

## 4.3 Air Quality

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This section summarizes the setting for air quality and analyzes the impacts related to air quality due to the project.

### 4.3.1 Setting

#### **a. Regional Climate and Meteorology**

Ukiah is located in Mendocino County, which is a subregion of the North Coast Air Basin (NCAB). The NCAB also includes the counties of Del Norte, Humboldt, Mendocino, and Trinity, along with the northern portion of Sonoma County. Mendocino County is bounded on the west by the Pacific Ocean; on the east by Tehama, Glenn, and Lake counties; on the south by Sonoma County; and on the north by Humboldt and Trinity counties.

Due to the proximity of the Pacific Ocean, the climate in Ukiah is Mediterranean, characterized by warm dry summers and cool moist winters. In summers, temperatures in Ukiah generally range from lows in the 50s and 60s to highs in the 90s (Fahrenheit). In winter, temperatures range from lows in the 30s to highs the 50s and 60s (Fahrenheit). The major large-scale weather feature controlling climate in the Ukiah region is a large high-pressure system located in the eastern Pacific Ocean, known as the Pacific High. During winter months, marine air trapped in the lower atmosphere is often condensed into fog by the cool Pacific Ocean. Stratus-type clouds usually form offshore and move into the area during the evening hours. During winter months, the Pacific High becomes weaker and shifts south, allowing weather systems associated with the polar jet stream to affect the region. Low pressure systems produce periods of cloudiness, strong shifting winds, and precipitation. Average rainfall in Ukiah is slightly less than 35 inches, with most precipitation falling during the winter (City of Ukiah 2021). Rainfall is often from brief, intense storms, which move in from the northwest. Virtually no rainfall occurs during the summer months. Winter cold-air inversions are common from November to February.

Prevailing winds are generally from the north. Prevailing strong summer winds come from the northwest; however, winds can come from the south and east under certain short-lived conditions. In early autumn, strong, dry offshore winds may occur for several days in a row, which may cause air pollution created in the Sacramento Valley, Santa Rosa Plain, or even San Francisco Bay Area to move into the Ukiah Valley (City of Ukiah 2021).

#### **b. Pollutants**

Primary criteria pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack). The federal and State Clean Air Acts (CAA) mandate the control and reduction of certain air pollutants. Under these laws, the United States Environmental Protection Agency (USEPA), and the California Air Resources Board (CARB) have established the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for “criteria pollutants” and other pollutants. Some pollutants are emitted directly from a source (e.g., vehicle tailpipe, an exhaust stack of a factory, etc.) into the atmosphere, including carbon monoxide, volatile organic

compounds (VOC)/reactive organic gases (ROG),<sup>1</sup> nitrogen oxides (NO<sub>x</sub>), particulate matter with diameters of up to ten microns (PM<sub>10</sub>) and up to 2.5 microns (PM<sub>2.5</sub>), sulfur dioxide, and lead. Other pollutants are created indirectly through chemical reactions in the atmosphere, such as ozone, which is created by atmospheric chemical and photochemical reactions primarily between ROG and NO<sub>x</sub>. Secondary pollutants include oxidants, ozone, and sulfate and nitrate particulates (smog). The following subsections describe the characteristics, sources, and health and atmospheric effects of air pollutants of primary concern.

## **Ozone**

Ozone is produced by a photochemical reaction (triggered by sunlight) between NO<sub>x</sub> and ROG. ROG are composed of non-methane hydrocarbons (with some specific exclusions), and NO<sub>x</sub> is composed of different chemical combinations of nitrogen and oxygen, mainly nitric oxide and nitrogen dioxide. NO<sub>x</sub> are formed during the combustion of fuels, while ROG are formed during combustion and evaporation of organic solvents. As a highly reactive molecule, ozone readily combines with many different components of the atmosphere. Consequently, high levels of ozone tend to exist only while high ROG and NO<sub>x</sub> levels are present to sustain the ozone formation process. Once the precursors have been depleted, ozone levels rapidly decline. Because these reactions occur on a regional rather than local scale, ozone is considered a regional pollutant. In addition, because ozone requires sunlight to form, it mostly occurs in concentrations considered serious between the months of April and October. Ozone is a pungent, colorless, toxic gas with direct health effects on humans, including changes in breathing patterns, reduction of breathing capacity, increased susceptibility to infections, inflammation of lung tissue, and some immunological changes (Bay Area Air Quality Management District [BAAQMD] 2017). Groups most sensitive to ozone include children, the elderly, people with respiratory disorders, and people who exercise strenuously outdoors.

## **Carbon Monoxide**

Carbon monoxide is a localized pollutant that is found in high concentrations only near its source. The major source of carbon monoxide (a colorless, odorless, poisonous gas) is the incomplete combustion of petroleum fuels by automobile traffic. Elevated concentrations are usually only found near areas of high traffic volumes. Other sources of carbon monoxide include the incomplete combustion of petroleum fuels at power plants and fuel combustion from wood stoves and fireplaces during the winter. The health effects of carbon monoxide are related to its affinity for hemoglobin in the blood. Carbon monoxide causes several health problems, including aggravation of some heart diseases (e.g., angina), reduced tolerance for exercise, impaired mental function, and impaired fetal development. At high levels of exposure, carbon monoxide reduces the amount of oxygen in the blood, leading to mortality (BAAQMD 2017). Carbon monoxide tends to dissipate rapidly into the atmosphere; consequently, violations of the NAAQS and/or CAAQS for carbon monoxide are generally associated with localized carbon monoxide “hotspots” that can occur at major roadway intersections during heavy peak-hour traffic conditions.

## **Nitrogen Dioxide**

Nitrogen dioxide is a by-product of fuel combustion; the primary sources are motor vehicles and industrial boilers and furnaces. The principal form of NO<sub>x</sub> produced by combustion is nitric oxide,

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<sup>1</sup> CARB defines VOC and ROG similarly as, “any compound of carbon excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate,” with the exception that VOC are compounds that participate in atmospheric photochemical reactions. For the purposes of this analysis, ROG and VOC are considered comparable in terms of mass emissions, and the term ROG is used in this analysis.

but nitric oxide reacts rapidly to form nitrogen dioxide, creating the mixture of nitric oxide and nitrogen dioxide commonly called NO<sub>x</sub>. Nitrogen dioxide is an acute irritant that can aggravate respiratory illnesses and symptoms, particularly in sensitive groups (BAAQMD 2017). A relationship between nitrogen dioxide and chronic pulmonary fibrosis may exist, and an increase in bronchitis in young children at concentrations below 0.3 parts per million (ppm) may occur. Nitrogen dioxide absorbs blue light, gives a reddish-brown cast to the atmosphere, and reduces visibility (BAAQMD 2017). It can also contribute to the formation of PM<sub>10</sub> and acid rain.

## **Sulfur Dioxide**

Sulfur dioxide is included in a group of highly reactive gases known as “oxides of sulfur.” The largest sources of sulfur dioxide emissions are from fossil fuel combustion at power plants (73 percent) and other industrial facilities (20 percent). Smaller sources of sulfur dioxide emissions include industrial processes such as extracting metal from ore and the burning of fuels with a high sulfur content by locomotives, large ships, and off-road equipment. Sulfur dioxide is linked to several adverse effects on the respiratory system, including aggravation of respiratory diseases, such as asthma and emphysema, and reduced lung function (BAAQMD 2017).

