2.38634E-05	0.000349234	9.38593E-07	0.00034987	5.35430E-08	4.0425E-09	5.53326E-09	7.63709E-09	21.00146845	0	0	62.55114008	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Snowblowers	Aggregate	25 Gasoline	9.52686E-07	1.04835E-06	9.62196E-07	9.24025E-05	6.87561E-07	0.000128216	4.09637E-09	3.09504E-09	3.90597E-09	4.22265E-09	11.61243431	0	0	1.379933902	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Snowblowers	Aggregate	25 Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	0.129380751	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Snowblowers	Aggregate	5 Gasoline	0.000130789	0.000143926	0.000132097	0.006821448	5.79265E-05	0.015645642	3.42381E-07	2.58868E-07	2.61255E-07	3.60629E-07	1000.377765	0	0	503.675926	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Snowblowers	Aggregate	5 Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	47.22397906	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Tillers	Aggregate	15 Gasoline	4.10754E-05	4.5201E-05	4.14861E-05	4.5201E-05	2.55476E-05	0.00056722	1.44165E-07	1.05401E-07	1.44966E-07	401.6733755	0	0	66.6133795	0	
San Bernardino (MD)	2023 Lawn and Garden - Misc - Tillers	Aggregate	2 Gasoline	0.000167198	0.000183992	0.00016887	0.000497533	3.05866E-06	0.002894587	2.9289E-07	2.21294E-07	4.60408E-08	6.35534E-08	158.8813129	0	0	90.1375873	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Tillers	Aggregate	2 Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	27.68978173	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Tillers	Aggregate	5 Gasoline	2.54028E-05	2.79452E-05	2.56588E-05	0.001159796	8.53389E-06	0.00299344	5.57792E-08	4.21448E-08	4.97841E-08	6.87206E-08	188.825598	0	0	44.77562625	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Trimmers/Edgers/Brush Cutters	Aggregate	15 Gasoline	0.000142807	0.000154207	0.000139406	0.000349206	0.000199556	0.000395304	1.24209E-07	9.34279E-08	7.23788E-08	9.15017E-08	21.00146845	0	0	65.1571432	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Trimmers/Edgers/Brush Cutters	Aggregate	2 Gasoline	0.017723308	0.01950342	0.017900542	0.098988233	0.01016211	0.520134708	0.000154472	0.000116712	7.03929E-06	9.71638E-06	27502.83358	0	0	5704.655358	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Trimmers/Edgers/Brush Cutters	Aggregate	2 Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	8423.70534	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Trimmers/Edgers/Brush Cutters	Aggregate	25 Gasoline	2.68834E-06	2.95835E-06	2.71522E-06	0.000134969	1.13674E-06	0.000531924	6.07776E-09	4.59220E-09	7.22059E-09	9.96709E-09	28.10060659	0	0	1.174323202	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Trimmers/Edgers/Brush Cutters	Aggregate	5 Gasoline	0.000656329	0.000170729	0.000601666	0.01184452	7.40859E-05	0.048183153	7.92169E-06	5.98275E-06	7.59556E-07	8.00002E-07	2276.255603	0	0	183.944189	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Trimmers/Edgers/Brush Cutters	Aggregate	15 Gasoline	0.000881348	0.00090987	0.000800162	0.0407862	0.000428822	0.102482034	4.42426E-06	3.34278E-06	1.64059E-06	2.26462E-06	6327.695857	0	0	235.8189277	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Wood Splitters	Aggregate	2 Gasoline	1.54549E-05	1.70737E-05	1.56095E-05	0.000402447	8.13432E-06	0.000941655	3.91507E-08	2.95806E-08	1.61576E-08	2.20353E-08	60.72061833	0	0	1.81580876	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Wood Splitters	Aggregate	25 Gasoline	5.24113E-07	5.76754E-07	5.29333E-07	2.78744E-05	2.23593E-07	6.65738E-05	2.77899E-09	2.09968E-09	1.04862E-09	1.47496E-09	4.18303289	0	0	0.047006914	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Wood Splitters	Aggregate	25 Diesel	5.88935E-05	6.48087E-05	5.74827E-05	0.00228953	1.92318E-05	0.00520225	2.25356E-07	1.70289E-07	8.9741E-08	1.23369E-07	341.6743262	0	0	20.80065103	0
San Bernardino (MD)	2023 Light Commercial - Misc - Air Compressors	Aggregate	100 Gasoline	0.00051548	0.00047834	0.000560688	0.022258707	0.00329474	0.449788345	3.13401E-05	2.36944E-05	4.84566E-06	6.4535E-06	18421.55	4894.65	0	342625.2	0
San Bernardino (MD)	2023 Light Commercial - Misc - Air Compressors	Aggregate	15 Gasoline	0.00545024	0.00505854	0.00601822	0.349401408	0.003390049	0.69112624	1.09813E-05	1.4534E-05	1.20084E-05	1.6576E-05	4694.69581	0	0	48.3095013	0
San Bernardino (MD)	2023 Light Commercial - Misc - Air Compressors	Aggregate	15 Diesel	9.52236E-07	1.14894E-06	1.17317E-06	5.81173E-06	7.18317E-06	0.00094333	2.15261E-07	2.84904E-07	9.04888E-07	7.79479E-09	31.01258875	0	0	0.117188044	0
San Bernardino (MD)	2023 Light Commercial - Misc - Air Compressors	Aggregate	15 Electric	0	0	0	0	0	0	0	0	0	0	0	0	0	529.052848	0
San Bernardino (MD)	2023 Light Commercial - Misc - Air Compressors	Aggregate	175 Gasoline	4.64792E-05	4.27156E-05	5.11475E-05	0.002031923	0.000184923	0.05633267	6.03856E-06	3.05128E-06	5.94960E-07	7.91504E-07	2259.35	321.2	0	95309.1	43040.0
San Bernardino (MD)	2023 Light Commercial - Misc - Air Compressors	Aggregate	25 Gasoline	7.9517E-05	8.03123E-05	8.75038E-05	0.01079215	0.000112964	0.01681773	2.59793E-07	3.43481E-07	3.2538E-07	4.49767E-07	1280.726602	0	0	4.53647054	0
San Bernardino (MD)	2023 Light Commercial - Misc - Air Compressors	Aggregate	25 Diesel	4.01307E-06	4.82683E-06	5.19933E-06	1.59933E-05	2.95804E-05	0.003786258	8.37075E-07	1.07899E-06	3.62184E-08	3.11898E-08	124.1283162	0	0	0.23518	

OFFROAD 2023

Equipment Type	Horsepower	Gas				Diesel				Natural Gas				
		Fuel (Gal/Yr)	Population	Mts/Yr	Gal/Hr	Fuel (Gal/Yr)	Population	Mts/Yr	Gal/Hr	Fuel (Gal/Yr)	Population	Mts/Yr	Gal/Hr	
Air Compressors25	Air Compressors	25	1280.72062	4.536470554	0	0	124.1286133	0.235180435	0	0	0	0	0	0
Air Compressors50	Air Compressors	50	3365.3	3.14	1518.4	2.216346154	5865.55	7.07	5752.4	1.019670051	0	0	0	0
Air Compressors75	Air Compressors	75	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors100	Air Compressors	100	1842.55	10.16	4894.65	3.763609247	0	0	0	0	0	0	0	0
Air Compressors175	Air Compressors	175	2259.35	0.68	321.2	7.634090909	0	0	0	0	0	0	0	0
Air Compressors300	Air Compressors	300	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors600	Air Compressors	600	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors750	Air Compressors	750	0	0	0	0	0	0	0	0	0	0	0	0
Air Compressors9999	Air Compressors	9999	0	0	0	0	0	0	0	0	0	0	0	0
Aerial Lifts25	Aerial Lifts	25	132.995987	0.785712462	0	0	1.062890375	0.484295271	0	605.9	1.36	507.35	1.194244661	0
Aerial Lifts50	Aerial Lifts	50	821.25	1.45	521.95	1.573426573	9002.602081	35.97015229	11011.13977	0.817590392	0	0	0	0
Aerial Lifts75	Aerial Lifts	75	0	0	0	0	6.765.82893	19.94569558	6072.458901	1.14182739	0	0	0	0
Aerial Lifts100	Aerial Lifts	100	1489.2	1.45	521.95	2.853146853	8942.646911	25.62928362	7237.110189	1.235665435	0	0	0	0
Aerial Lifts175	Aerial Lifts	175	0	0	0	0	960.0388797	1.510780346	461.955626	2.079063749	0	0	0	0
Aerial Lifts300	Aerial Lifts	300	0	0	0	0	57.3697962	0.05092518	15.65238607	3.665242855	0	0	0	0
Aerial Lifts600	Aerial Lifts	600	0	0	0	0	40.74086977	0.01697506	5.217462023	7.808560865	0	0	0	0
Bore/Drill rigs25	Bore/Drill rigs	25	13.80331618	0.15548368	0	0	0.642605808	0.101103235	0	0	0	0	0	0
Bore/Drill rigs50	Bore/Drill rigs	50	54.75	0.18	0	0	994.5593089	2.405675481	866.2531804	1.14811643	0	0	0	0
Bore/Drill rigs75	Bore/Drill rigs	75	0	0	0	0	146.1818139	1.645988487	797.9548826	1.82902835	0	0	0	0
Bore/Drill rigs100	Bore/Drill rigs	100	697.15	1.02	109.5	6.366666667	4731.544038	5.697652456	2170.709625	2.19727236	0	0	0	0
Bore/Drill rigs175	Bore/Drill rigs	175	237.25	0.26	7.3	32.5	7264.309475	5.798844055	1856.921444	3.912017657	0	0	0	0
Bore/Drill rigs300	Bore/Drill rigs	300	0	0	0	0	10595.98108	5.976204354	1956.787078	5.414899296	0	0	0	0
Bore/Drill rigs600	Bore/Drill rigs	600	0	0	0	0	16803.90973	4.786028803	118.2065179	1.062255115	0	0	0	0
Bore/Drill rigs750	Bore/Drill rigs	750	0	0	0	0	9918.844926	1.021915909	188.8597488	16.51889887	0	0	0	0
Bore/Drill rigs9999	Bore/Drill rigs	9999	0	0	0	0	5410.94609	0.15197399	112.096468	48.27042311	0	0	0	0
Cement and Mortar Mixers25	Cement and Mortar Mixers	25	6.97560026	0.100478162	0	0	0.188096281	0.072216404	0	0	0	0	0	0
Cement and Mortar Mixers50	Cement and Mortar Mixers	50	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers75	Cement and Mortar Mixers	75	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers100	Cement and Mortar Mixers	100	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers175	Cement and Mortar Mixers	175	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers300	Cement and Mortar Mixers	300	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers600	Cement and Mortar Mixers	600	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers750	Cement and Mortar Mixers	750	0	0	0	0	0	0	0	0	0	0	0	0
Cement and Mortar Mixers9999	Cement and Mortar Mixers	9999	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws25	Concrete/Industrial Saws	25	228.207622	1.095289096	0	0	0.12824911	0.026816789	0	0	0	0	0	0
Concrete/Industrial Saws50	Concrete/Industrial Saws	50	1387	0.82	507.7	2.75362188	405.15	0.48	292	1.3875	0	0	0	0
Concrete/Industrial Saws75	Concrete/Industrial Saws	75	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws100	Concrete/Industrial Saws	100	1354.15	0.46	292	4.6375	0	0	0	0	0	0	0	0
Concrete/Industrial Saws175	Concrete/Industrial Saws	175	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws300	Concrete/Industrial Saws	300	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws600	Concrete/Industrial Saws	600	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws750	Concrete/Industrial Saws	750	0	0	0	0	0	0	0	0	0	0	0	0
Concrete/Industrial Saws9999	Concrete/Industrial Saws	9999	0	0	0	0	0	0	0	0	0	0	0	0
Cranes25	Cranes	25	0	0	0	0	19.13799706	0.095410411	46.22974454	0.413975834	0	0	0	0
Cranes50	Cranes	50	208.05	0.26	109.5	1.9	310.068957	1.017711062	449.692674	0.689508443	0	0	0	0
Cranes75	Cranes	75	0	0	0	0	118.771347	0.18034704	118.2065179	1.5522771	0	0	0	0
Cranes100	Cranes	100	689.85	0.47	215.35	3.203389831	7001.465208	13.92630139	5354.896411	1.30748845	0	0	0	0
Cranes175	Cranes	175	40.15	0	0	0	21466.08938	21.30832514	9846.898838	2.19984758	0	0	0	0
Cranes300	Cranes	300	0	0	0	0	36817.12127	23.56637154	11232.43148	3.27751692	0	0	0	0
Cranes600	Cranes	600	0	0	0	0	64860.08497	23.62979748	1185.24683	5.471002495	0	0	0	0
Cranes750	Cranes	750	0	0	0	0	1174.764478	0.2863133	118.1775011	9.493465933	0	0	0	0
Cranes9999	Cranes	9999	0	0	0	0	3543.481522	0.508855226	255.1088129	13.96847675	0	0	0	0
Crawler Tractors25	Crawler Tractors	25	0	0	0	0	0	0	0	0	0	0	0	0
Crawler Tractors50	Crawler Tractors	50	0	0	0	0	1004.260537	2.82264421	974.3845598	1.030661382	0	0	0	0
Crawler Tractors75	Crawler Tractors	75	0	0	0	0	155.423377	0.479649516	106.1292251	1.5522771	0	0	0	0
Crawler Tractors100	Crawler Tractors	100	0	0	0	0	44208.74306	48.013179	2274.76716	1.963890443	0	0	0	0
Crawler Tractors175	Crawler Tractors	175	0	0	0	0	48412.82184	31.86765313	14614.56163	3.312642765	0	0	0	0
Crawler Tractors300	Crawler Tractors	300	0	0	0	0	50692.09763	24.66991039	11144.38275	4.54866804	0	0	0	0
Crawler Tractors600	Crawler Tractors	600	0	0	0	0	177566.9085	43.2430929	20762.8222	8.552156677	0	0	0	0
Crawler Tractors750	Crawler Tractors	750	0	0	0	0	1813.857564	1.303080683	511.8689828	13.74793475	0	0	0	0
Crawler Tractors9999	Crawler Tractors	9999	0	0	0	0	10279.69561	0.846793263	474.2602806	21.67521936	0	0	0	0
Crushing/Proc. Equipment25	Crushing/Proc. Equipment	25	2.546858546	0.012834192	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment50	Crushing/Proc. Equipment	50	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment75	Crushing/Proc. Equipment	75	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment100	Crushing/Proc. Equipment	100	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment175	Crushing/Proc. Equipment	175	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment300	Crushing/Proc. Equipment	300	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment600	Crushing/Proc. Equipment	600	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment750	Crushing/Proc. Equipment	750	0	0	0	0	0	0	0	0	0	0	0	0
Crushing/Proc. Equipment9999	Crushing/Proc. Equipment	9999	0	0	0	0	0	0	0	0	0	0	0	0
Dumpers/Tenders25	Dumpers/Tenders	25	1104.764027	21.7558825	3197.4	0.345519493	0.092476936	0.037378624	0	0	0	0	0	0
Dumpers/Tenders100	Dumpers/Tenders	100	43.8	0.16	0	0	0	0	0	0	0	0	0	0
Excavators25	Excavators	25	0	0	0	0	13.11609198	0.149635072	22.73101794	0.577470243	0	0	0	0
Excavators50	Excavators	50	0	0	0	0	40152.80717	69.0302805	5176.28251	0.48051	0	0	0	0
Excavators75	Excavators	75	0	0	0	0	523.2595888	0.565657689	368.6045026	1.419569173	0	0	0	0
Excavators100	Excavators	100	0	0	0	0	51549.28474	49.18393605	32214.93546	1.600167252	0	0	0	0
Excavators175	Excavators	175	0	0	0	0	110019.8834	63.72133866	38125.4183	2.88575773	0	0	0	0
Excavators300	Excavators	300	0	0	0	0	146059.5234	54.84851294	31249.64874	4.240029167	0	0	0	0
Excavators600	Excavators	600	0	0	0	0	249639.7653	57.69708427	37413.984	6.872326669	0	0	0	0
Excavators750	Excavators	750	0	0	0	0	2598.01942	0.395960382	208.7636814	12.44478001	0	0	0	0
Excavators9999	Excavators	9999	0	0	0	0	6934.44678	0.424242627	291.2495192	23.80929142	0	0	0	0
Forklifts25	Forklifts	25	2.566442958											

