



Annex Y Placer County Air Pollution Control District

Y.1 Introduction

This Annex details the hazard mitigation planning elements specific to Placer County Air Pollution Control District (PCPCAPCD or District), a new participating jurisdiction to the 2021 Placer County Local Hazard Mitigation Plan (LHMP) Update. This Annex is not intended to be a standalone document, but appends to and supplements the information contained in the Base Plan document. As such, all sections of the Base Plan, including the planning process and other procedural requirements apply to and were met by the District. This Annex provides additional information specific to PCAPCD, with a focus on providing additional details on the risk assessment and mitigation strategy for this District.

Y.2 Planning Process

As described above, the District followed the planning process detailed in Chapter 3 of the Base Plan. In addition to providing representation on the Placer County Hazard Mitigation Planning Committee (HMPC), the District formulated their own internal planning team to support the broader planning process requirements. Internal planning participants, their positions, and how they participated in the planning process are shown in Table Y-1. Additional details on plan participation and District representatives are included in Appendix A.

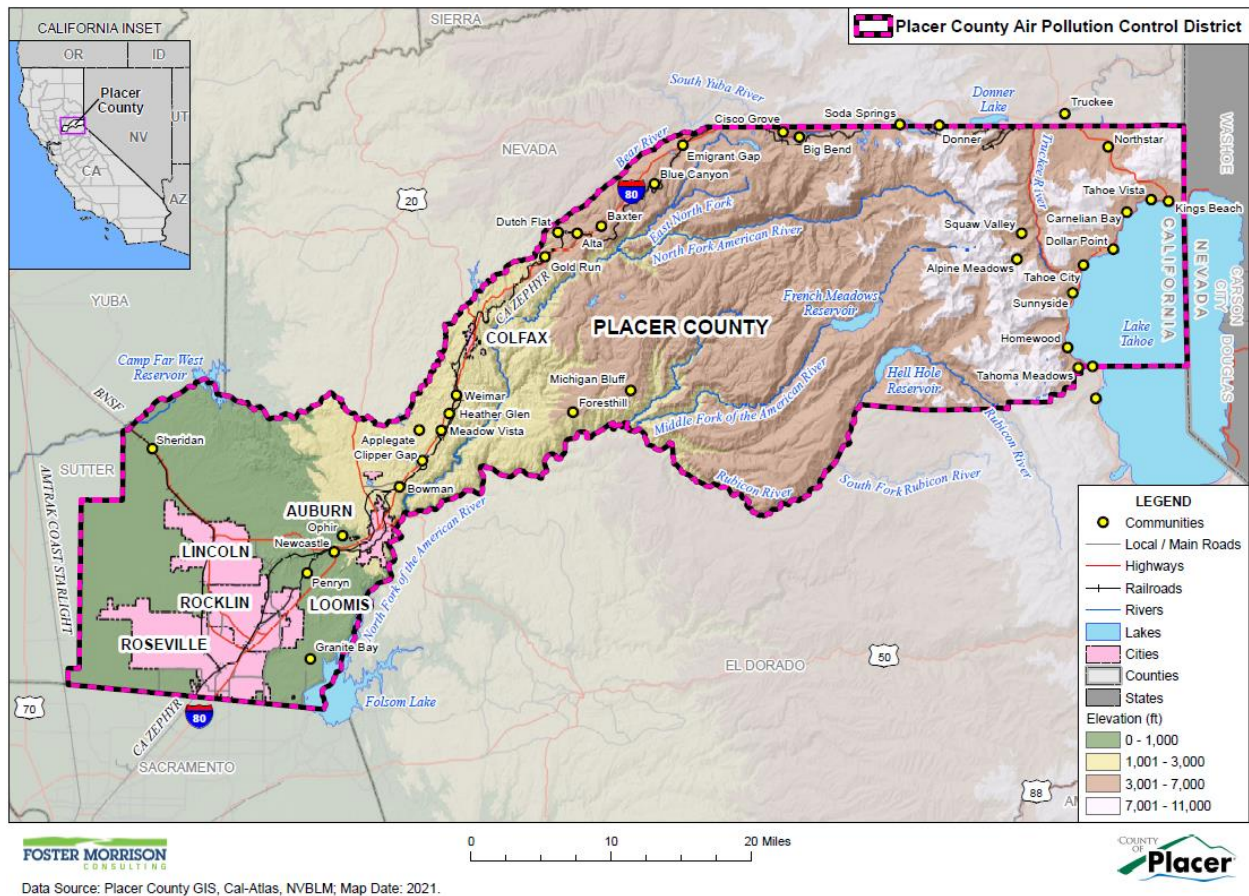
Table Y-1 PCAPCD – Planning Team

Name	Position/Title	How Participated
Adam Baughman	Deputy APCO	Attended LHMP meetings, researched and identified hazards & impacts, prepared feasible mitigation measures worksheets.
Ann Hobbs	Associate Planner	Attended LHMP meetings as needed, reviewed and commented on mitigation measure worksheets.
Molly Johnson	Air Quality Specialist II	Developed mitigation measures, reviewed & commented on LHMP.
Yushuo Chang	Senior Air Quality Planner	Developed mitigation measures, reviewed & commented on LHMP.