## **Particulate Matter**

Suspended atmospheric PM<sub>10</sub> and PM<sub>2.5</sub> is comprised of finely divided solids and liquids such as dust, soot, aerosols, fumes, and mists. Both PM<sub>10</sub> and PM<sub>2.5</sub> are directly emitted into the atmosphere as by-products of fuel combustion, wildfire, and wind erosion of soil and unpaved roads. Particulate matter is also created in the atmosphere through chemical reactions. The characteristics, sources, and potential health effects associated with PM<sub>10</sub> and PM<sub>2.5</sub> can be very different. PM<sub>10</sub> is generally associated with dust mobilized by wind and vehicles while PM<sub>2.5</sub> is generally associated with combustion processes as well as formation in the atmosphere as a secondary pollutant through chemical reactions. PM<sub>2.5</sub> is more likely to penetrate deeply into the lungs and poses a health threat to all groups, but particularly to the elderly, children, and those with respiratory problems (CARB 2022a). More than half of PM<sub>2.5</sub> that is inhaled into the lungs remains there. These materials can damage health by interfering with the body’s mechanisms for clearing the respiratory tract or by acting as carriers of an absorbed toxic substance. Suspended particulates can also reduce lung function, aggravate respiratory and cardiovascular diseases, increase mortality rates, and reduce lung function growth in children (BAAQMD 2017).

## **Lead**

Lead is a metal found naturally in the environment, as well as in manufacturing products. The major sources of lead emissions historically have been mobile and industrial sources. However, as a result of the U.S. EPA’s regulatory efforts to remove lead from gasoline, atmospheric lead concentrations have declined substantially over the past several decades. The most dramatic reductions in lead emissions occurred prior to 1990 due to the removal of lead from gasoline sold for most highway vehicles. Lead emissions were further reduced substantially between 1990 and 2008, with reductions occurring in the metals industries at least in part because of national emissions standards for hazardous air pollutants (USEPA 2014). As a result of phasing out leaded gasoline, metal processing currently is the primary source of lead emissions. The highest level of lead in the air is generally found near lead smelters. Other stationary sources include waste incinerators, utilities, and lead-acid battery manufacturers. The health impacts of lead include behavioral and hearing disabilities in children and nervous system impairment (BAAQMD 2017).

## Toxic Air Contaminants

Toxic air contaminants (TACs) are a diverse group of air pollutants that may cause or contribute to an increase in deaths or serious illness, or that may pose a present or potential hazard to human health. TACs include both organic and inorganic chemical substances that may be emitted from a variety of common sources, including gasoline stations, motor vehicles, dry cleaners, industrial operations, painting operations, and research and teaching facilities. One of the main sources of TACs in California is diesel engine exhaust that contains solid material known as diesel particulate matter (DPM). More than 90 percent of DPM is less than one micron in diameter (about 1/70<sup>th</sup> the diameter of a human hair) and thus is a subset of PM<sub>2.5</sub>. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs (CARB 2022b). DPM accounts for most of the cancer risk from air toxics in the region with mobile sources being one of the top contributors.

TACs are different than criteria pollutants because ambient air quality standards have not been established for TACs. TACs occurring at extremely low levels may still cause health effects and it is typically difficult to identify levels of exposure that do not produce adverse health effects. TAC impacts are described by carcinogenic risk and by chronic (i.e., long duration) and acute (i.e., severe but of short duration) adverse effects on human health.

### c. Existing Air Quality

The Ukiah E. Gobbi Street Monitoring Station (within the City of Ukiah) was used for ozone air quality data, the Ukiah County Library Street Monitoring Station (within the City of Ukiah) was used for PM<sub>2.5</sub> air quality data, and Cloverdale Monitoring Station (approximately 25 miles south of Ukiah) was used for PM<sub>10</sub> air quality data. Table 4.3-1 summarizes the representative annual air quality data for the Planning Area over the years 2018 through 2020 at the monitoring stations. As shown in Table 4.3-1, PM<sub>10</sub> measurements exceeded the CAAQS in 2018 and 2020, and exceeded the NAAQS in 2018. The PM<sub>2.5</sub> measurements exceeded the federal threshold in 2018 and 2020. No other standards were exceeded in the years 2018, 2019, or 2020.

**Table 4.3-1 Ambient Air Quality Data**

Pollutant	2018	2019	2020
Ozone (ppm), Worst 1-Hour <sup>1</sup>	0.075	0.062	0.088
Number of days of State exceedances (>0.09 ppm)	0	0	0
Ozone (ppm), 8-Hour Average <sup>1</sup>	0.060	0.054	0.062
Number of days of State exceedances (>0.07 ppm)	0	0	0
Number of days of Federal exceedances (>0.07 ppm)	0	0	0
Particulate Matter <10 microns, µg/m <sup>3</sup> , Worst 24 Hours <sup>2</sup>	271.6	45.5	10.2
Number of days above State standard (>50 µg/m <sup>3</sup> )	13	0	17
Number of days above Federal standard (>150 µg/m <sup>3</sup> )	2	0	0
Particulate Matter <2.5 microns, µg/m <sup>3</sup> , Worst 24 Hours <sup>3</sup>	263.2	21	117.7
Number of days above Federal standard (>35 µg/m <sup>3</sup> )	20	0	20

ppm = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter

\* There was insufficient (or no) data available to determine the value.

<sup>1</sup> Measurements taken from the Ukiah E Gobbi Street Monitoring Station

<sup>2</sup> Measurements taken from the Cloverdale Monitoring Station

<sup>3</sup> Measurements taken from the Ukiah County Library Monitoring Station

Source: CARB 2022c

#### **d. Sensitive Receptors**

Ambient air quality standards have been established to represent the levels of air quality considered sufficient, with an adequate margin of safety, to protect public health and welfare. They are designed to protect that segment of the public most susceptible to respiratory distress, such as children under 14, the elderly over 65, persons engaged in strenuous work or exercise, and people with cardiovascular and chronic respiratory diseases. Most sensitive receptor locations are therefore residences, schools, and hospitals.

### 4.3.2 Regulatory Setting

The Federal CAA governs air quality in the United States. In addition to being subject to federal requirements, air quality in California is also governed by more stringent regulations under the California CAA. At the federal level, the USEPA administers the CAA. The CAA is administered by the CARB at the state level and by the AQMDs at the regional and local levels. The Mendocino County Air Quality Management District (MCAQMD) regulates air quality at the regional level.

#### **a. Federal and State Ambient Air Quality Standards**

The federal and state governments have authority under the federal and state CAAs to regulate emissions of airborne pollutants and have established NAAQS and CAAQS for the protection of public health. Federal and state standards have been established for six criteria pollutants, including ozone, CO, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>, and Pb.