Region	Calendar Year	Vehicle Category	Model Year	Horsepower	Fuel	HC_tpd	ROG_tpd	TOG_tpd	CO_tpd	NOx_tpd	CO2_tpd	PM10_tpd	PM2.5_tpd	SOx_tpd	NH3_tpd	Fuel Consumption	Total_Activity	Total_Population	Horsepower_Hours_Nhpy	
San Bernardino (MD)	2023	Agricultural - Agricultural Tractors	Aggregate	100	Gasoline	1.59144E-07	1.92564E-07	2.29167E-07	2.29779E-06	6.14428E-07	7.27724E-05	5.47436E-09	5.03641E-09	6.58458E-10	5.93319E-10	2.35847864	11.84112068	0.007124156	62.94149945	
San Bernardino (MD)	2023	Agricultural - Agricultural Tractors	Aggregate	100	Gasoline	1.59144E-07	1.92564E-07	2.29167E-07	2.29779E-06	6.14428E-07	7.27724E-05	5.47436E-09	5.03641E-09	6.58458E-10	5.93319E-10	2.35847864	11.84112068	0.007124156	62.94149945	
San Bernardino (MD)	2023	Agricultural - Agricultural Tractors	Aggregate	175	Gasoline	6.27531E-07	7.59314E-07	9.03647E-07	9.56254E-06	4.4338E-06	0.000514716	3.87199E-08	3.56232E-08	4.67218E-09	4.16575E-09	16.6140689	44.52290563	0.00925493	445.182181	
San Bernardino (MD)	2023	Agricultural - Agricultural Tractors	Aggregate	175	Gasoline	0.000613179	0.000801947	0.0009522978	0.003964198	0.00728238	0.005259107	0.003191655	0.002393623	5.99575E-05	5.60361E-05	34198.6889	17469.31433	120.1213397	1358865.62	
San Bernardino (MD)	2023	Agricultural - Agricultural Tractors	Aggregate	25	Gasoline	1.21966E-05	1.47579E-05	1.75631E-05	0.000312881	2.15798E-06	0.000347775	2.46366E-07	2.26657E-07	2.80365E-09	2.83543E-09	11.27101665	289.3305042	0.157982593	300.7933187	
San Bernardino (MD)	2023	Agricultural - Agricultural Tractors	Aggregate	300	Diesel	0.000676426	0.001067045	0.001262054	0.003293708	0.002411734	0.30156061	0.00014084	0.000185628	2.72070E-07	2.72070E-07	9973.271069	411.996394	25.7145855	349380.3711	
San Bernardino (MD)	2023	Agricultural - Agricultural Tractors	Aggregate	300	Diesel	0.00049164	0.000717884	0.000717884	0.002792399	0.004843748	0.001841445	0.000287166	0.000287166	8.78626E-05	8.78626E-05	340252.4789	9907.123855	55.63867197	1838106.61	
San Bernardino (MD)	2023	Agricultural - Agricultural Tractors	Aggregate	50	Gasoline	3.19703E-06	3.86841E-06	4.60373E-06	9.27365E-05	8.82544E-06	0.001386982	1.81881E-07	1.27133E-07	1.66444E-08	1.49771E-08	59.53469941	254.1312347	0.218046049	1588.820257	
San Bernardino (MD)	2023	Agricultural - Agricultural Tractors	Aggregate	50	Gasoline	0.01452737	0.017487812	0.020811941	0.056715567	0.044405592	5.380913167	0.003760370	0.003465679	4.81512E-05	4.36434E-05	172769.4461	16757.71609	224.3403598	617578.601	
San Bernardino (MD)	2023	Agricultural - Agricultural Tractors	Aggregate	600	Diesel	0.00381242	0.004612813	0.005489628	0.0248345	0.03785374	8.779392401	0.001650949	0.001518321	7.99992E-05	7.15791E-05	284531.1333	7985.548094	25.31248923	11306300.28	
San Bernardino (MD)	2023	Agricultural - Agricultural Tractors	Aggregate	750	Diesel	1.25948E-05	1.57238E-05	1.87124E-05	1.95266E-05	5.20425E-05	5.96799E-06	4.48947E-08	4.13231E-08	5.40012E-08	4.80575E-08	1.934261241	36.86818578	0.000537866	51.6177018	
San Bernardino (MD)	2023	Agricultural - Agricultural Tractors	Aggregate	75	Diesel	0.00054246	0.01148538	0.013743715	0.050596218	0.07932315	1.79227179	0.0003705	0.000464109	6.26588E-05	5.86421E-05	233105.6937	16464.41611	195.1578709	8332005.141	
San Bernardino (MD)	2023	Agricultural - Agricultural Tractors	Aggregate	750	Diesel	0.00041657	0.00046005	0.000578386	0.003457998	0.004314485	0.004846663	0.000194724	0.000194724	6.56314E-06	6.56314E-06	26088.73007	566.4271609	0.000692533	103667.476	
San Bernardino (MD)	2023	Agricultural - ATVs	Aggregate	100	Gasoline	8.70902E-05	0.000103729	0.00012541	0.000282932	0.000327951	0.15774986	1.32228E-05	1.2165E-05	1.59936E-06	1.43311E-06	5696.887611	286.5989433	7.7349381	182435.2435	
San Bernardino (MD)	2023	Agricultural - ATVs	Aggregate	175	Gasoline	0.000169888	0.000205565	0.000244639	0.000346023	0.000394971	0.006488666	3.74835E-05	3.4356E-05	4.51916E-06	4.04734E-06	16088.41953	477.7260493	11.74465555	51528.3716	
San Bernardino (MD)	2023	Agricultural - ATVs	Aggregate	175	Diesel	1.44197E-06	1.87614E-06	2.23452E-06	1.08585E-05	1.46304E-05	0.000466312	6.05246E-07	5.57764E-07	4.23934E-08	3.79634E-08	50.9006955	432.0437955	0.072088245	379628.84	
San Bernardino (MD)	2023	Agricultural - ATVs	Aggregate	25	Gasoline	0.00078208	0.001053759	0.01251283	0.10425481	0.003745554	0.37714278	0.000323004	0.000297164	3.17613E-06	3.07487E-06	12222.81195	1781.97512	68.49248435	391433.0308	
San Bernardino (MD)	2023	Agricultural - ATVs	Aggregate	25	Diesel	0.00018386	0.00022471	0.000264759	0.000134714	0.000158317	0.18846672	5.6219E-05	5.17215E-05	1.71213E-06	1.53658E-06	6108.013701	3534.905519	16.21985845	261985.846	
San Bernardino (MD)	2023	Agricultural - ATVs	Aggregate	25	Electric	0	0	0	0	0	0	0	0	0	0	0	443.1075737	12.02515377	70051.17906	
San Bernardino (MD)	2023	Agricultural - ATVs	Aggregate	50	Gasoline	0.00021834	0.000331119	0.000420241	0.013731295	0.000721116	0.391085569	2.94197E-05	2.70662E-05	3.55552E-06	3.18855E-06	12674.68338	1451.55649	43.99043166	405904.1164	
San Bernardino (MD)	2023	Agricultural - ATVs	Aggregate	50	Diesel	0.000423295	0.000512187	0.000605945	0.003665381	0.00328815	0.000584597	0.000128002	0.000118497	5.00339E-06	4.48733E-06	17837.40217	3453.54066	33.82092709	765004.6684	
San Bernardino (MD)	2023	Agricultural - ATVs	Aggregate	75	Gasoline	8.60568E-05	0.000104129	0.000123922	0.000381392	0.00023607	0.12860177	6.97412E-06	8.9019E-06	1.16946E-06	1.04849E-06	4167.82941	807.1403707	7.598024204	133473.878	
San Bernardino (MD)	2023	Agricultural - Bale Wagons (Self Propelled)	Aggregate	175	Diesel	4.48037E-05	5.41235E-05	6.45173E-05	0.000382928	0.000469454	0.000293565	2.26804E-05	2.0866E-05	5.64564E-07	5.06254E-07	2012.38896	1618.88415	0.578231738	76768.8721	
San Bernardino (MD)	2023	Agricultural - Bale Wagons (Self Propelled)	Aggregate	300	Diesel	4.93771E-06	4.93446E-06	5.89538E-06	2.1947E-05	4.3498E-05	0.007099143	1.96429E-06	1.80715E-06	7.00456E-08	6.27717E-08	249.521572	305.617607	0.002769271	9518.526319	
San Bernardino (MD)	2023	Agricultural - Combine Harvesters	Aggregate	175	Diesel	2.38763E-05	2.88904E-05	3.43819E-05	0.000202611	0.00025601	0.001386982	1.11988E-05	1.03029E-05	3.36955E-07	3.02767E-07	1200.77226	127.8866033	0.046685549	51614.71997	
San Bernardino (MD)	2023	Agricultural - Combine Harvesters	Aggregate	300	Diesel	0.000317007	0.000383578	0.000456449	0.001626564	0.000313748	0.820217724	0.0001494	0.000137448	5.29488E-06	4.74524E-06	18862.59943	1074.864609	3.400917123	810801.3453	
San Bernardino (MD)	2023	Agricultural - Combine Harvesters	Aggregate	600	Diesel	0.000437521	0.0005294	0.000630303	0.000819158	0.000539545	0.886238337	0.000196886	0.000181135	8.06387E-06	7.2257E-06	28722.07868	3184.146105	2.96889412	1234607.144	
San Bernardino (MD)	2023	Agricultural - Combine Harvesters	Aggregate	750	Diesel	7.48344E-05	9.05696E-05	0.000107762	0.000361714	0.000121736	0.15325062	3.38068E-05	3.28422E-05	1.39536E-06	1.25020E-06	4989.936791	275.5026365	213630.7658	213630.7658	
San Bernardino (MD)	2023	Agricultural - Combine Harvesters	Aggregate	9999	Diesel	2.71877E-06	3.28971E-06	3.91502E-06	1.2639E-05	3.84336E-05	0.004792932	1.25977E-06	1.15899E-06	4.36002E-07	9.00771E-08	155.3340311	382.7420527	0.00005974	6756.970819	
San Bernardino (MD)	2023	Agricultural - Construction Equipment	Aggregate	100	Diesel	0.000124545	0.0001507	0.000179345	0.000889815	0.001091781	0.13888224	7.89483E-05	7.26324E-05	1.13188E-06	4.499.281344	1685.30743	3.00066545	19293.884	0.00062569	19293.884
San Bernardino (MD)	2023	Agricultural - Construction Equipment	Aggregate	175	Diesel	0.000363559	0.000439907	0.000523526	0.003074746	0.004208599	0.609356741	0.000177909	0.000163676	5.54264E-06	4.96813E-06	19748.62906	1886.687733	16.82134765	90622.0919	
San Bernardino (MD)	2023	Agricultural - Construction Equipment	Aggregate	300	Diesel	5.58813E-05	6.76164E-05	8.04691E-05	0.000274746	0.000622208	0.000668745	2.78978E-05	2.56484E-05	8.2466E-07	7.39229E-07	2938.481329	1009.693027	0.17763641	14018.3146	
San Bernardino (MD)	2023	Agricultural - Construction Equipment	Aggregate	300	Diesel	1.1796E-05	1.54831E-05	1.84213E-05	5.78783E-05	4.61634E-05	0.00538012	3.11929E-06	2.87032E-06	5.36214E-06	5.368E-06	213.801574	285.5448941	9152.378459	9152.378459	
San Bernardino (MD)	2023	Agricultural - Construction Equipment	Aggregate	600	Diesel	3.30281E-05	3.99644E-05	4.76505E-05	0.000273638	0.000350233	0.05627985	1.60097E-05	1.47289E-05	4.7865E-06	4.2908E-07	1705.619187	629.7270077	0.27139885	16310.61255	
San Bernardino (MD)	2023	Agricultural - Construction Equipment	Aggregate	75	Diesel	1.72913E-05	2.09225E-05	2.48995E-05	0.000120969	0.000156342	0.019720272	0.22486E-06	1.75687E-06	1.76034E-07	1.57942E-07	627.829042	1211.689218	0.52292545	26928.94216	
San Bernardino (MD)	2023	Agricultural - Cotton Pickers	Aggregate	600	Diesel	7.79974E-06	9.43768E-06	1.12316E-05	6.4128E-05	8.56597E-05	0.015970199	3.55103E-06	3.26695E-06	1.45315E-06	1.30206E-07	517.577269	370.1113621	0.070686636	2247.87724	
San Bernardino (MD)	2023	Agricultural - Fore & Silage Harvesters	Aggregate	600	Diesel	7.48344E-05	9.05696E-05	0.000107762	0.000361714	0.000121736	0.15325062	3.38068E-05	3.28422E-05	1.39536E-06	1.25020E-06	4989.936791	275.5026365	213630.7658	213630.7658	
San Bernardino (MD)	2023	Agricultural - Fore & Silage Harvesters	Aggregate	750	Diesel	1.44197E-06	1.87614E-06	2.23452E-06	1.08585E-05	1.46304E-05	0.000466312	6.05246E-07	5.57764E-07	4.23934E-08	3.79634E-08	50.9006955	432.0437955	0.072088245	379628.84	
San Bernardino (MD)	2023	Agricultural - Fore & Silage Harvesters	Aggregate	9999	Diesel	4.52841E-05	5.47938E-05	6.52091E-05	0.000367268	0.000618947	0.06749007	2.17177E-05	2.0533E-05	6.13732E-07	5.50252E-07	2187.284178	442.582388	0.125509859	94019.54132	
San Bernardino (MD)	2023	Agricultural - Forklifts	Aggregate	100	Diesel	0.000187958	0.000227429	0.000270659	0.001440059	0.001572621	0.227603434	0.0001144	0.00010499	2.06869E-06	1.85567E-06	7376.39463	3709.322524	4.361919233	31689.4833	
San Bernardino (MD)	2023	Agricultural - Forklifts	Aggregate	175	Diesel	3.29988E-05	3.99261E-05	4.75133E-05	0.000360882	0.000331554	0.051155494	1.55671E-05	1.43212E-05	4.62312E-07	4.17075E-07	1657.897266	2007.129072	0.17311497	79055.04359	
San Bernardino (MD)	2023	Agricultural - Forklifts	Aggregate	300																