Y.3 District Profile

The District profile for the PCAPCD is detailed in the following sections. Figure Y-1 displays a map and the location of the District within Placer County.

Figure Y-1 PCAPCD



Y.3.1. Overview and Background

The District is charged with the enforcement of local air pollution control rules adopted by its Board of Directors, as well as state and federal air quality requirements. The District permits the control of air pollution by businesses, regulates open burning, responds to odor and dust complaints, and encourages the reduction of emissions in areas that are not regulated directly.

There are five air monitoring stations in the County to measure air quality on a 24-hour basis. The District is responsible for preparing, adopting, and implementing air quality plans that seek to achieve and maintain state and federal air quality standards. The District provides incentives to local businesses and agencies to reduce air pollution in our communities. The District participates in and promotes efforts to reduce the impacts of wildfire. The District develops an annual emission inventory of all sources within Placer County. The District reports this information to CARB for inclusion in their statewide database.

The District is governed by a Board of Directors (Board) composed of three County Board of Supervisors and one elected official from each of the six County incorporated municipalities: Auburn, Colfax, Lincoln, Loomis, Rocklin, Roseville. The District’s Board appoints the Director/Air Pollution Control Officer (APCO).

The District currently employs 15 full-time and 4 extra-help employees, and is organized into four operating sections: Administrative Services, Planning & Monitoring, Compliance & Enforcement, and Permitting & Engineering.

The District's current annual budget is approximately \$9.3 million, of which \$2.9 million is included as clean air incentive funding to assist local businesses in obtaining cleaner equipment. Most of the District's operational funding comes from a surcharge imposed by the Department of Motor Vehicles, along with emission and equipment fees assessed on permitted facilities. The District's activities are programmed into five separate funds depending on the revenue source. Each fund has its own revenue and expenditure accounts. The District's philosophy of budgeting revenues conservatively and expenditures adequately has allowed the District to meet its current fiscal needs and provide funding for beginning the upcoming fiscal year.

Y.4 Hazard Identification

PCAPCD identified the hazards that affect the District and summarized their location, extent, frequency of occurrence, potential magnitude, and significance specific to District (see Table Y-2).

Table Y-2 PCAPCD—Hazard Identification Assessment

Hazard	Geographic Extent	Likelihood of Future Occurrences	Magnitude/Severity	Significance	Climate Change Influence
Agriculture Pests and Diseases	Significant	Highly Likely	Critical	Low	Medium
Avalanche	Limited	Likely	Limited	Low	Medium
Climate Change	Extensive	Likely	Limited	Medium	–
Dam Failure	Significant	Occasional	Critical	Low	Medium
Drought & Water Shortage	Extensive	Likely	Critical	Low	High
Earthquake	Significant	Occasional	Critical	Low	Low
Floods: 1%/0.2% annual chance	Limited	Occasional	Critical	Low	Medium
Floods: Localized Stormwater	Limited	Highly Likely	Limited	Low	Medium
Landslides, Mudslides, and Debris Flows	Limited	Occasional	Limited	Low	Medium
Levee Failure	Limited	Unlikely	Limited	Low	Medium
Pandemic	Extensive	Likely	Catastrophic	Low	Medium
Seiche	Limited	Unlikely	Limited	Low	Medium
Severe Weather: Extreme Heat	Extensive	Highly Likely	Limited	Medium	High
Severe Weather: Freeze and Snow	Extensive	Highly Likely	Critical	Low	Medium
Severe Weather: Heavy Rains and Storms	Extensive	Occasional	Limited	Low	Medium
Severe Weather: High Winds and Tornadoes	Extensive	Highly Likely	Critical	Low	Low
Tree Mortality	Extensive	Likely	Limited	Low	High
Wildfire	Extensive	Highly Likely	Critical	High	High
Geographic Extent Limited: Less than 10% of planning area Significant: 10-50% of planning area Extensive: 50-100% of planning area	Magnitude/Severity Catastrophic—More than 50 percent of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths Critical—25-50 percent of property severely damaged; shutdown of facilities for at least two weeks; and/or injuries and/or illnesses result in permanent disability Limited—10-25 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability Negligible—Less than 10 percent of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid				
Likelihood of Future Occurrences Highly Likely: Near 100% chance of occurrence in next year, or happens every year. Likely: Between 10 and 100% chance of occurrence in next year, or has a recurrence interval of 10 years or less. Occasional: Between 1 and 10% chance of occurrence in the next year, or has a recurrence interval of 11 to 100 years. Unlikely: Less than 1% chance of occurrence in next 100 years, or has a recurrence interval of greater than every 100 years.	Significance Low: minimal potential impact Medium: moderate potential impact High: widespread potential impact				
	Climate Change Influence Low: minimal potential impact Medium: moderate potential impact High: widespread potential impact				