Air quality monitoring stations measure pollutant ground-level concentrations (typically, ten feet above ground level). Depending on whether the standards are met or exceeded, the local air basin is classified as in “attainment” or “non-attainment.” Some areas are unclassified, which means no monitoring data are available. Unclassified areas are in attainment. Table 4.3-2 lists the current federal and state standards for each of these pollutants as well as the attainment status of the NCAB. California air quality standards are identical to or stricter than federal standards for all criteria pollutants.

**Table 4.3-2 Federal and State Ambient Air Quality Standards**

Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Concentration	Attainment Status
Ozone	8 Hour	0.070 ppm	A	0.070 ppm	A
	1 Hour	0.09 ppm	A		
Carbon Monoxide	8 Hour	9 ppm	A	9 ppm	A
	1 Hour	20 ppm	A	35 ppm	A
Nitrogen Dioxide	1 Hour	0.18 ppm	A	0.100 ppm	U
	Annual Arithmetic Mean	0.030 ppm		0.053 ppm	A
Sulfur Dioxide	24 Hour	0.04 ppm	A	0.14 ppm	A
	1 Hour	0.25 ppm	A	0.075 ppm	A
	Annual Arithmetic Mean			0.030 ppm	A
Particulate Matter (PM <sub>10</sub> )	Annual Arithmetic Mean	20 µg/m <sup>3</sup>	N		
	24 Hour	50 µg/m <sup>3</sup>	N	150 µg/m <sup>3</sup>	U

Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Concentration	Attainment Status
Particulate Matter - Fine (PM <sub>2.5</sub> )	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	A	12 µg/m <sup>3</sup>	U/A
	24 Hour	35 µg/m <sup>3</sup>	N		
Sulfates	24 Hour	25 µg/m <sup>3</sup>	A		
Lead	Calendar Quarter			1.5 µg/m <sup>3</sup>	A
	Rolling 3 Month Average			0.15 µg/m <sup>3</sup>	
	30 Day Average	1.5 µg/m <sup>3</sup>			A
Hydrogen Sulfide	1 Hour	0.03 ppm	U		
Vinyl Chloride (chloroethene)	24 Hour	0.010 ppm	No information available		
Visibility Reducing particles	8 Hour (10:00 to 18:00 PST)		U		

A=Attainment N=Nonattainment U=Unclassified; mg/m<sup>3</sup>=milligrams per cubic meter ppm=parts per million, µg/m<sup>3</sup>=micrograms per cubic meter  
 Source: CARB 2020

Local control in air quality management is provided by CARB through county-level or regional (multi-county) air districts. CARB establishes statewide air quality standards and is responsible for control of mobile emission sources, while the local air districts are responsible for enforcing standards and regulating stationary sources. CARB has established 15 air basins statewide. The City of Ukiah is in the NCAB, the southern portion of which is under the jurisdiction of MCAQMD.

CARB and the USEPA established ambient air quality standards for major pollutants, including ozone, CO, NO<sub>2</sub>, SO<sub>2</sub>, Pb, and PM<sub>10</sub> and PM<sub>2.5</sub>. Standards have been set at levels intended to be protective of public health. California standards are more restrictive than federal standards for each of these pollutants except for lead and the eight-hour average for CO. The local air districts are required to monitor air pollutant levels to ensure that air quality standards are met and, if they are not met, to develop strategies to meet the standards. As the local air quality management agency, the MCAQMD is required to monitor air pollutant levels to ensure that state and federal air quality standards are met and, if they are not met, to develop strategies to meet the standards.

### **b. Federal Regulations**

The USEPA is responsible for enforcing the federal CAA. The USEPA is also responsible for establishing the NAAQS. The NAAQS are required under the 1977 CAA and subsequent amendments. The EPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain types of locomotives. The agency has jurisdiction over emission sources outside state waters (e.g., beyond the outer continental shelf) and establishes various emission standards, including those for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission standards established by the CARB.

### **c. State Regulations**

In California, CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for meeting the State requirements of the federal CAA, administering the California

CAA, and establishing the CAAQS. The California CAA, as amended in 1992, requires all air districts in the state to endeavor to achieve and maintain the CAAQS. The CAAQS are generally more stringent than the corresponding federal standards and incorporate additional standards for sulfates, hydrogen sulfide, vinyl chloride and visibility reducing particles. CARB regulates mobile air pollution sources, such as motor vehicles. The agency is responsible for setting emission standards for vehicles sold in California and for other emission sources, such as consumer products and certain off-road equipment. CARB established passenger vehicle fuel specifications, which became effective in March 1996. CARB oversees the functions of local Air Pollution Control Districts, which in turn administer air quality activities at the regional and county level.

#### **d. Regional Regulations**

##### **Mendocino County Air Quality Management District – Particulate Matter Attainment Plan**

The MCAQMD is responsible for assuring that the federal and state ambient air quality standards are attained and maintained in the southern NCAB. MCAQMD is also 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, as well as many other activities.

MCAQMD adopted the Particulate Matter Attainment Plan in January 2005 (MCAQMD 2005). The Particulate Matter Attainment Plan includes control measures that are intended to achieve the attainment goals. Control measures include encouraging the installation of EPA-certified woodstoves, development of an impact fee for large campground operators, supporting pavement of existing unpaved roads, and prohibiting outdoor burning. The Particulate Matter Attainment Plan also includes requiring permits for new construction that disturbs over one acre of land, along with enforcement of existing air quality regulations.

##### **2017 Clean Air Plan**

BAAQMD adopted the *2017 Clean Air Plan* on April 19, 2017, as an update to the 2010 Clean Air Plan. The 2017 Clean Air Plan, which focuses on protecting public health and the climate, defines an integrated, multi-pollutant control strategy that includes all feasible measures to reduce emissions of ozone precursors (including transport of ozone and its precursors to neighboring air basins), PM, and TAC. To protect public health, the control strategy will decrease population exposure to PM and TACs in communities that are most impacted by air pollution, with the goal of eliminating disparities in exposure to air pollution between communities (BAAQMD 2017). MCAQMD defers to BAAQMD guidelines for CEQA review of projects in Mendocino County (MCAQMD 2013).

### **4.3.3 Impact Analysis**

#### **a. Significance Thresholds and Methodology**

##### **Significance Thresholds**

According to Appendix G of the *CEQA Guidelines*, impacts related to air quality from implementation of the project would be significant if it would:

1. Conflict with or obstruct implementation of the applicable air quality plan;
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard;
3. Expose sensitive receptors to substantial pollutant concentrations; or
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

#### *Mendocino County Air Quality Management District Thresholds*

MCAQMD defers to BAAQMD guidelines for CEQA review of projects in Mendocino County (MCAQMD 2013). Therefore, this analysis uses the BAAQMD's 2017 *CEQA Air Quality Guidelines* to evaluate air quality. The plan-level thresholds specified in the 2017 BAAQMD *CEQA Air Quality Guidelines* were used to determine whether the project impacts exceed the thresholds identified in Appendix G of the *CEQA Guidelines*.

#### *Construction Emissions Thresholds*

BAAQMD's May 2017 *CEQA Air Quality Guidelines* do not have plan-level significance thresholds for construction air pollutant emissions. However, they do include the individual project-level thresholds for temporary construction-related and long-term operational emissions of air pollutants. Future projects under the plan that are subject to CEQA review would be subject to the project-level construction thresholds or screening criteria. These thresholds represent the levels at which a project's individual emissions of criteria air pollutants or precursors would result in a cumulatively considerable contribution to the San Francisco Bay Area Air Basin's or NCAB's existing air quality conditions (BAAQMD 2017a). Therefore, construction emissions associated with plan implementation are discussed qualitatively to evaluate potential air quality impacts.