San Bernardino (MD)	2023 Construction and Mining - Pavers	Aggregate	50 Diesel	4.79354E-05	5.80018E-05	6.90272E-05	0.000288401	0.000246821	0.003947076	4.71956E-05	1.58199E-05	3.12419E-07	2.77071E-07	1101.375505	1188.663204	3.12009478	46168.7988
San Bernardino (MD)	2023 Construction and Mining - Pavers	Aggregate	600 Diesel	1.16653E-05	1.4115E-05	1.67981E-05	0.00012238	0.00051512	0.006979749	4.53541E-06	4.17258E-06	6.09666E-07	5.38518E-07	2140.640284	268.661931	6.007217269	99661.23401
San Bernardino (MD)	2023 Construction and Mining - Pavers	Aggregate	75 Diesel	7.3789E-05	8.92847E-05	0.000106256	0.000352661	0.000657762	0.004608802	6.49856E-05	5.97867E-05	4.09292E-07	3.63275E-07	1444.039055	945.8022584	7.173477752	107377.6624
San Bernardino (MD)	2023 Construction and Mining - Paving Equipment	Aggregate	75 Diesel	1.11254E-06	1.35101E-06	1.60782E-06	2.3356E-06	4.5841E-06	0.00134044	1.20384E-06	1.68824E-06	1.31844E-07	1.07196E-07	426.003354	54.4888437	0.05230921	0.05230921
San Bernardino (MD)	2023 Construction and Mining - Paving Equipment	Aggregate	100 Diesel	1.67995E-05	8.22743E-05	9.79132E-05	0.00148307	0.00058602	0.17500542	4.28837E-05	3.9453E-05	1.62425E-06	1.43568E-06	5706.899351	3482.40323	7.467784021	310221.5131
San Bernardino (MD)	2023 Construction and Mining - Paving Equipment	Aggregate	175 Diesel	8.80374E-05	8.22323E-05	9.79739E-05	0.00111745	0.00075965	0.18964605	3.96027E-05	3.64354E-05	1.54787E-06	1.34787E-06	5706.899351	3482.40323	7.467784021	310221.5131
San Bernardino (MD)	2023 Construction and Mining - Paving Equipment	Aggregate	25 Diesel	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
San Bernardino (MD)	2023 Construction and Mining - Paving Equipment	Aggregate	300 Diesel	3.68025E-05	4.45343E-05	5.29995E-05	0.00024118	0.00048235	0.00025724	1.25556E-05	1.70712E-05	1.18103E-06	1.04358E-06	4148.288378	978.3512926	2.066730959	22581.31274
San Bernardino (MD)	2023 Construction and Mining - Paving Equipment	Aggregate	50 Diesel	3.24622E-05	3.92739E-05	4.67456E-05	0.00037881	0.000273943	0.0420357	1.2561E-05	1.15561E-05	3.90163E-07	3.45293E-07	1372.561852	184.594306	4.07834969	47446.37181
San Bernardino (MD)	2023 Construction and Mining - Paving Equipment	Aggregate	600 Diesel	2.94348E-05	3.56161E-05	4.23861E-05	0.000260503	0.000335889	0.000335889	1.7031E-06	1.07668E-06	1.12591E-06	1.07668E-06	4475.540555	612.7193251	1.295015034	26516.05974
San Bernardino (MD)	2023 Construction and Mining - Paving Equipment	Aggregate	75 Diesel	5.19231E-06	6.28378E-06	7.48222E-06	5.18832E-06	5.0072679	4.73842E-06	4.73842E-06	4.348E-06	6.69923E-08	5.92779E-08	235.633088	182.354286	6.404092378	12709.98565
San Bernardino (MD)	2023 Construction and Mining - Paving Equipment	Aggregate	750 Diesel	5.07751E-06	6.14378E-06	7.31161E-06	4.86129E-05	5.4744E-05	0.00212282	1.49829E-06	1.37842E-06	2.41349E-07	2.13209E-07	847.518461	72.3451073	0.17781893	46095.78511
San Bernardino (MD)	2023 Construction and Mining - Paving Equipment	Aggregate	999 Diesel	2.05521E-05	2.49939E-06	2.97439E-06	2.33561E-05	5.20833E-06	0.01204439	9.2032E-07	8.46572E-07	1.16262E-07	1.01246E-07	402.458321	25.98238161	0.05511279	21903.5279
San Bernardino (MD)	2023 Construction and Mining - Rollers	Aggregate	100 Diesel	0.00045482	0.00056323	0.000670294	0.00701466	0.00961282	1.0812555	0.00032748	0.000298732	9.9862E-06	8.82808E-06	35092.13696	20715.904	61.72164827	180779.623
San Bernardino (MD)	2023 Construction and Mining - Rollers	Aggregate	175 Diesel	0.00026412	0.00031966	0.000380465	0.002602943	0.00516337	1.125805204	0.00014291	0.00012748	1.04007E-05	9.18867E-06	36525.51001	13101.95395	36.11312657	180779.623
San Bernardino (MD)	2023 Construction and Mining - Rollers	Aggregate	25 Diesel	1.61667E-07	7.64167E-07	8.88E-07	2.02258E-06	1.42728E-06	0.000109004	1.94351E-07	1.78952E-07	9.89298E-10	8.89678E-10	3.53652112	1.651064611	0.020892833	164.026153
San Bernardino (MD)	2023 Construction and Mining - Rollers	Aggregate	300 Diesel	6.63209E-05	8.01273E-05	9.53581E-05	0.00055352	0.000915123	0.19048316	3.46892E-05	3.20797E-05	1.57878E-06	1.5536E-06	6175.641467	1464.396816	4.640445738	318220.9696
San Bernardino (MD)	2023 Construction and Mining - Rollers	Aggregate	50 Diesel	0.000464159	0.000781852	0.000904969	0.00463554	0.00093552	0.00043564	0.00025083	0.000240352	6.42188E-06	5.68813E-06	22663.4325	2921.56177	83.74253637	107471.402
San Bernardino (MD)	2023 Construction and Mining - Rollers	Aggregate	600 Diesel	2.34596E-05	2.83661E-05	3.37181E-05	0.000279864	0.000302348	0.10529715	1.02835E-05	9.64081E-06	7.9229E-07	8.58952E-07	3414.38665	497.258922	1.61827888	17154.0208
San Bernardino (MD)	2023 Construction and Mining - Rollers	Aggregate	75 Diesel	1.21001E-05	2.5621E-05	3.05281E-05	1.46488E-05	0.00027089	0.00728757	1.46488E-05	1.34951E-05	6.67429E-08	5.94817E-08	236.4432502	171.8998928	1.28536192	12518.0285
San Bernardino (MD)	2023 Construction and Mining - Rough Terrain Forklifts	Aggregate	100 Diesel	0.00054211	0.00058496	0.00078364	0.01992338	0.00973961	2.78479648	0.000237006	0.000218046	2.57305E-05	2.27291E-05	90348.65385	45064.15158	157.880635	434070.702
San Bernardino (MD)	2023 Construction and Mining - Rough Terrain Forklifts	Aggregate	175 Diesel	0.000213863	0.000218775	0.000307963	0.00317682	0.01225819	0.59009548	0.00040456	0.000156675	5.52321E-06	4.80153E-06	19404.38914	7422.00942	26.638512	933451.6322
San Bernardino (MD)	2023 Construction and Mining - Rough Terrain Forklifts	Aggregate	25 Diesel	2.04139E-07	2.47008E-07	2.9396E-07	2.5153E-07	6.10506E-07	0.00036437	1.25152E-07	1.61048E-07	3.36265E-09	2.97349E-09	11.8215723	21.0443299	0.05557314	51.0842927
San Bernardino (MD)	2023 Construction and Mining - Rough Terrain Forklifts	Aggregate	300 Diesel	7.91127E-06	9.57264E-06	1.13922E-05	0.00021084	0.00478071	1.83232E-06	2.6085E-06	4.1783E-07	3.65494E-07	1452.861509	331.9397427	1.310542687	6922.63559	
San Bernardino (MD)	2023 Construction and Mining - Rough Terrain Forklifts	Aggregate	50 Diesel	1.34246E-05	1.41832E-05	1.493149E-05	8.006246573	0.00029971	0.035081531	2.11218E-05	1.11489E-05	3.23319E-07	2.86311E-07	1138.181641	1030.8782	3.75056907	40987.65967
San Bernardino (MD)	2023 Construction and Mining - Rough Terrain Forklifts	Aggregate	600 Diesel	1.8783E-06	2.27274E-06	2.76479E-06	2.99785E-06	1.873E-06	0.016404093	2.81738E-06	2.62932E-07	1.37939E-07	1.35817E-07	539.884779	67.9174154	0.262109257	26162.19920
San Bernardino (MD)	2023 Construction and Mining - Rough Terrain Forklifts	Aggregate	75 Diesel	2.61891E-06	3.11254E-06	3.87631E-06	1.08391E-06	2.6777E-06	6.4881E-06	1.68824E-06	8.8643E-06	1.78964E-06	1.78964E-06	612.009354	22.76271274	0.08029091	1509.421078
San Bernardino (MD)	2023 Construction and Mining - Rough Terrain Forklifts	Aggregate	750 Diesel	5.04617E-07	6.14378E-07	7.2649E-07	5.3082E-06	5.3082E-06	0.00286339	1.85115E-08	4.76666E-08	2.64538E-08	2.37706E-08	9.89955209	7.15517924	0.202876657	4471.98701
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Dozers	Aggregate	100 Diesel	9.74988E-05	0.00011786	0.00014027	0.00097564	0.00099148	0.00673153	7.4408E-05	6.84553E-05	8.90869E-07	7.89033E-07	3136.453975	1802.28878	2.025802887	152275.9825
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Dozers	Aggregate	175 Diesel	0.00031345	0.00041106	0.000491979	0.00079425	0.01431979	0.13418446	9.27051E-05	8.52887E-05	1.23666E-06	1.09519E-06	4353.456846	1503.19241	1.890782975	212871.6296
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Dozers	Aggregate	25 Diesel	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Dozers	Aggregate	300 Diesel	0.000106874	0.000129318	0.000153899	0.000259098	0.001409139	0.151105527	6.29839E-05	5.79452E-05	1.39384E-06	1.2333E-06	4902.452409	1096.666714	1.539637565	239348.4622
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Dozers	Aggregate	50 Diesel	2.2795E-05	3.32331E-05	0.000254139	0.000379239	7.49513E-06	6.89552E-06	2.83507E-07	2.5089E-07	997.3007461	1064.019835	1.107458959	6080.63236	9.994785828	60307.63236
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Dozers	Aggregate	600 Diesel	0.00017082	0.000128429	0.00154528	0.010485894	0.103208461	1.5538478	0.00058721	0.000540298	1.43398E-05	1.26823E-05	50412.71774	6661.742234	9.075788278	244558.864
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Dozers	Aggregate	75 Diesel	4.40588E-05	5.3247E-05	6.33683E-05	0.000279492	0.000427251	0.033027049	3.1738E-05	2.9135E-05	3.04021E-07	2.6952E-07	1071.526216	753.000573	0.099413858	52758.13694
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Dozers	Aggregate	999 Diesel	1.98078E-05	2.39917E-06	2.85251E-06	2.00011777	0.000312993	0.07623583	8.84535E-06	8.13789E-06	5.32164E-07	4.68951E-07	1869.533888	137.932171	1.310509297	91438.72667
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Loaders	Aggregate	100 Diesel	0.00105699	0.00182393	0.002169489	0.01174608	0.015565862	2.36412592	0.001053696	0.0009694	2.16459E-05	1.91488E-05	76117.47402	4774.976404	51.23998747	105608.623
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Loaders	Aggregate	175 Diesel	0.002382016	0.00288224	0.003403101	0.023501475	0.035946958	0.001261263	0.00116119	0.00116119	5.16429E-05	4.56531E-05	181473.961	64864.40955	68.18859871	972637.8027
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Loaders	Aggregate	25 Diesel	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000	0.00000000
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Loaders	Aggregate	300 Diesel	0.000362363	0.000313771	0.003007609	0.01839318	0.111101152	0.80259641	0.001042328	0.0009765	7.46464E-06	6.59691E-06	26220.30914	67409.47821	62.52967762	1045097.12
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Loaders	Aggregate	50 Diesel	0.0001387	0.000107827	0.000199729	0.000979389	0.00073545	0.005798616	4.85496E-05	4.46657E-05	8.18154E-07	7.81895E-07	3108.080599	3391.67062	41.281814373	149148.4463
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Loaders	Aggregate	600 Diesel	0.000780051	0.00046742	0.005339594	0.027104668	0.039216818	10.452973	0.00147627	0.001356657	9.6898E-05	8.56392E-05	340420.764	55339.83665	56.1387555	18261956.78
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Loaders	Aggregate	75 Diesel	1.54148E-05	1.86519E-05	2.21973E-05	6.10925E-05	0.000123986	0.000242736	1.07899E-05	9.92666E-06	5.70883E-06	5.08055E-06	201.9547168	155.207743	0.28153893	10641.68933
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Loaders	Aggregate	750 Diesel	0.000291284	0.000352454	0.000419449	0.000434052	0.000398334	0.996029248	6.62030E-05	7.93405E-05	9.20005E-06	8.12949E-06	32315.07195	260.126576	2.474613471	137906.46
San Bernardino (MD)	2023 Construction and Mining - Rubber Tired Loaders	Aggregate	999 Diesel	6.80267E-06	8.34014E-06	9.4929E-06	0.000254283	0.000254283	0.000254283	0.000254283	0.000254283	9.4929E-06	8.12949E-06	32315.07195	260.126576	2.474613471	137906.46
San Bernardino (MD)	2023 Construction and Mining - Scrapers	Aggregate	100 Diesel	7.11392E-05	8.61268E-05	0.000264146	0.00038504	0.000298504	0.002689256	5.51195E-05	5.9101E-05	7.60333E-07	6.71302E-07	6275.620832	1720.12079	2.03205358	106512.1366
San Bernardino (MD)	2023 Construction and Mining - Scrapers	Aggregate	175 Diesel	0.000560247	0.00067899	0.000806756	0.006575987	0.006496708	0.000341312	0.00034007	0.00034007	9.57824E-06	8.47045E-06	33670.52616	802		