#### *Operational Emissions Thresholds*

BAAQMD's 2017 *CEQA Air Quality Guidelines* contain specific operational plan-level significance thresholds for criteria air pollutants. Plans must show the following over the planning period:

- Consistency with current air quality plan control measures
- Vehicle miles traveled (VMT) or vehicle trips increase is less than or equal to the plan's projected population increase

If a plan can demonstrate consistency with both criteria, then impacts are considered less than significant.

## **Methodology**

### *Construction Emissions*

Construction-related emissions are temporary but may still cause adverse air quality impacts. Construction of development associated with the project would generate temporary emissions from three primary sources: the operation of construction vehicles (e.g., scrapers, loaders, dump trucks, etc.); ground disturbance during site preparation and grading, which creates fugitive dust; and the application of asphalt, paint, or other oil-based substances. At this time, there is not sufficient detail to allow project-level analysis and thus it would be speculative to analyze project-level impacts.

Rather, construction impacts for the project are discussed qualitatively and emissions are not compared to project-level thresholds.

### *Operational Emissions*

Based on plan-level guidance from the BAAQMD 2022 *CEQA Air Quality Guidelines*, long-term operational emissions associated with implementation of the project are discussed qualitatively by comparing the project to the 2005 Particulate Matter Attainment Plan and 2017 Clean Air Plan goals, policies, and control measures. In addition, comparing the rate of increase of plan VMT and population is recommended by BAAQMD for determining significance of criteria pollutants. If the project does not meet either criterion, then impacts would be potentially significant.

## **b. Project Impacts and Mitigation Measures**

<b>Threshold:</b> Would the project conflict with or obstruct implementation of the applicable air quality plan?
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### **Impact AQ-1 THE PROJECT WOULD BE CONSISTENT WITH MCAQMD'S 2005 PARTICULATE MATTER ATTAINMENT PLAN AND BAAQMD'S 2017 CLEAN AIR PLAN. IMPACTS WOULD BE LESS THAN SIGNIFICANT.**

The 2005 Particulate Matter Attainment Plan contains several recommended control measures that would be implemented through MCAQMD regulations, to reduce emissions of particulate matter. The 2005 Particulate Matter Attainment Plan includes measures that would regulate the use of woodstoves, specifically that new development shall not include a woodstove as its sole source of heat. This measure would be implemented in accordance with the Uniform Building Code. Furthermore, in compliance with the California Green Building Standards Code (CalGreen) Section 4.503, installed woodstoves shall comply with USEPA's New Source Performance Standards emission limits. The 2005 Particulate Matter Attainment Plan includes construction and grading measures that call for increased enforcement of existing air quality regulations and development of a regulation that requires permits for projects that disturb over one acre. Development facilitated by the project would be required to comply with these air quality regulations. Considering that all the measures in the 2005 Particulate Matter Attainment Plan that are relevant to the project would be met during permitting and project design, the project would not conflict with or obstruct implementation of this plan.

While the 2017 Clean Air Plan was not adopted to include NCAB, MCAQMD defers to BAAQMD methodology. As such, project consistency with the 2017 Clean Air Plan is analyzed. The 2017 Clean Air Plan does not include control measures that apply directly to individual development projects. Instead, the control strategy includes stationary-source control measures to be implemented through BAAQMD regulations; mobile-source control measures to be implemented through incentive programs and other activities; and transportation control measures to be implemented through transportation programs in cooperation with the Metropolitan Transportation Commission, local governments, transit agencies, and others. Under BAAQMD's methodology, a determination of consistency with *CEQA Guidelines* thresholds should demonstrate that a project:

- Supports the primary goals of the 2017 Clean Air Plan;
- Includes applicable control measures from the 2017 Clean Air Plan; and
- Does not disrupt or hinder implementation of any 2017 Clean Air Plan control measures.

The 2017 Clean Air Plan contains 85 control strategies aimed at reducing air pollution and protecting the climate. For consistency with climate planning efforts at the State level, the control strategies in the 2017 Clean Air Plan are based on the same economic sector framework used by CARB, which encompass stationary sources, transportation, energy, buildings, agriculture, natural and working lands, waste management, water, and super-greenhouse gas pollutants. Table 4.3-3 identifies applicable control measures and the project’s consistency with these measures.

**Table 4.3-3 Ukiah 2040 Consistency with 2017 Clean Air Plan Control Measures**

Control Measures	Consistency
<b>Transportation</b>	
<p><b>TR2: Trip Reduction Programs.</b> Implement the regional Commuter Benefits Program (Rule 14-1) that requires employers with 50 or more Bay Area employees to provide commuter benefits. Encourage trip reduction policies and programs in local plans, e.g., general and specific plans, while providing grants to support trip reduction efforts. Encourage local governments to require mitigation of vehicle travel as part of new development approval, to adopt transit benefits ordinances in order to reduce transit costs to employees, and to develop innovative ways to encourage rideshare, transit, cycling, and walking for work trips. Fund various employer-based trip reduction programs.</p>	<p><b>Consistent:</b> Buildout of the project would promote compatible land uses, resulting in City residents living and working in closer proximity to each other. By placing employment and commercial opportunities closer to residences, fewer vehicles trips would be encouraged since residents may walk or bike to jobs and services. Additionally, one of the guiding principles of Ukiah 2040 is to maintain and advance a well interconnected circulation network that accommodates and encourages alternative modes of transportation that reduce congestion and encourage walkable and bikeable neighborhoods. In addition, Ukiah 2040 proposed goals and policies would reduce vehicle trips in the City. Goals ENV-7 and related policies would reduce air quality impacts by creating transit-oriented development (Policy ENV-7.1) and encouraging active transportation use (Policy ENV-7.2). Goals MOB-1, MOB-2, and MOB-5, along with associated policies, aim to increase transit ridership and active transportation use, while reducing vehicle miles traveled.</p>
<p><b>TR3: Local and Regional Bus Service.</b> Fund local and regional bus projects, including operations and maintenance.</p> <p><b>TR4: Local and Regional Rail Service.</b> Fund local and regional rail service projects, including operations and maintenance.</p>	<p><b>Consistent.</b> Policy ENV-7.1 calls for transit-oriented development, which would include local and regional bus projects. Goal MOB-1 aims to provide a citywide network of complete streets that includes transit through Policies MOB-1.1, MOB-1.2, and MOB-1.8, which call for complete streets that serves transit users. Goal MOB-2 aims to reduce VMT through transportation demand management that services transit use (Policy MOB-2.2), convenient public transit facilities (Policy MOB-2.4), incentives to increase transit ridership (Policy MOB-2.5), and creation of a downtown transit center (Policy MOB-2.6).</p>
<p><b>TR9: Bicycle and Pedestrian Access and Facilities.</b> Encourage planning for bicycle and pedestrian facilities in local plans, e.g., general and specific plans, fund bike lanes, routes, paths and bicycle parking facilities.</p>	<p><b>Consistent:</b> Policies in Ukiah 2040 support an efficient and safe bicycle and pedestrian system that would improve the connectivity and accessibility throughout the City. Policy ENV-7.2 prioritizes pedestrian and bicycle access, infrastructure, and education to increase active transportation use. Goal LU-2 encourages mixed-use development that creates walkable districts, through pedestrian orientation that creates a comfortable environment for walking (Policy LU-2.4). Policy LU-4.5 calls for pedestrian access to commercial uses from residential areas. Goals MOB-1, MOB-2, and MOB-5, along with associated policies, aim to create a more bikeable and walkable city. Namely, Policy MOB-1.2 strives for multi-modal access to new development projects; Policies MOB-1.9 and MOB-1.10 encourage a complete bikeway network with bicycle parking; Policy MOB-2.7 encourages public transportation to be bicycle accessible; and Policy MOB-5.1 calls for incentives for travel alternatives to single-occupant vehicles such as secure bicycle parking.</p>

Control Measures	Consistency
<b>Energy</b>	
<p><b>EN1: Decarbonize Electricity Production.</b> Engage with PG&amp;E, municipal electric utilities and CCEs to maximize the amount of renewable energy contributing to the production of electricity within the Bay Area as well as electricity imported into the region. Work with local governments to implement local renewable energy programs. Engage with stakeholders including dairy farms, forest managers, water treatment facilities, food processors, public works agencies and waste management to increase use of biomass in electricity production.</p>	<p><b>Consistent.</b> Goal ENV-8 aims to achieve carbon neutrality by 2045, which is supported by Policy ENV-8.3, which calls for adoption of an electrification plan to convert all municipal buildings to all electric using energy from carbon-free and renewable sources by 2035.</p>
<p><b>EN2: Decrease Electricity Demand.</b> Work with local governments to adopt additional energy-efficiency policies and programs. Support local government energy efficiency program via best practices, model ordinances, and technical support. Work with partners to develop messaging to decrease electricity demand during peak times.</p>	<p><b>Consistent:</b> Goal ENV-8 aims to achieve carbon neutrality by 2045, which is supported by Policy ENV-8.5, which promotes energy conservation by seeking opportunities to install energy efficient fixtures and appliances, solar panels, solar battery storage, and other retrofits to new and existing structures.</p>
<b>Waste Management Control Measures</b>	
<p><b>WA4: Recycling and Waste Reduction.</b> Develop or identify and promote model ordinances on community-wide zero waste goals and recycling of construction and demolition materials in commercial and public construction projects</p>	<p><b>Consistent.</b> Goal ENV-9 aims for a zero-waste community through adherence to Policy ENV-9.1, which promotes activities that reduce waste and increase waste diversion. Furthermore, Policy ENV-9.2 calls for a household waste program to facilitate the reuse and recycling of materials.</p>
<b>Water Control Measures</b>	
<p><b>WR2: Support Water Conservation.</b> Develop a list of best practices that reduce water consumption and increase on-site water recycling in new and existing buildings; incorporate into local planning guidance.</p>	<p><b>Consistent:</b> Policy ENV-4.5 supports efforts to increase recycled water use. Additionally, Policy ENV-4.7 encourages residential on-site water capturing systems for landscaping and household use.</p>

Table 4.3-3 demonstrates that the project would not disrupt or hinder implementation of the 2017 Clean Air Plan control measures. Buildout of the project would not preclude planned transit or bike pathways and would not otherwise disrupt regional planning efforts to reduce VMT and meet federal and State air quality standards. Ukiah 2040 would be consistent with applicable 2017 Clean Air Plan control measures because the project would implement similar measures through proposed goals and policies that would reduce criteria pollutant emissions. Therefore, the project would be consistent with the applicable control measures in the 2017 Clean Air Plan and would not hinder implementation of any 2017 Clean Air Plan control measures.

### Mitigation Measures

No mitigation measures would be required.

## Significance After Mitigation

Impacts would be less than significant without mitigation.

**Threshold:** Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

**Impact AQ-2 DEVELOPMENT FACILITATED BY THE PROJECT WOULD RESULT IN THE GENERATION OF AIR POLLUTANTS DURING CONSTRUCTION, WHICH COULD AFFECT LOCAL AIR QUALITY. DEVELOPMENT FACILITATED BY THE PROJECT WOULD ALSO RESULT IN A NET INCREASE OF CRITERIA POLLUTANTS DUE TO VMT. ALL FEASIBLE MITIGATION MEASURES TO REDUCE VMT ARE INCLUDED AS POLICIES IN UKIAH 2040. OVERALL OPERATIONAL IMPACTS WOULD BE SIGNIFICANT AND UNAVOIDABLE.**

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## Construction

Construction activities associated with future development from Ukiah 2040 (including demolition, grading, construction worker travel, delivery and hauling of construction supplies and debris, and fuel combustion by on-site construction equipment) would generate pollutant emissions. These construction activities would create emissions of dust, fumes, equipment exhaust, and other air contaminants, particularly during site preparation and grading. The extent of daily emissions generated by construction equipment, particularly ROG<sub>s</sub> and NO<sub>x</sub> emissions, would depend on the quantity of equipment used and the hours of operation for each project. The extent of PM<sub>2.5</sub> and PM<sub>10</sub> emissions would depend upon the following factors:

- The amount of disturbed soils.
- The length of disturbance time.
- If existing structures are demolished.
- If excavation is involved.
- If transporting excavated materials offsite is necessary.

Dust emissions can lead to both nuisance and health impacts. According to the 2017 BAAQMD *CEQA Air Quality Guidelines*, PM<sub>2.5</sub> is the greatest pollutant of concern during construction.

BAAQMD (as well as MCAQMD) have identified feasible fugitive dust control measures for construction activities. These Basic Construction Mitigation measures are recommended for all projects. In addition, BAAQMD and CARB have regulations that address the handling of hazardous air pollutants such as lead and asbestos, which could be aurally dispersed during demolition activities. BAAQMD rules and regulations address both the handling and transport of these contaminants. Construction of future development would temporarily increase air pollutant emissions, possibly creating localized areas of unhealthy air pollution concentrations or air quality nuisances.

To promote clean air quality to protect public health and safety and to mitigate adverse air quality impacts, Ukiah 2040 includes the following proposed policies, which support implementation of feasible measures to reduce construction emissions associated with buildout of Ukiah 2040:

**Policy ENV-7.3:** Implement Clean Air Plan. The City shall cooperate with Mendocino County Air Quality Management District (MCAQMD) to implement the Clean Air Plan required by the Clean

Air Act, reduce non-attainment pollutants, including PM<sub>10</sub>, PM<sub>2.5</sub>, and ozone, and enforce air quality standards as required by State and Federal statutes.

**Policy ENV-7.5:** Construction and Operations. The City shall require that development projects incorporate feasible measures that reduce construction and operational emissions for reactive organic gases, nitrogen oxides, and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>).

**Policy ENV-8.4:** Municipal Preference of Emissions-Reduced Equipment. The City shall contract only with providers who use electric-powered equipment where available and feasible for City construction projects or contract services.