San Bernardino (MD)	2023 Lawn and Garden - Misc - Chippers/Stump Grinders	Aggregate	5 Gasoline	1.16465E-05	1.28163E-05	1.1763E-05	0.00055481	4.32549E-06	0.00131762	2.54345E-08	1.92172E-08	2.15761E-08	2.9783E-08	82.58622847	0	13.15057565	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Chippers/Stump Grinders	Aggregate	5 Electric	0	0	0	0	0	0	0	0	0	0	0	0	4.86641132	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Lawn Mowers	Aggregate	15 Gasoline	2.23202E-05	2.45729E-05	2.25535E-05	0.00415277	1.01266E-05	0.003037484	3.53564E-07	2.67138E-07	5.26094E-08	7.26205E-08	199.147709	0	28.3340924	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Lawn Mowers	Aggregate	15 Electric	0	0	0	0	0	0	0	0	0	0	0	0	13.26292321	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Lawn Mowers	Aggregate	2 Gasoline	1.33255E-06	1.64839E-06	1.34588E-06	3.03195E-05	6.48342E-07	8.25733E-05	6.50591E-08	4.91557E-08	1.41789E-09	1.95721E-09	5.030336772	0	1.886109251	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Lawn Mowers	Aggregate	2 Electric	0	0	0	0	0	0	0	0	0	0	0	0	0.758621674	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Lawn Mowers	Aggregate	25 Gasoline	1.84431E-05	2.02955E-05	1.86275E-05	0.00191219	6.44756E-06	0.002558691	2.97832E-07	2.25029E-07	4.30999E-08	5.94937E-08	167.7086511	0	7.113973719	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Lawn Mowers	Aggregate	25 Electric	0	0	0	0	0	0	0	0	0	0	0	0	3.024497174	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Lawn Mowers	Aggregate	5 Gasoline	0.000473363	0.000521981	0.0004700796	0.22266753	0.002879851	0.62039593	6.46495E-05	4.88463E-05	9.91773E-06	1.36901E-05	36807.31819	0	7746.480857	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Lawn Mowers	Aggregate	5 Electric	0	0	0	0	0	0	0	0	0	0	0	0	3107.537546	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Leaf Blowers/Vacuums	Aggregate	15 Gasoline	0.00017955	0.00018798	0.000190304	0.007745129	0.00008170	0.002005086	3.0169E-07	2.3435E-07	3.14174E-07	4.33677E-07	1214.887092	0	64.70806679	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Leaf Blowers/Vacuums	Aggregate	2 Gasoline	0.001215274	0.013372836	0.012737397	0.07500634	0.000528442	0.318783461	0.000172209	0.000103114	4.56632E-06	6.3032E-06	17896.88226	0	2146.626269	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Leaf Blowers/Vacuums	Aggregate	2 Electric	0	0	0	0	0	0	0	0	0	0	0	0	4982.212655	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Leaf Blowers/Vacuums	Aggregate	25 Gasoline	2.30665E-06	2.54163E-06	2.3327E-06	0.000168499	2.57867E-06	0.000646117	7.69523E-09	5.8146E-09	8.75262E-09	1.20819E-08	34.27511271	0	0.652468651	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Leaf Blowers/Vacuums	Aggregate	5 Gasoline	0.00666886	0.018340891	0.016833556	0.062028927	0.000412476	0.005131523	0.000256237	0.000193602	5.31654E-06	7.33879E-06	20915.05735	0	1042.189503	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Leaf Blowers/Vacuums	Aggregate	5 Electric	0	0	0	0	0	0	0	0	0	0	0	0	2681.122551	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Leaf Blowers/Vacuums	Aggregate	15 Gasoline	0.00055725	6.13219E-05	5.62822E-05	0.000398531	2.09823E-05	0.00053136	1.83432E-07	1.36525E-07	1.36311E-07	1.74356E-07	489.2228449	0	60.35352202	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Other	Aggregate	15 Diesel	1.19377E-07	1.57231E-07	1.31556E-07	7.74568E-07	9.2474E-07	0.00126855	3.25211E-08	2.45715E-08	1.21593E-09	1.04741E-09	4.16726802	0	0.01723231	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Other	Aggregate	25 Gasoline	1.00343E-05	1.10421E-05	1.01346E-05	0.000904723	6.91917E-06	0.01010523	4.34958E-08	3.28635E-08	3.20401E-08	4.42727E-08	125.590441	0	5.204615483	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Other	Aggregate	25 Diesel	1.93125E-08	2.7762E-08	2.32878E-08	7.92828E-08	1.46787E-07	1.92549E-07	4.93627E-09	3.78639E-09	1.8411E-10	1.58594E-10	0.630895628	0	0.001994855	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Other	Aggregate	5 Gasoline	2.85264E-05	3.13915E-05	2.88116E-05	0.001396044	1.11741E-05	0.003179115	6.09518E-08	5.05838E-08	5.38452E-08	7.43263E-08	204.1092893	0	49.14350995	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Rear Engine Riding Mowers	Aggregate	15 Gasoline	0.000251886	0.000277185	0.000254404	0.012407469	0.000189851	0.00630322	1.3035E-06	1.04531E-06	5.45904E-07	7.52418E-07	2107.620351	0	56.41571432	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Rear Engine Riding Mowers	Aggregate	15 Diesel	2.81807E-05	4.05102E-05	3.89525E-05	0.000195566	0.000238257	0.000383855	8.37847E-06	6.3304E-06	3.13281E-07	2.69836E-07	38.00493938	0	38.00493938	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Rear Engine Riding Mowers	Aggregate	15 Electric	0	0	0	0	0	0	0	0	0	0	0	0	3.262234788	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Rear Engine Riding Mowers	Aggregate	25 Gasoline	0.000132328	0.000893101	0.0008213652	0.447315752	0.000489143	0.934637855	3.84389E-05	2.90427E-05	1.58947E-05	2.19407E-05	62135.7068	0	657.5439715	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Rear Engine Riding Mowers	Aggregate	25 Diesel	8.5063E-05	0.000122779	0.000102312	0.000349206	0.000646533	0.084809256	2.17408E-05	1.64263E-05	8.10921E-07	6.98534E-07	2779.212326	0	77.45678237	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Rear Engine Riding Mowers	Aggregate	5 Gasoline	2.55623E-05	2.81298E-05	2.5818E-05	0.000906347	1.09995E-05	0.002129971	8.17076E-08	6.17345E-08	3.6194E-08	4.99611E-08	135.891814	0	9.18283875	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Rear Engine Riding Mowers	Aggregate	5 Electric	0	0	0	0	0	0	0	0	0	0	0	0	0.530966995	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Snowblowers	Aggregate	15 Gasoline	0.000296308	0.000326068	0.000299271	0.021828241	0.000148753	0.038028611	9.5678E-07	7.22901E-07	7.48809E-07	1.02949E-06	2721.892963	0	669.9579788	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Snowblowers	Aggregate	15 Electric	0	0	0	0	0	0	0	0	0	0	0	0	62.8146124	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Snowblowers	Aggregate	25 Gasoline	9.52668E-07	1.04835E-06	9.62196E-07	9.24025E-05	6.87561E-07	0.000162816	4.09637E-09	3.09504E-09	3.09907E-09	4.22265E-09	11.61243431	0	1.379931902	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Snowblowers	Aggregate	25 Electric	0	0	0	0	0	0	0	0	0	0	0	0	0.129380751	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Snowblowers	Aggregate	5 Gasoline	0.000130789	0.000143926	0.000132097	0.006821448	5.7265E-05	0.015645642	3.42381E-07	2.58888E-07	2.61255E-07	3.60629E-07	1000.377765	0	503.675926	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Snowblowers	Aggregate	5 Electric	0	0	0	0	0	0	0	0	0	0	0	0	47.2297906	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Tillers	Aggregate	15 Gasoline	4.10754E-05	4.5201E-05	4.14861E-05	0.002583214	2.5474E-05	0.000566722	1.44115E-07	1.08925E-07	1.05041E-07	1.44969E-07	401.6733755	0	68.61139705	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Tillers	Aggregate	2 Gasoline	0.000167198	0.000183992	0.00016887	0.000497533	3.05586E-06	0.002894587	2.9289E-07	2.21294E-07	4.64048E-08	6.35534E-08	158.8813129	0	90.13753873	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Tillers	Aggregate	2 Electric	0	0	0	0	0	0	0	0	0	0	0	0	27.68978173	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Tillers	Aggregate	5 Gasoline	2.54028E-05	2.79542E-05	2.56588E-05	0.001259796	8.33899E-06	0.0209444	5.37792E-08	4.21443E-08	4.97841E-08	6.87206E-08	188.8255598	0	44.77562625	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Trimmers/Edgers/Brush Cutters	Aggregate	15 Gasoline	2.41225E-06	2.6544E-06	2.43638E-06	0.000149257	1.92318E-06	0.00542026	1.3035E-06	1.04531E-06	5.33344E-09	7.63709E-09	21.01505109	0	2.511140028	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Trimmers/Edgers/Brush Cutters	Aggregate	2 Gasoline	0.01772308	0.0150342	0.01700542	0.098988233	0.00106211	0.002134708	0.000154472	0.000289838	7.03929E-06	9.71683E-06	27502.83403	0	5704.653358	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Trimmers/Edgers/Brush Cutters	Aggregate	2 Electric	0	0	0	0	0	0	0	0	0	0	0	0	8423.705354	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Trimmers/Edgers/Brush Cutters	Aggregate	25 Gasoline	2.68844E-06	2.95835E-06	2.71252E-06	0.000134969	1.13674E-06	0.000531924	6.07776E-09	4.59208E-09	7.22059E-09	9.96709E-09	28.10006059	0	1.74322302	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Trimmers/Edgers/Brush Cutters	Aggregate	5 Gasoline	0.000653629	0.000719279	0.000606106	0.011814432	7.40859E-05	0.040183153	7.92169E-06	5.96527E-06	5.79556E-07	8.00002E-07	2276.255603	0	183.9434679	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Trimmers/Edgers/Brush Cutters	Aggregate	5 Electric	0	0	0	0	0	0	0	0	0	0	0	0	133.818927	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Wood Splitters	Aggregate	15 Gasoline	0.00081348	0.00096987	0.000890162	0.04078862	0.00029822	0.02482034	4.24246E-06	3.34278E-06	1.64059E-06	2.26426E-06	6327.695875	0	15.8726199	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Wood Splitters	Aggregate	2 Gasoline	1.54549E-05	1.70073E-05	1.56095E-05	0.000402447	8.13432E-06	0.000941655	3.91507E-08	2.95806E-08	1.61576E-08	2.20350E-08	60.7206163	0	0.71880876	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Wood Splitters	Aggregate	25 Gasoline	5.24113E-07	5.76754E-07	5.29353E-07	2.78764E-05	2.23594E-07	6.65178E-05	2.77899E-09	2.09968E-09	1.06825E-09	1.47496E-09	4.1803289	0	5.047006914	0
San Bernardino (MD)	2023 Lawn and Garden - Misc - Wood Splitters	Aggregate	5 Gasoline	5.88935E-05	6.48087E-05	5.94824E-05	0.00228953	1.92318E-05	0.00542026	2.25256E-06	1.70289E-07	8.93741E-08	1.23369E-07	341.67426367	0	20.80065103	0
San Bernardino (MD)	2023 Light Commercial - Misc - Air Compressors	Aggregate	100 Gasoline	0.00951148	0.00407837	0.000466889	0.022528077	0.01138794	0.44978883	3.13601E-05	2.80434E-05	4.34564E-05	6.453E-06	18421.55	4894.65	10.181	342625.5
San Bernardino (MD)	2023 Light Commercial - Misc - Air Compressors	Aggregate	15 Gasoline	0.005454024	0.00508564	0.006061822	0.349041408	0.003900449	0.09112624	1.09831E-05	1.4534E-05	1.20084E-05	1.6576E-05	4694.69581	0	438.3095103	0
San Bernardino (MD)	2023 Light Commercial - Misc - Air Compressors	Aggregate	15 Diesel	9.55236E-07	1.18494E-06	1.37317E-06	8.181173E-06	7.18317E-06	0.00094333	1.25261E-07	2.89404E-07	9.04888E-09	7.79479E-09	33.01258275	0	0.11788044	0
San Bernardino (MD)	2023 Light Commercial - Misc - Air Compressors	Aggregate	15 Electric	0	0	0	0	0	0	0	0	0	0	0	0	5329.05248	0
San Bernardino (MD)	2023 Light Commercial - Misc - Air Compressors	Aggregate	175 Gasoline	4.64792E-05	4.27516E-05	5.11475E-05	0.002014923	0.01632678	0.03632678	4.03845E-06	3.05128E-06	5.95066E-06	7.91504E-07	229.25	321.2	0.68	4304.8
San Bernardino (MD)	2023 Light Commercial - Misc - Air Compressors	Aggregate	25 Gasoline	7.9517E-05	8.03123E-05	8.75038E-05	0.010972615	0.000112964	0.016817773	2.59793E-07	3.48434E-07	3.2581E-07	4.49767E-07	1280.720602	0	4.536470554	0
San Bernardino (MD)	2023 Light Commercial - Misc - Air Compressors	Aggregate	25 Diesel	4.01307E-06	4.82683E-06	5.76885E-06	1.59933E-05	2.95804E-05	0.003786258	8.37075E-07	1.10789E-06	3.62184E-06	3.11588E-06	124.1286313	0	0.235180435	0
San Bernardino (MD)	2023 Light Commercial - Misc - Air Compressors	Aggregate	25 Electric	0	0	0	0	0	0	0	0	0	0	0	0	28.2342598	0
San Bernardino (MD)	2023 Light Commercial - Misc - Air Compressors	Aggregate	5 Gasoline	0.00115662	0.001168188	0.001277971	0.046099284	0.00353742	0.110236584	1.55418E-06	2.05701E-06	1.7848E-06	2.46368E-06	6963.832704	0	16	