These proposed policies would reduce construction emissions generated by future projects facilitated by Ukiah 2040. Nonetheless, a potentially significant impact could still occur due to fugitive dust emissions. Implementation of the BAAQMD and MCAQMD Basic Construction Mitigation Measures would be required by Mitigation Measures AQ-1. Mitigation Measures AQ-1 would reduce fugitive dust emissions from future construction activities. Actions include watering onsite and reducing vehicle speed on unpaved roads to limit the amount of soil and dust disturbed.

### *Operations*

The greatest source of criteria pollutants in Ukiah is and would continue to be from transportation sources, specifically mobile emissions from roadway traffic. Ukiah 2040 emphasizes reducing VMT on area roadways through maintenance and advancement of a circulation network that encourages walkable and bikeable neighborhoods. The proposed policies in Ukiah 2040 that support VMT reduction or electric vehicle adoption, and thus a reduction in mobile criteria pollutants, are listed below:

**Goal ENV-7:** To improve air quality to the benefit of public health, welfare, and reduce air quality impacts with adverse effects on residents' health and wellbeing.

**Policy ENV-7.1:** Transit Oriented Development. The City shall concentrate new development near areas served by transit access and reduce single-occupancy vehicle dependency.

**Policy ENV-7.2:** Active Transportation. The City shall prioritize pedestrian and bicycle access, infrastructure, and education to encourage increased use of alternative modes of transportation as a means to reduce direct and indirect air contaminant emissions.

**Policy ENV-7.7:** City Vehicle and Equipment Fleet. The City shall continue to purchase low-emission vehicles and use clean alternative fuels as part of their fleet. When possible, the City will replace gas and hybrid vehicles with electric vehicles.

**Policy ENV-7.8:** Residential EV Charging Stations. The City shall encourage new development to install EV charging stations in homes to increase the potential for the public to use zero-emission vehicles, lessening the impacts to air quality through pollution.

**Policy ENV-7.9:** Public EV Charging Stations. The City shall install public charging stations in its commercial areas to provide additional charging options for city visitors.

**Goal LU-1:** To provide a variety of housing types that offer choices for Ukiah residents and create complete, livable neighborhoods.

**Policy LU-1.2:** Connectivity. The City shall encourage new residential development to incorporate design features that promote walking and connectivity between blocks.

**Policy LU-1.4:** High-Density Residential Uses. The City shall encourage new high-density residential development to locate in areas close to services and transit.

**Goal LU-2:** To encourage mixed-use development projects that create vibrant, walkable districts.

**Policy LU-2.1:** Downtown Mixed-Use. The City shall encourage mixed-use development to locate within the Downtown. Such developments include housing, retail commercial, offices, open space, and other compatible uses. This development pattern should create vibrant, walkable areas, in contrast to strip retail developments along corridors.

**Policy LU-2.3:** Mixed-Use Design. The City shall require new mixed-use development to limit the number of access driveways, minimize building setbacks, and provide public ground floor spaces adjacent to sidewalks.

**Policy LU-2.4:** Pedestrian Orientation. The City shall require new mixed-use and commercial developments with street or bike route frontage to include amenities that connect and create a comfortable environment for walking, sitting, and socializing.

**Policy LU-2.5:** Live/Work. The City shall encourage mixed-uses in appropriate non-residential or existing mixed-use areas, facilitate the adaptive reuse of otherwise obsolete structures, and promote the growth of the arts and small business ventures in the community by allowing combined workspace and living quarters in appropriate buildings in commercial or industrial zoning districts.

**Goal LU-4:** To encourage the growth and development of retail, office, service, and entertainment uses in Ukiah to provide jobs, support City services, and make Ukiah an attractive place to live.

**Policy LU-4.5:** Pedestrian Access to Commercial Uses. The City shall support convenient and direct pedestrian access to commercial uses that are located adjacent to residential areas.

**Goal MOB-1:** To provide a citywide network of complete streets that meet the needs of all users, including pedestrians, bicyclists, motorists, transit, movers of commercial goods, children, seniors, and persons with disabilities.

**Policy MOB-1.1:** Complete Streets. The City shall design streets holistically, using a complete streets approach, which considers pedestrians, bicyclists, motorists, transit users, and other modes together to adequately serve future land uses.

**Policy MOB-1.2:** Multi-modal Access. The City shall require that all new development and redevelopment projects include provisions for multi-modal access provisions such as pedestrian and bicycle facilities, and vehicle and transit where relevant.

**Policy MOB-1.3:** Reallocate Space for Complete Streets. The City shall reallocate roadway space to allow complete streets improvements on streets with excess traffic capacity.

**Policy MOB-1.4:** Block Length. The City shall limit block lengths to 600 feet wherever feasible to enhance multi-modal circulation and connectivity.

**Policy MOB-1.8:** New Development and Complete Streets. The City shall require all new development to provide adequate access for pedestrians, bicyclists, motorists, transit users, and persons with disabilities, as well as facilities necessary to support the City's goal of maintaining a complete street network.

**Policy MOB-1.9: Bikeway Network.** The City shall strive to complete the citywide bicycle network to create a full network of bicycle facilities throughout Ukiah, including bicycle lanes on all arterial and collector street segments where feasible.

**Policy MOB-1.10: Bicycle Parking Standards.** The City shall maintain efficient and updated parking standards for bicycle parking to ensure development provides adequate bicycle parking, while reducing reliance on automobiles.

**Policy MOB-1.11: Pedestrian Barriers & Utility Relocation.** The City shall support elimination of barriers to pedestrian travel on sidewalks and walking paths including requiring the relocation or undergrounding of utilities where appropriate.

**Goal MOB-2:** To reduce vehicle miles traveled (VMT) to and from residences, jobs and commercial uses in Ukiah.

**Policy MOB-2.1: Vehicle Miles Traveled (VMT) Reduction.** The City shall support development and transportation improvements that help reduce VMT below regional averages on a “residential per capita” and “per employee” basis.

**Policy MOB-2.2: Transportation Demand Management.** The City shall support programs to reduce vehicle trips, including measures such as reduced parking requirements that aim to increase transit use, car-pooling, bicycling and walking.

**Policy MOB-2.3: Pedestrian Facilities.** The City shall encourage new development and redevelopment that increases connectivity through direct and safe pedestrian connections to public amenities, neighborhoods, shopping and employment destinations throughout the City.

**Policy MOB-2.4: Transit Facility Design.** The City shall require new development to include facilities designed to make public transportation convenient.

**Policy MOB-2.5: Transit Ridership.** The City shall support funding and incentives to increase transit ridership opportunities.

**Policy MOB-2.6: Downtown Transit Center.** The City shall support creation of a Transit Center.

**Policy MOB-2.7: Bicycle Accessible Transit.** The City shall encourage the MTA and other public transportation providers to make bus routes connecting Ukiah with other areas bicycle accessible.

**Goal MOB-5:** To promote a balance of multi-modal options, to be reflected in flexible parking regulations.

**Policy MOB-5.1: Incentives for Travel Alternatives.** The City shall work with downtown businesses and employers reduce the need for and expenses of off-street parking by supporting and encouraging alternatives to single-occupant vehicles such as incentives and priority parking for carpools and vanpools, secure bicycle parking, and free bus passes.