Construction Worker Trips Fuel Usage Worksheet

Note: Per CalEEMod methodology, worker vehicles are "LD_Mix", which is 50% LDA, 25% LDT1, and 25% LDT2

Activity ¹	Daily trips ^{1,2}	Trip miles ²	Trip days ¹	Annual VMT
2022				
Site Preparation	18	10.8	4	778
Site Preparation and Rough Grading	25	10.8	10	2,700
2023				
Main Building Construction 1	216	10.8	22	51,322
Main Building Construction and Modular Building Installation	216	10.8	24	55,987
Main Building Construction 2	216	10.8	140	326,592
Utility Trenching	10	10.8	63	6,804
Architectural Coating	43	10.8	39	18,112
Finishing/Landscaping 1	5	10.8	42	2,268
Finishing/Landscaping and Fine Grading	10	10.8	10	1,080
Finishing/Landscaping 2	5	10.8	39	2,106
Paving	15	10.8	27	4,374
Linear, Grubbing & Land Clearing	5	10.8	3	162
Linear, Grading & Excavation	5	10.8	13	2,970
Linear, Drainage, Utilities, & Sub-Grade	25	10.8	11	972
Linear, Paving	18	10.8	5	972

¹ Based on information provided.

² Based on CalEEMod defaults.

Year	LDA VMT			Gasoline ¹						Diesel ¹						Electricity ¹					
	LDA	LDT1	LDT2	LDA mpg	LDA gallons	LDT1 mpg	LDT1 gallons	LDT2 mpg	LDT2 gallons	LDA mpg	LDA gallons	LDT1 mpg	LDT1 gallons	LDT2 mpg	LDT2 gallons	LDA m/kWh	LDA kWh	LDT1 m/kWh	LDT1 kWh	LDT2 m/kWh	LDT2 kWh
2022	1,739	869	869	28.16	59	23.29	37	22.60	38	40.57	0	23.36	0	30.65	0	2.76	26	2.73	0	2.97	2
2023	236,860	118,430	118,430	28.69	7,805	23.70	4,985	23.21	5,046	40.96	15	23.44	1	31.34	12	2.74	4,495	2.76	87	2.93	310

Gasoline		Diesel		Electricity	
VMT	Gallons	VMT	Gallons	VMT	kWh
3,391	134	8	0	78	28
459,205	17,836	1,046	29	13,470	4,892
703,561	26,527	1,557	42	30,572	11,215

¹ EMFAC2021 v1.0.2.

Year	VMT from gasoline			VMT from diesel			VMT from electricity		
	LDA	LDT1	LDT2	LDA	LDT1	LDT2	LDA	LDT1	LDT2
2022	95.52%	99.84%	99.17%	0.29%	0.03%	0.32%	4.19%	0.13%	0.52%
2023	94.53%	99.77%	98.91%	0.27%	0.02%	0.33%	5.20%	0.20%	0.77%

Vendor Trips Fuel Usage Worksheet

Note: Based on CalEEMod methodology, vendor vehicles are 50% HHDT (T7) and 50% MHDT (T6).

Activity ¹	Daily trips ^{1,2}	Trip miles ²	Trip days ¹	Annual VMT
2022				
Site Preparation	18	7.3	4	526
Site Preparation and Rough Grading	26	7.3	10	1,898
2023				
Main Building Construction 1	84	7.3	22	13,490
Main Building Construction and Modular Building Installation	84	7.3	24	14,717
Main Building Construction 2	84	7.3	140	85,848
Utility Trenching	2	7.3	63	920
Architectural Coating	0	7.3	39	0
Finishing/Landscaping 1	0	7.3	42	0
Finishing/Landscaping and Fine Grading	0	7.3	10	0
Finishing/Landscaping 2	0	7.3	39	0
Paving	0	7.3	27	0
Linear, Grubbing & Land Clearing	4	7.3	3	88
Linear, Grading & Excavation	4	7.3	13	380
Linear, Drainage, Utilities, & Sub-Grade	4	7.3	11	321
Linear, Paving	0	7.3	5	0

¹ Based on information provided.

² Based on CalEEMod defaults.

Year	HHDT (T7) VMT		MHDT (T6) VMT		Gasoline ¹				Diesel ¹			
	HHDT (T7) mpg	HHDT (T7) gallons	MHDT (T6) mpg	MHDT (T6) gallons	HHDT (T7) mpg	HHDT (T7) gallons	MHDT (T6) mpg	MHDT (T6) gallons	HHDT (T7) mpg	HHDT (T7) gallons	MHDT (T6) mpg	MHDT (T6) gallons
2022	1,212	1,212	3.43	0	4.99	70	6.02	201	9.07	95		
2023	57,882	57,882	3.56	1	5.06	3,293	6.09	9,489	9.03	4,550		

¹ EMFAC2021 v1.0.1.

Year	VMT from gasoline		VMT from diesel	
	HHDT (T7)	MHDT (T6)	HHDT (T7)	MHDT (T6)
2022	0.01%	28.90%	99.82%	70.95%
2023	0.01%	28.80%	99.86%	71.02%

VENDOR

Gasoline		Diesel	
VMT	Gallons	VMT	Gallons
350	70	2,069	296
16,671.99	3,294.29	98,905	14,039
20,534.70	4,040.71	124,359.77	17,601.58

Vehicle type	Land Use	
	Fleet percent	VMT
	Elementary School	Elementary School
LDA	65.70%	1,931,080
LDT1	6.82%	200,505
LDT2	21.05%	618,886
MDV	2.00%	58,788
LHD1	0.43%	12,625
LHD2	0.11%	3,363
MHD	0.18%	5,326
HHD	0.27%	8,080
OBUS	0.00%	0
UBUS	0.00%	0
MCY	3.43%	100,739
SBUS	0.00%	0
MH	0.00%	0
	100.00%	2,939,391

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Elementary School	0.656966	0.068213	0.210549	0.020000	0.004295	0.001144	0.001812	0.002749	0.000000	0.000000	0.034272	0.000000	0.000000
Other Asphalt Surfaces	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071
Other Non-Asphalt Surfaces	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071
Parking Lot	0.537785	0.055838	0.172353	0.139003	0.027005	0.007196	0.011392	0.017285	0.000559	0.000254	0.025303	0.000954	0.005071

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated Annual VMT	Mitigated Annual VMT
	Weekday	Saturday	Sunday		
Elementary School	1,295.00	0.00	0.00	2,939,391	2,939,391
Other Asphalt Surfaces	0.00	0.00	0.00		
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Parking Lot	0.00	0.00	0.00		
Total	1,295.00	0.00	0.00	2,939,391	2,939,391

PROPOSED CONDITIONS

Vehicle type	Gas percent	Diesel percent	CNG percent	Electricity percent
LDA	94.53%	0.27%	0.00%	5.20%
LDT1	99.77%	0.02%	0.00%	0.20%
LDT2	98.91%	0.33%	0.00%	0.77%
MDV	97.50%	1.67%	0.00%	0.83%
LHD1	53.76%	46.24%	0.00%	0.00%
LHD2	25.81%	74.19%	0.00%	0.00%
MHD	28.80%	71.02%	0.16%	0.02%
HHD	0.01%	99.86%	0.09%	0.04%
OBUS	77.49%	22.51%	0.00%	0.00%
UBUS	27.34%	1.31%	71.24%	0.11%
MCY	100.00%	0.00%	0.00%	0.00%
SBUS	28.42%	71.56%	0.00%	0.02%
MH	71.78%	28.22%	0.00%	0.00%

<< Equal to T6 (<https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf>)
 << Equal to T7 (<https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf>)
 << Motor coach, all other buses, and OBUS (<https://www.arb.ca.gov/msei/downloads/emfac2014/emfac2014-vol3-technical-documentation-052015.pdf>)

PROPOSED CONDITIONS

Vehicle type	VMT	Gasoline		Diesel		CNG		Electricity		
		mpg	Gallons	mpg	Gallons	mpg	Gallons	m/kWh	kWh	
LDA	1,825,483	28.69	63,632	5,162	40,96	126	0	100,435	2.74	36,644
LDT1	200,050	23.70	8,440	46	23.44	2	0	409	2.76	148
LDT2	612,119	23.21	26,369	2,018	31.34	64	0	4,749	2.93	1,622
MDV	57,316	18.72	3,062	982	22.86	43	0	490	2.82	174
LHD1	6,787	12.69	535	5,837	20.33	287	0	0	0.00	0
LHD2	868	11.42	76	2,495	16.87	148	0	0	0.00	0
MHD	1,534	5.06	303	3,783	9.03	419	9	8.91	0.98	1
HHD	1	3.56	0	8,069	6.09	1,325	7	5.94	1.26	4
OBUS	0	4.96	0	0	7.87	0	0	0.00	0	0
UBUS	0	3.78	0	0	7.94	0	0	3.96	0.00	0
MCY	100,739	40.63	2,480	0	0.00	0	0	0.00	0	0
SBUS	0	9.15	0	0	7.56	0	0	0.00	0	0
MH	0	4.76	0	0	10.47	0	0	0.00	0	0
	2,804,896		104,897	28,391		2,414	16		106,088	38,593

EMFAC Fuel Usage: Year 2022

Vehicle type	GAS			DSL			NG			ELEC		
	VMT/day	Gallons/day	Miles/gallon	VMT/day	Gallons/day	Miles/gallon	VMT/day	Gallons/day	Miles/gallon	VMT/day	kWh/day	Miles/kWh
All other buses	0	0	0.00	2,830	291	9.74	0	0	0.00	0	0	0.00
LDA	12,947,908	459,813	28.16	39,523	974	40.57	0	0	0.00	567,878	206,091	2.76
LDT1	1,086,300	46,634	23.29	275	12	23.36	0	0	0.00	1,419	519	2.73
LDT2	5,291,625	234,167	22.60	16,891	551	30.65	0	0	0.00	27,488	9,268	2.97
LHD1	480,163	38,993	12.31	417,233	20,607	20.25	0	0	0.00	0	0	0.00
LHD2	63,154	5,662	11.15	181,228	10,807	16.77	0	0	0.00	0	0	0.00
MCY	105,905	2,626	40.33	0	0	0.00	0	0	0.00	0	0	0.00
MDV	4,074,741	222,528	18.31	71,061	3,151	22.55	0	0	0.00	22,334	7,742	2.88
MH	30,317	6,365	4.76	11,369	1,086	10.47	0	0	0.00	0	0	0.00
Motor coach	0	0	0.00	2,102	379	5.55	0	0	0.00	0	0	0.00
OBUS	17,688	3,602	4.91	0	0	0.00	0	0	0.00	0	0	0.00
PTO	0	0	0.00	5,029	1,055	4.77	0	0	0.00	0	0	0.00
SBUS	5,603	618	9.07	14,682	1,947	7.54	0	0	0.00	0	0	0.00
T6	62,752	12,585	4.99	154,037	16,988	9.07	324	37	8.84	0	0	0.00
T7	207	60	3.43	2,545,258	423,124	6.02	4,349	756	5.76	0	0	0.00
UBUS	5,244	1,386	3.78	254	32	7.95	13,663	3,555	3.84	21	44	0.47
Total	24,171,605	1,035,039	23.35	3,461,773	481,004	7.20	18,337	4,348	4.22	619,139	223,665	2.77

Source: EMFAC2021 (v1.0.2) Emissions Inventory

Region Type: Sub-Area

Region: San Bernardino (MD)