**Policy MOB-5.2: Support for Charging Stations.** The City shall support the provision of charging stations for electric vehicles, as well as other types of vehicles, as new technologies emerge.

According to the BAAQMD 2017 *CEQA Air Quality Guidelines*, the threshold for criteria air pollutants and precursors requires comparison of the rate of increase of plan VMT and plan area population. As discussed in Section 4.11, *Transportation*, Ukiah 2040 is expected to have less land use diversity than existing conditions, due to the amount of non-residential development that could occur in the

maximum buildout scenario. Given the total size of non-residential development relative to residential growth in the maximum buildout scenario, there could be a net increase in the number of non-resident workers commuting to jobs in Ukiah. Nonetheless, the diversity score for Ukiah 2040 would remain below the existing countywide average and impacts from VMT per capita were found to be less than significant for the project.

Nonetheless, even though the VMT impact would be less than significant, overall VMT would increase due to the project. Therefore, while the Ukiah 2040 proposed policies listed above would have the effect of reducing mobile VMT per capita, and in turn operational criteria pollutants, overall VMT would increase compared with existing conditions. Mitigation Measures AQ-2 would be applied to future development project and would require implementation of measures to reduce air quality emissions during the operation phase of future projects. Nonetheless, ultimately vehicle emissions depend somewhat on individual transportation choices that the City would not have full control over. Therefore, Ukiah 2040 impacts from operational criteria pollutant emissions would be significant and unavoidable.

## **Mitigation Measure**

### *AQ-1 Implement BAAQMD and MCAQMD Basic Construction Mitigation Measures*

To reduce fugitive dust emissions from the construction of individual projects, the City shall require that future projects implement the BAAQMD and MCAQMD Basic Construction Mitigation Measures. These include, but are not limited to, the following: =

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times a day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California Airborne Toxics Control Measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacture's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper conditions prior to operation.
- Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's number shall also be visible to ensure compliance with applicable regulations.

### *AQ-2 Implement Measures to Reduce Operational Emissions*

Prior to discretionary approval by the City of Ukiah for development projects subject to CEQA review (i.e., non-exempt projects), a screening assessment shall be performed by the City using the screening criteria from the 2017 BAAQMD CEQA Air Quality Guidelines. If the project exceeds the

screening size by land use type, the project applicant shall prepare and submit a technical assessment to the City for review and approval, which evaluates potential project-related operational air quality impacts. The evaluation shall be prepared in conformance with BAAQMD methodology in assessing air quality impacts. If operation-related air pollutants are determined to have the potential to exceed the BAAQMD-adopted thresholds of significance, the City shall require that applicants for new development projects incorporate mitigation measures to reduce air pollutant emissions during operational activities. The identified measures shall be included as part of the conditions of approval. Possible mitigation measures to reduce long-term emissions could include, but are not limited to the following:

- For site-specific development that requires refrigerated vehicles, the planning documents shall demonstrate an adequate number of electrical service connections at loading docks for plug-in of the anticipated number of refrigerated trailers, to reduce idling time and emissions.
- Applicants for manufacturing and light industrial uses shall consider energy storage and combined heat and power in appropriate applications to optimize renewable energy generation systems and avoid peak energy use.
- Site-specific developments with truck delivery and loading areas and truck parking spaces shall include signage as a reminder to limit idling of vehicles while parked for loading/unloading in accordance with California Air Resources Board Rule 2845 (13 California Code of Regulations Chapter 10 Section 2485).
- Provide changing/shower facilities as specified in Section A5.106.4.3 of the CalGreen Code (Nonresidential Voluntary Measures).
- Provide bicycle parking facilities pursuant to Section A4.106.9 (Residential Voluntary Measures) of the CalGreen Code.
- Provide preferential parking spaces for low-emitting, fuel-efficient, and carpool/van vehicles per Section A5.106.5.1 of the CalGreen Code (Nonresidential Voluntary Measures).
- Provide facilities to support electric charging stations pursuant to Section A5.106.5.3 (Nonresidential Voluntary Measures) and Section A5.106.8.2 (Residential Voluntary Measures) of the CalGreen Code.
- Applicant-provided appliances (e.g., dishwashers, refrigerators, clothes washers, and dryers) shall be Energy Star–certified appliances or appliances of equivalent energy efficiency. Installation of Energy Star–certified or equivalent appliances shall be verified by Building & Safety during plan check.
- Applicants for future development projects along existing and planned transit routes shall coordinate with the City and County to ensure that bus pad and shelter improvements are incorporated, as appropriate.

### **Significance After Mitigation**

With adherence to proposed Ukiah 2040 policies and Mitigation Measure AQ-1, cumulative construction impacts associated with violating an air quality standard or contributing substantially to an existing or projected air quality violation in terms of criteria air pollutant emissions would be less than significant with mitigation. Implementation of Ukiah 2040 would result in an increase in development intensity and would result in an overall increase in VMT. Mitigation Measure AQ-2 would be applied to reduce air quality emissions during operation of future projects. Though the diversity score for Ukiah 2040 would remain below the existing countywide average and impacts from VMT per capita were found to be less than significant, implementation of the project could

result in a cumulatively considerable net increase of particulate matter for which the region is nonattainment, and operational impacts would be considered significant and unavoidable.

<b>Threshold:</b> Would the project expose sensitive receptors to substantial pollutant concentrations?
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**Impact AQ-3 CONSTRUCTION ACTIVITIES FOR INDIVIDUAL PROJECTS FACILITATED BY UKIAH 2040 COULD EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS; HOWEVER, IMPACTS WOULD BE LESS THAN SIGNIFICANT WITH MITIGATION.**

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## Construction

Although it is anticipated that most development would occur within infill areas, development facilitated by Ukiah 2040 could result in DPM exhaust emissions from off-road, heavy-duty diesel equipment associated with site preparation (e.g., excavation, grading, clearing), building construction, and other construction activities. DPM was identified as a TAC by CARB in 1998. The potential cancer risk from the inhalation of DPM (as discussed below) outweighs the potential non-cancer<sup>2</sup> health impacts (CARB 2021).

Generation of DPM from construction typically occurs in a single area for a short period. Under the maximum build-out scenario, construction of development facilitated by the project could occur over approximately two decades, but use of diesel-powered construction equipment in any one area would likely occur for no more than a couple of years for an individual project and would cease when construction is completed. It is not possible to quantify risk without specific project details and locations, as impacts would vary based on location, intensity, construction methods, etc. For example, a project proposing construction of a small-scale commercial building on an infill site over a six-month construction period would generally have less impacts than a large-scale commercial development on an undeveloped site with a two-year construction period.

The primary factor used to determine health risk is the dose to which the receptors are exposed. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the Maximally Exposed Individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period. According to the California Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the development (OEHHA 2015). BAAQMD uses an exposure period of 30 years (BAAQMD 2016).