Calendar Year: 2022

Season: Annual

Vehicle Classification: EMFAC202x Categories

Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	Fuel Consumption	Energy Consumption
San Bernardino (MD)	2022	All Other Buses	Aggregate	Aggregate	Diesel	56.89767772	2829.581938	2829.581938	0	506.3893317	0.290652586	0
San Bernardino (MD)	2022	LDA	Aggregate	Aggregate	Gasoline	315025.2401	12778481.85	12778481.85	0	1460711.483	454.5117339	0
San Bernardino (MD)	2022	LDA	Aggregate	Aggregate	Diesel	1181.447679	39522.6448	39522.6448	0	5073.779386	0.974146492	0
San Bernardino (MD)	2022	LDA	Aggregate	Aggregate	Electricity	9091.485006	411352.2469	0	411352.2469	45831.42881	0	158815.918
San Bernardino (MD)	2022	LDA	Aggregate	Aggregate	Plug-in Hybrid	6625.863066	325951.3406	169425.8418	156525.4989	27397.94378	5.300824893	47275.36586
San Bernardino (MD)	2022	LDT1	Aggregate	Aggregate	Gasoline	33411.96802	1085988.074	1085988.074	0	143128.0083	46.62461586	0
San Bernardino (MD)	2022	LDT1	Aggregate	Aggregate	Diesel	19.86094168	275.4390624	275.4390624	0	58.60763593	0.011789745	0
San Bernardino (MD)	2022	LDT1	Aggregate	Aggregate	Electricity	29.17895421	1079.468002	0	1079.468002	137.3494605	0	416.7637422
San Bernardino (MD)	2022	LDT1	Aggregate	Aggregate	Plug-in Hybrid	12.28939531	651.8043356	312.3343986	339.469937	50.81664961	0.009826835	102.5300388
San Bernardino (MD)	2022	LDT2	Aggregate	Aggregate	Gasoline	133212.9364	5275898.45	5275898.45	0	619234.6799	233.6705517	0
San Bernardino (MD)	2022	LDT2	Aggregate	Aggregate	Diesel	391.4156531	16891.01393	16891.01393	0	1878.155396	0.551140406	0
San Bernardino (MD)	2022	LDT2	Aggregate	Aggregate	Electricity	307.7192569	11493.54449	0	11493.54449	1586.738056	0	4437.456788
San Bernardino (MD)	2022	LDT2	Aggregate	Aggregate	Plug-in Hybrid	617.0280134	31720.51982	15726.3296	15994.19022	2551.410835	0.496266362	4830.722151
San Bernardino (MD)	2022	LHD1	Aggregate	Aggregate	Gasoline	13681.81979	480162.6426	480162.6426	0	20388.729	38.99257738	0
San Bernardino (MD)	2022	LHD1	Aggregate	Aggregate	Diesel	11445.57076	417232.9028	417232.9028	0	143970.8817	20.60734087	0
San Bernardino (MD)	2022	LHD2	Aggregate	Aggregate	Gasoline	1787.017407	63154.30932	63154.30932	0	26623.89671	5.66217161	0
San Bernardino (MD)	2022	LHD2	Aggregate	Aggregate	Diesel	4753.39831	181228.3588	181228.3588	0	59791.77096	10.8066015	0
San Bernardino (MD)	2022	MCY	Aggregate	Aggregate	Gasoline	18449.55518	105904.5347	105904.5347	0	36899.11036	2.626191812	0
San Bernardino (MD)	2022	MDV	Aggregate	Aggregate	Gasoline	106998.5687	4063576.576	4063576.576	0	486373.6897	222.1712213	0
San Bernardino (MD)	2022	MDV	Aggregate	Aggregate	Diesel	1747.613644	71060.52239	71060.52239	0	8190.362397	3.151073571	0
San Bernardino (MD)	2022	MDV	Aggregate	Aggregate	Electricity	318.4530276	11852.6943	0	11852.6943	1640.149088	0	4576.118257
San Bernardino (MD)	2022	MDV	Aggregate	Aggregate	Plug-in Hybrid	454.9702611	21645.72899	11164.16202	10481.56697	1881.30203	0.357132336	3165.745625
San Bernardino (MD)	2022	MH	Aggregate	Aggregate	Gasoline	3553.229574	30316.765	30316.765	0	355.4650865	6.365054853	0
San Bernardino (MD)	2022	MH	Aggregate	Aggregate	Diesel	1318.638935	11368.81122	11368.81122	0	131.8638935	1.085583587	0
San Bernardino (MD)	2022	Motor Coach	Aggregate	Aggregate	Diesel	14.69922668	2102.380242	2102.380242	0	337.7882291	0.379057424	0
San Bernardino (MD)	2022	OBUS	Aggregate	Aggregate	Gasoline	290.7222559	17688.38678	17688.38678	0	5816.770895	3.601915995	0
San Bernardino (MD)	2022	PTO	Aggregate	Aggregate	Diesel	5029.18899	5029.18899	0	0	1.055068467	0	0
San Bernardino (MD)	2022	SBUS	Aggregate	Aggregate	Gasoline	91.89024557	5602.766896	5602.766896	0	367.5609823	0.617852804	0
San Bernardino (MD)	2022	SBUS	Aggregate	Aggregate	Diesel	615.4498204	14682.1603	14682.1603	0	8911.713399	1.947392746	0
San Bernardino (MD)	2022	T6 CAIRP Class 4	Aggregate	Aggregate	Diesel	18.91735515	1283.101069	1283.101069	0	434.7208212	0.144522042	0
San Bernardino (MD)	2022	T6 CAIRP Class 5	Aggregate	Aggregate	Diesel	25.45489903	1760.183935	1760.183935	0	584.9535797	0.19771979	0
San Bernardino (MD)	2022	T6 CAIRP Class 6	Aggregate	Aggregate	Diesel	77.14401332	4599.410982	4599.410982	0	1772.769426	0.511882582	0
San Bernardino (MD)	2022	T6 CAIRP Class 7	Aggregate	Aggregate	Diesel	136.6791932	28849.83047	28849.83047	0	3140.88786	0.21446244	0
San Bernardino (MD)	2022	T6 Instate Delivery Class 4	Aggregate	Aggregate	Diesel	65.18345568	2162.472423	2162.472423	0	930.1679126	0.246029518	0
San Bernardino (MD)	2022	T6 Instate Delivery Class 5	Aggregate	Aggregate	Diesel	44.90788402	1540.017481	1540.017481	0	640.835505	0.179474463	0
San Bernardino (MD)	2022	T6 Instate Delivery Class 6	Aggregate	Aggregate	Diesel	239.292847	8242.519586	8242.519586	0	3414.708927	0.935805206	0
San Bernardino (MD)	2022	T6 Instate Delivery Class 7	Aggregate	Aggregate	Diesel	49.05401622	2645.384956	2645.384956	0	700.0008115	0.287797712	0
San Bernardino (MD)	2022	T6 Instate Other Class 4	Aggregate	Aggregate	Diesel	310.598949	12576.87144	12576.87144	0	3590.52385	1.436111353	0
San Bernardino (MD)	2022	T6 Instate Other Class 5	Aggregate	Aggregate	Diesel	461.1896466	20457.30907	20457.30907	0	5331.352314	2.367711119	0
San Bernardino (MD)	2022	T6 Instate Other Class 6	Aggregate	Aggregate	Diesel	412.7131613	17817.73197	17817.73197	0	4770.964144	2.040876033	0
San Bernardino (MD)	2022	T6 Instate Other Class 7	Aggregate	Aggregate	Diesel	251.7189044	11898.53441	11898.53441	0	2909.870534	1.312638558	0
San Bernardino (MD)	2022	T6 Instate Tractor Class 6	Aggregate	Aggregate	Diesel	6.015520656	266.4993161	266.4993161	0	69.53941878	0.028925071	0
San Bernardino (MD)	2022	T6 Instate Tractor Class 7	Aggregate	Aggregate	Diesel	112.2354235	6654.689608	6654.689608	0	1297.441496	0.68327244	0
San Bernardino (MD)	2022	T6 OOS Class 4	Aggregate	Aggregate	Diesel	10.70199754	720.0189849	720.0189849	0	245.9319035	0.081060087	0
San Bernardino (MD)	2022	T6 OOS Class 5	Aggregate	Aggregate	Diesel	14.34443422	987.7365707	987.7365707	0	329.6350983	0.110934996	0
San Bernardino (MD)	2022	T6 OOS Class 6	Aggregate	Aggregate	Diesel	43.56340863	2580.983919	2580.983919	0	1001.08713	0.287200427	0
San Bernardino (MD)	2022	T6 OOS Class 7	Aggregate	Aggregate	Diesel	73.57241075	18766.96251	18766.96251	0	1690.693999	1.949193968	0
San Bernardino (MD)	2022	T6 Public Class 4	Aggregate	Aggregate	Diesel	37.69768026	1257.727205	1257.727205	0	193.3890997	0.145897259	0
San Bernardino (MD)	2022	T6 Public Class 5	Aggregate	Aggregate	Natural Gas	0.545231764	23.54796639	23.54796639	0	2.797038949	0.002618253	0
San Bernardino (MD)	2022	T6 Public Class 6	Aggregate	Aggregate	Diesel	48.2922198	1837.238937	1837.238937	0	247.7390876	0.220041232	0
San Bernardino (MD)	2022	T6 Public Class 7	Aggregate	Aggregate	Diesel	87.04904652	3749.085344	3749.085344	0	446.5616087	0.433627127	0
San Bernardino (MD)	2022	T6 Public Class 8	Aggregate	Aggregate	Natural Gas	2.332534814	138.7769742	138.7769742	0	11.9659036	0.01512753	0
San Bernardino (MD)	2022	T6 Utility Class 5	Aggregate	Aggregate	Diesel	33.09296778	1348.490051	1348.490051	0	423.5899876	0.149499999	0
San Bernardino (MD)	2022	T6 Utility Class 6	Aggregate	Aggregate	Diesel	6.319255988	254.8373225	254.8373225	0	80.88647664	0.2145220335	0
San Bernardino (MD)	2022	T6 Utility Class 7	Aggregate	Aggregate	Diesel	7.205830337	354.5633668	354.5633668	0	92.23462832	0.039233745	0
San Bernardino (MD)	2022	T6T5	Aggregate	Aggregate	Gasoline	945.8455914	62751.65338	62751.65338	0	18924.47859	12.58506284	0
San Bernardino (MD)	2022	T7 CAIRP Class 8	Aggregate	Aggregate	Diesel	4278.253923	895621.8903	895621.8903	0	98314.27514	148.5033313	0
San Bernardino (MD)	2022	T7 CAIRP Class 8	Aggregate	Aggregate	Natural Gas	0.949697369	206.0120305	206.0120305	0	21.82404554	0.03411078	0
San Bernardino (MD)	2022	T7 NNOOS Class 8	Aggregate	Aggregate	Diesel	3840.194888	1058619.859	1058619.859	0	88247.67853	175.8831113	0

EMFAC Fuel Usage: Year 2023

Vehicle type	GAS			DSL			NG			ELEC		
	VMT/day	Gallons/day	Miles/gallon	VMT/day	Gallons/day	Miles/gallon	VMT/day	Gallons/day	Miles/gallon	VMT/day	kWh/day	Miles/kWh
All other buses	0	0	0.00	2,853	297	9.60	0	0	0.00	0	0	0.00
LDA	13,036,564	454,422	28.69	36,864	900	40.96	0	0	0.00	717,253	261,689	2.74
LDT1	1,069,413	45,119	23.70	243	10	23.44	0	0	0.00	2,187	791	2.76
LDT2	5,496,987	236,801	23.21	18,119	578	31.34	0	0	0.00	42,649	14,565	2.93
LHD1	482,494	38,030	12.69	414,957	20,412	20.33	0	0	0.00	0	0	0.00
LHD2	63,305	5,542	11.42	181,922	10,782	16.87	0	0	0.00	0	0	0.00
MCY	105,593	2,599	40.63	0	0	0.00	0	0	0.00	0	0	0.00
MDV	4,109,500	219,542	18.72	70,443	3,081	22.86	0	0	0.00	35,117	12,440	2.82
MH	28,525	5,987	4.76	11,212	1,071	10.47	0	0	0.00	0	0	0.00
Motor coach	0	0	0.00	2,111	382	5.53	0	0	0.00	0	0	0.00
OBUS	17,087	3,443	4.96	0	0	0.00	0	0	0.00	0	0	0.00
PTO	0	0	0.00	5,096	1,054	4.83	0	0	0.00	1	2	0.48
SBUS	5,831	637	9.15	14,679	1,942	7.56	0	0	0.00	3	4	0.86
T6	63,606	12,567	5.06	156,870	17,363	9.03	360	40	8.91	50	53	0.94
T7	199	56	3.56	2,604,393	427,577	6.09	2,420	408	5.94	1,130	2,034	0.56
UBUS	5,254	1,388	3.78	252	32	7.94	13,693	3,458	3.96	21	44	0.47
Total	24,484,359	1,026,133	23.86	3,520,015	485,481	7.25	16,473	3,906	4.22	798,410	291,622	2.74

Source: EMFAC2021 (v1.0.2) Emissions Inventory

Region Type: Sub-Area

Region: San Bernardino (MD)