The maximum PM<sub>10</sub> and PM<sub>2.5</sub> emissions would occur during demolition, site preparation, and grading activities, which would only occur for a portion of the overall estimated timeframe of approximately one to eight years for individual project construction. These activities would typically last for approximately two weeks to two years, depending on the extent of grading and excavation required (e.g., projects with subterranean parking structures or geological constraints require additional grading as compared to those without). PM<sub>10</sub> and PM<sub>2.5</sub> emissions would decrease for the remaining construction period because construction activities such as building construction and architectural coating would require less intensive construction equipment. While the maximum

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<sup>2</sup> Non-cancer risks include premature death, hospitalizations and emergency department visits for exacerbated chronic heart and lung disease, including asthma, increased respiratory symptoms, and decreased lung function.

DPM emissions associated with demolition, site preparation, and grading activities would only occur for a portion of the overall construction period, these activities represent the worst-case condition for the total construction period. This would represent between 0.1 to 7 percent of the total 30-year exposure period for health risk calculation.

Ukiah 2040 contains proposed Policy ENV-7.5 (described in Impact AQ-2), which would have the effect of minimizing construction TACs from future projects facilitated by Ukiah 2040. Future projects facilitated by Ukiah 2040 would also be required to be consistent with the 2017 Clean Air Plan, 2005 Particulate Matter Attainment Plan, BAAQMD and MCAQMD regulatory requirements and control strategies, and the CARB In-Use Off-Road Diesel Vehicle Regulation, which are intended to reduce emissions from construction equipment and activities. Additionally, future development facilitated by Ukiah 2040 would be required to comply with Mitigation Measure AQ-1 requiring implementation of construction emission measures which would reduce construction-related TACs.

According to the OEHHA, construction of individual projects lasting longer than two months or placed within 1,000 feet of sensitive receptors could potentially expose nearby sensitive receptors to substantial pollutant concentrations, and therefore could result in potentially significant risk impacts. These future projects could exceed BAAQMD's thresholds of an increased cancer risk of greater than 10.0 in a million and an increased non-cancer risk of greater than 1.0 Hazard Index (Chronic or Acute). Therefore, construction impacts from TAC emissions would be potentially significant. Implementation of Mitigation Measure AQ-3 would require coordination with the City to determine if a construction Health Risk Assessment (HRA) would be needed for future projects with construction timelines greater than two months and within 1,000 feet of sensitive receptors, to reduce potential risk exposure to nearby sensitive receptors.

## Operations

The BAAQMD *CEQA Guidelines* include a methodology for jurisdictions wanting to evaluate the potential impacts from placing sensitive receptors proximate to major air pollutant sources. For assessing community risk and hazards for siting a new receptor, sources within a 1,000-foot radius of a project site are typically considered. Sources are defined as freeways or high-volume roadways with 10,000 vehicles or more per day and permitted sources (BAAQMD 2017).

Development facilitated by Ukiah 2040 could accommodate a net increase of approximately 2,350 residential units and 4,514,820 non-residential square footage. However, potential buildout of Ukiah 2040 in accordance with land use and zoning regulations would not site land uses that typically generate TAC, such as industrial land uses, in close proximity to residential land uses. Additionally, if commercial and retail uses site a new stationary TAC source, like an emergency generator, then that stationary source would be required to receive a permit from MCAQMD and the City's Building Division. The permitting process would ensure that the stationary source does not present a health risk to existing nearby sensitive receptors.

To minimize health risks to sensitive receptors near stationary sources and/or freeways and high-volume roadways, Ukiah 2040 contains proposed Policy ENV-7.5 (described in Impact AQ-2), which support implementation of feasible policies to reduce TAC emissions associated with buildout of Ukiah 2040.

In addition, the following environmental justice policies in Ukiah 2040, reinforce the need for compatible land uses to reduce exposure to environmental hazards.

**Policy LU-12.2:** Disproportionate Land Use Impacts. The City shall evaluate and avoid, reduce, or mitigate disproportionate adverse health and safety impacts of land use decisions on identified disadvantaged communities.

**Policy LU-12.3:** Coordination of Siting of Utilities. The City shall coordinate with utility providers in the siting, site layout, and design of gas and electric facilities, including changes to existing facilities, to minimize environmental, and safety impacts on disadvantaged communities.

As individual developments facilitated by Ukiah 2040 are evaluated on a future project-by-project basis, the proposed policies mentioned above would be implemented to reduce impacts and ensure that sensitive receptors would not be exposed to substantial pollutant concentrations due to location or design. Therefore, with adherence to these Ukiah 2040 policies, operational impacts related to TAC emissions would be less than significant.

### **Mitigation Measure**

#### *AQ-3 Conduct Construction Health Risk Assessment*

For individual projects (excluding accessory dwelling units, single-family residences, and duplexes) where construction activities would occur within 1,000 feet of sensitive receptors, would last longer than two months, and would not utilize Tier 4 and/or alternative fuel construction equipment, the project applicant shall prepare a construction health risk assessment (HRA) prior to project approval. The HRA shall determine potential risk and compare the risk to the following BAAQMD thresholds:

- Non-compliance with Qualified Community Risk Reduction Plan;
- Increased cancer risk of > 10.0 in a million;
- Increased non-cancer risk of > 1.0 Hazard Index (Chronic or Acute); or
- Ambient PM<sub>2.5</sub> increase of > 0.3 µg/m<sup>3</sup> annual average

If risk exceeds the thresholds, measures such as requiring the use of Tier 4 and/or alternative fuel construction equipment shall be incorporated to reduce the risk to appropriate levels.

### **Significance After Mitigation**

Construction related TACs exposure impacts would be less than significant with implementation of Mitigation Measure AQ-3.

<b>Threshold:</b> Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?
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**Impact AQ-4 DEVELOPMENT FACILITATED BY UKIAH 2040 WOULD NOT CREATE OBJECTIONABLE ODORS THAT COULD ADVERSELY AFFECT A SUBSTANTIAL NUMBER OF PEOPLE AND IMPACTS WOULD BE LESS THAN SIGNIFICANT.**

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Implementation of Ukiah 2040 would generate oil and diesel fuel odors during construction from equipment use as well as odors related to asphalt paving. The odors would be limited to the construction period and would be temporary. Therefore, odors emitted from the construction of individual future projects under Ukiah 2040 would be less than significant.

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As stated in the BAAQMD *CEQA Guidelines*, land uses typically producing objectionable odors include agricultural uses, wastewater treatment plants, food manufacturing plants, chemical plants, composting, refineries, landfills, and confined animal facilities. Development facilitated by Ukiah 2040 would include residential, office, and retail development within current City limits. These land uses typically do not produce objectionable odors. In addition, Ukiah 2040 would not add additional light industrial/office land uses that would have the potential to expose sensitive receptors, such as residences, to odors. Annexation Areas A and B would include agricultural uses; however, no additional land would be designated for agricultural use under Ukiah 2040; thus, no changes from existing conditions regarding odors would occur. Other odors from buildout of Ukiah 2040 include odor emissions that would be limited to odors associated with vehicle and engine exhaust and idling; however, odors from vehicles are not stationary and are dispersed throughout the roadway network. Therefore, operational odor impacts would be less than significant.

### **Mitigation Measures**

No mitigation measures would be required.

### **Significance After Mitigation**

Impacts would be less than significant without mitigation.

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