Calendar Year: 2023

Season: Annual

Vehicle Classification: EMFAC202x Categories

Units: miles/day for CVMT and EVMT, trips/day for Trips, kWh/day for Energy Consumption, tons/day for Emissions, 1000 gallons/day for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	Fuel Consumption	Energy Consumption
San Bernardino (MD)	2023	All Other Buses	Aggregate	Aggregate	Diesel	56.80808578	2852.862167	2852.862167	0	505.5919634	0.297292006	0
San Bernardino (MD)	2023	LDA	Aggregate	Aggregate	Gasoline	312180.2726	12850025.9	12850025.9	0	1446038.265	448.5592007	0
San Bernardino (MD)	2023	LDA	Aggregate	Aggregate	Diesel	1111.779846	36864.07043	36864.07043	0	4735.608591	0.899996768	0
San Bernardino (MD)	2023	LDA	Aggregate	Aggregate	Electricity	11324.98946	536054.6226	0	536054.6226	56930.29609	0	206961.3273
San Bernardino (MD)	2023	LDA	Aggregate	Aggregate	Plug-in Hybrid	7422.455377	367736.6077	186538.2799	181198.3278	30691.85298	5.862600371	54727.29556
San Bernardino (MD)	2023	LDT1	Aggregate	Aggregate	Gasoline	32278.55095	1068871.467	1068871.467	0	138205.6607	45.10188563	0
San Bernardino (MD)	2023	LDT1	Aggregate	Aggregate	Diesel	17.7719872	243.4069851	243.4069851	0	51.45742411	0.010382367	0
San Bernardino (MD)	2023	LDT1	Aggregate	Aggregate	Electricity	37.46099309	1553.818678	0	1553.818678	179.6314748	0	599.9022535
San Bernardino (MD)	2023	LDT1	Aggregate	Aggregate	Plug-in Hybrid	21.98847633	1174.830471	541.5350361	633.2954352	90.92234965	0.017118907	191.2740967
San Bernardino (MD)	2023	LDT2	Aggregate	Aggregate	Gasoline	135449.7785	5476170.679	5476170.679	0	630136.9441	236.1411805	0
San Bernardino (MD)	2023	LDT2	Aggregate	Aggregate	Diesel	415.1711158	18119.07266	18119.07266	0	1989.385171	0.578110582	0
San Bernardino (MD)	2023	LDT2	Aggregate	Aggregate	Electricity	534.2570507	20036.79258	0	20036.79258	2743.817515	0	7735.855662
San Bernardino (MD)	2023	LDT2	Aggregate	Aggregate	Plug-in Hybrid	841.1395529	43428.44096	20816.20468	22612.23629	3478.112051	0.659955358	6829.569311
San Bernardino (MD)	2023	LHD1	Aggregate	Aggregate	Gasoline	13373.18195	482494.3403	482494.3403	0	199240.485	38.02966063	0
San Bernardino (MD)	2023	LHD1	Aggregate	Aggregate	Diesel	11266.77185	414957.3672	414957.3672	0	141721.8162	20.41185912	0
San Bernardino (MD)	2023	LHD2	Aggregate	Aggregate	Gasoline	1757.472296	63304.89683	63304.89683	0	26183.71857	5.541732627	0
San Bernardino (MD)	2023	LHD2	Aggregate	Aggregate	Diesel	4751.018174	181922.228	181922.228	0	59761.83185	10.78201281	0
San Bernardino (MD)	2023	MCY	Aggregate	Aggregate	Gasoline	18296.66506	105592.6229	105592.6229	0	36593.33011	2.599049491	0
San Bernardino (MD)	2023	MDV	Aggregate	Aggregate	Gasoline	106014.0905	4096216.013	4096216.013	0	481739.6162	219.1155882	0
San Bernardino (MD)	2023	MDV	Aggregate	Aggregate	Diesel	1733.718228	70442.83229	70442.83229	0	8068.769447	3.080871724	0
San Bernardino (MD)	2023	MDV	Aggregate	Aggregate	Electricity	582.245085	21819.8923	0	21819.8923	2989.45307	0	8424.27932
San Bernardino (MD)	2023	MDV	Aggregate	Aggregate	Plug-in Hybrid	554.32769	26581.07894	13284.45121	13296.62773	2292.144998	0.42683018	4015.977876
San Bernardino (MD)	2023	MH	Aggregate	Aggregate	Gasoline	3314.159385	28525.30478	28525.30478	0	331.5485049	5.986739837	0
San Bernardino (MD)	2023	MH	Aggregate	Aggregate	Diesel	1297.87851	11212.43395	11212.43395	0	129.787851	1.070900849	0
San Bernardino (MD)	2023	Motor Coach	Aggregate	Aggregate	Diesel	14.81382519	2110.640914	2110.640914	0	340.4217029	0.381735902	0
San Bernardino (MD)	2023	OBUS	Aggregate	Aggregate	Gasoline	281.3228219	17086.93238	17086.93238	0	5628.707021	3.443318417	0
San Bernardino (MD)	2023	PTO	Aggregate	Aggregate	Diesel	0	5095.862011	5095.862011	0	0	1.054363522	0
San Bernardino (MD)	2023	PTO	Aggregate	Aggregate	Electricity	0	1.005028803	0	1.005028803	0	0	2.081936029
San Bernardino (MD)	2023	SBUS	Aggregate	Aggregate	Gasoline	93.76777841	5830.784163	5830.784163	0	375.0711136	0.637465093	0
San Bernardino (MD)	2023	SBUS	Aggregate	Aggregate	Diesel	620.8980814	14679.01532	14679.01532	0	8990.604219	1.941851204	0
San Bernardino (MD)	2023	SBUS	Aggregate	Aggregate	Electricity	0.270902054	3.144981365	0	3.144981365	3.922661737	0	3.636546174
San Bernardino (MD)	2023	T6 CAIRP Class 4	Aggregate	Aggregate	Diesel	19.20601109	1307.451007	1307.451007	0	441.3541349	0.146852635	0
San Bernardino (MD)	2023	T6 CAIRP Class 4	Aggregate	Aggregate	Electricity	0.024526034	0.915698493	0	0.915698493	0.563608251	0	0.977400874
San Bernardino (MD)	2023	T6 CAIRP Class 5	Aggregate	Aggregate	Diesel	25.75676192	1793.776587	1793.776587	0	591.890389	0.201209978	0
San Bernardino (MD)	2023	T6 CAIRP Class 5	Aggregate	Aggregate	Electricity	0.027603101	1.067257912	0	1.067257912	0.634319262	0	1.139172798
San Bernardino (MD)	2023	T6 CAIRP Class 6	Aggregate	Aggregate	Diesel	81.55992759	4684.23622	4684.23622	0	1874.247136	0.518233828	0
San Bernardino (MD)	2023	T6 CAIRP Class 6	Aggregate	Aggregate	Electricity	0.193319535	5.742096506	0	5.742096506	4.442482912	0	6.129015372
San Bernardino (MD)	2023	T6 CAIRP Class 7	Aggregate	Aggregate	Diesel	140.6250157	29401.05109	29401.05109	0	3231.562862	3.050610622	0
San Bernardino (MD)	2023	T6 CAIRP Class 7	Aggregate	Aggregate	Electricity	0.15955589	16.8634778	0	16.8634778	3.666594342	0	17.9997871
San Bernardino (MD)	2023	T6 Instate Delivery Class 4	Aggregate	Aggregate	Diesel	66.46717616	2204.333856	2204.333856	0	948.4866039	0.251114227	0
San Bernardino (MD)	2023	T6 Instate Delivery Class 4	Aggregate	Aggregate	Electricity	0.043257176	0.7199682	0	0.7199682	0.617279897	0	0.76809247
San Bernardino (MD)	2023	T6 Instate Delivery Class 5	Aggregate	Aggregate	Diesel	46.35215868	1569.898214	1569.898214	0	661.4453044	0.183495534	0
San Bernardino (MD)	2023	T6 Instate Delivery Class 5	Aggregate	Aggregate	Electricity	0.026944368	0.443862987	0	0.443862987	0.384496138	0	0.473531773
San Bernardino (MD)	2023	T6 Instate Delivery Class 6	Aggregate	Aggregate	Diesel	244.8275164	8402.156872	8402.156872	0	3493.688659	0.959954232	0
San Bernardino (MD)	2023	T6 Instate Delivery Class 6	Aggregate	Aggregate	Electricity	0.146221527	2.666764217	0	2.666764217	2.086581193	0	2.845016648
San Bernardino (MD)	2023	T6 Instate Delivery Class 7	Aggregate	Aggregate	Diesel	49.29240364	2697.475423	2697.475423	0	703.4025999	0.295034523	0
San Bernardino (MD)	2023	T6 Instate Other Class 4	Aggregate	Aggregate	Diesel	307.969429	12821.7066	12821.7066	0	3560.126599	1.480732918	0
San Bernardino (MD)	2023	T6 Instate Other Class 4	Aggregate	Aggregate	Electricity	0.136234915	2.816927971	0	2.816927971	1.574875617	0	3.005116403
San Bernardino (MD)	2023	T6 Instate Other Class 5	Aggregate	Aggregate	Diesel	473.1646986	20854.91696	20854.91696	0	5469.783916	2.424042968	0
San Bernardino (MD)	2023	T6 Instate Other Class 5	Aggregate	Aggregate	Electricity	0.250609342	5.218469807	0	5.218469807	2.897043997	0	5.567096275
San Bernardino (MD)	2023	T6 Instate Other Class 6	Aggregate	Aggregate	Diesel	421.7703113	18160.97998	18160.97998	0	4875.664799	2.089497857	0
San Bernardino (MD)	2023	T6 Instate Other Class 6	Aggregate	Aggregate	Electricity	0.363564901	7.602238803	0	7.602238803	4.202810251	0	8.110115969
San Bernardino (MD)	2023	T6 Instate Other Class 7	Aggregate	Aggregate	Diesel	255.9457547	12130.27326	12130.27326	0	2958.732924	1.360885842	0
San Bernardino (MD)	2023	T6 Instate Other Class 7	Aggregate	Aggregate	Electricity	0.081775777	2.556053214	0	2.556053214	0.945327984	0	2.726813577
San Bernardino (MD)	2023	T6 Instate Tractor Class 6	Aggregate	Aggregate	Diesel	5.974134459	271.7469735	271.7469735	0	69.06099435	0.029544259	0
San Bernardino (MD)	2023	T6 Instate Tractor Class 7	Aggregate	Aggregate	Diesel	112.6008059	6785.031729	6785.031729	0	1301.665316	0.723692295	0
San Bernardino (MD)	2023	T6 Instate Tractor Class 7	Aggregate	Aggregate	Electricity	0.02153906	0.695854244	0	0.695854244	0.248991531	0	0.742341666
San Bernardino (MD)	2023	T6 OOS Class 4	Aggregate	Aggregate	Diesel	10.88028285	734.1969309	734.1969309	0	250.0289	0.082402272	0
San Bernardino (MD)	2023	T6 OOS Class 5	Aggregate	Aggregate	Diesel	14.53000048	1007.186163	1007.186163	0	333.8994109	0.112	

San Bernardino (MD)	2023 T7 Single Concrete/Transit Mix C Aggregate	Aggregate	Natural Gas	1.24598091	80.59880717	80.59880717	0	11.73714017	0.012627199	0
San Bernardino (MD)	2023 T7 Single Dump Class 8	Aggregate	Diesel	129.9686294	7907.805121	7907.805121	0	1224.304489	1.354247743	0
San Bernardino (MD)	2023 T7 Single Dump Class 8	Aggregate	Natural Gas	3.352938601	189.8440961	189.8440961	0	31.58468162	0.03298287	0
San Bernardino (MD)	2023 T7 Single Other Class 8	Aggregate	Diesel	228.5098493	13340.10805	13340.10805	0	2152.56278	2.239932219	0
San Bernardino (MD)	2023 T7 Single Other Class 8	Aggregate	Electricity	0.141335216	5.061525943	0	5.061525943	1.33137773	0	9.108754513
San Bernardino (MD)	2023 T7 Single Other Class 8	Aggregate	Natural Gas	6.590527507	381.0234565	381.0234565	0	62.08276911	0.064385929	0
San Bernardino (MD)	2023 T7 SWCV Class 8	Aggregate	Diesel	35.84412829	2322.423178	2322.423178	0	164.8829902	0.803061953	0
San Bernardino (MD)	2023 T7 SWCV Class 8	Aggregate	Electricity	0.007558044	0.204304957	0	0.204304957	0.034767002	0	0.367598977
San Bernardino (MD)	2023 T7 SWCV Class 8	Aggregate	Natural Gas	1.509954115	97.68788001	97.68788001	0	6.945788931	0.014586607	0
San Bernardino (MD)	2023 T7 Tractor Class 8	Aggregate	Diesel	1542.447186	126064.0959	126064.0959	0	22411.75762	20.67723295	0
San Bernardino (MD)	2023 T7 Tractor Class 8	Aggregate	Electricity	1.155574006	49.50641132	0	49.50641132	16.79049031	0	89.09286496
San Bernardino (MD)	2023 T7 Tractor Class 8	Aggregate	Natural Gas	13.37626894	1029.169311	1029.169311	0	194.3571877	0.181724595	0
San Bernardino (MD)	2023 T7 Utility Class 8	Aggregate	Diesel	23.15387074	1072.877821	1072.877821	0	296.3695455	0.176056545	0
San Bernardino (MD)	2023 T7 Utility Class 8	Aggregate	Electricity	0.007155992	0.203917155	0	0.203917155	0.091596698	0	0.36697152
San Bernardino (MD)	2023 T7IS	Aggregate	Gasoline	3.706020688	198.5497848	198.5497848	0	74.15006193	0.05580807	0
San Bernardino (MD)	2023 UBUS	Aggregate	Gasoline	55.06244647	5254.364757	5254.364757	0	220.2497859	1.388409085	0
San Bernardino (MD)	2023 UBUS	Aggregate	Diesel	2.558566388	252.3863908	252.3863908	0	10.23426555	0.031795366	0
San Bernardino (MD)	2023 UBUS	Aggregate	Electricity	0.196662013	20.74124617	0	20.74124617	0.786648054	0	43.95158709
San Bernardino (MD)	2023 UBUS	Aggregate	Natural Gas	103.6567732	13693.46313	13693.46313	0	414.6270926	3.458153548	0