Y.5 Hazard Profile and Vulnerability Assessment

The intent of this section is to profile the District's hazards and assess the District's vulnerability separate from that of the Placer County Planning Area as a whole, which has already been assessed in Section 4.3 Hazard Profiles and Vulnerability Assessment in the Base Plan. The hazard profiles in the Base Plan discuss overall impacts to the Placer County Planning Area and describes the hazard problem description, hazard location and extent, magnitude/severity, previous occurrences of hazard events and the likelihood of future occurrences. Hazard profile information specific to the District is included in this Annex. This vulnerability assessment analyzes the property and other assets at risk to hazards ranked of medium or high significance specific to the District. For more information about how hazards affect the County as a whole, see Chapter 4 Risk Assessment in the Base Plan.

Y.5.1. Hazard Profiles

Each hazard vulnerability assessment in Section Y.5.3, includes a hazard profile/problem description as to how each medium or high significant hazard (as shown in Table Y-2) affects the District and includes information on past hazard occurrences and the likelihood of future hazard occurrence. The intent of this section is to provide jurisdictional specific information on hazards and further describes how the hazards and risks differ across the Placer County Planning Area.

Y.5.2. Vulnerability Assessment and Assets at Risk

This section identifies the District's total assets at risk, including values at risk, populations at risk, critical facilities and infrastructure, natural resources, and historic and cultural resources. Growth and development trends are also presented for the District. This data is not hazard specific, but is representative of total assets at risk within the District.

Assets at Risk and Critical Facilities

This section considers the PCAPCD's assets at risk, with a focus on key District assets such as critical facilities, infrastructure, and other District assets and their values. With respect to District assets, the majority of these assets are considered critical facilities as defined for this Plan. Critical facilities are defined for this Plan as:

Any facility, including without limitation, a structure, infrastructure, property, equipment or service, that if adversely affected during a hazard event may result in severe consequences to public health and safety or interrupt essential services and operations for the community at any time before, during and after the hazard event.

This definition is further refined by separating out three classes of critical facilities:

Class 1 facilities include those facilities that contribute to command, control, communications and computer capabilities associated with managing an incident from initial response through recovery.

Class 2 facilities include those facilities that house Emergency Services capabilities.

Class 3 facilities are those facilities that enable key utilities and can be used as evacuation centers/shelters/mass prophylaxis sites, etc.

Additional information on the three classes of critical facilities is described further in Section 4.3.1 of the Base Plan.

Table Y-3 lists critical facilities and other District assets identified by the District Planning Team as important to protect in the event of a disaster. PCAPCD’s physical assets, valued at over \$2.6 million, consist of the buildings and infrastructure to support the District’s operations.

Table Y-3 PCAPCD Critical Facilities, Infrastructure, and Other District Assets

Name of Asset	Facility Type	Replacement Value	Which Hazards Pose Risk
PCAPCD Offices, 110 Maple St., Auburn, CA 95603	Office Building	\$2,078,298	Wildfire
Air Quality Monitoring Equipment – Stationary	Remote Air Quality Monitoring sites	\$347,830	Wildfire/Snowstorm etc. for Tahoe
Air Quality Monitoring Equipment – Mobile	Air Quality Monitoring Equipment housed in towable District Trailer	\$17,134	Wildfire
District Vehicles (various)	Fleet Vehicles	\$150,000	Wildfire
Weather Monitoring Equipment-Stationary	Remote Weather Monitoring Stations	\$39,946	Wildfire/ Avalanche / Snowstorm, Wind Event
Total		\$2,633,208	

Source: PCAPCD

Natural Resources

PCAPCD has a variety of natural resources of value to the District. These natural resources parallel that of Placer County as a whole. Information can be found in Section 4.3.1 of the Base Plan.

Historic and Cultural Resources

PCAPCD has a variety of historic and cultural resources of value to the District. These historic and cultural resources parallel that of Placer County as a whole. Information can be found in Section 4.3.1 of the Base Plan.

Populations Served

Potentially at risk, should the District be affected by natural hazard events, are the populations served by the District. The PCAPCD provides services to the whole of Placer County.

Growth and Development Trends

General growth in the District parallels that of the Placer County Planning Area as a whole. Information can be found in Section 4.3.1 of the Base Plan.

Future Development

The District has no control over future development in areas the District services. Future development in these areas parallels that of the Placer County Planning Area. More general information on growth and development in Placer County as a whole can be found in “Growth and Development Trends” in Section 4.3.1 Placer County Vulnerability and Assets at Risk of the Base Plan.

Y.5.3. Vulnerability to Specific Hazards

This section provides the vulnerability assessment, including any quantifiable loss estimates, for those hazards identified above in Table Y-2 as high or medium significance hazards. Impacts of past events and vulnerability of the District to specific hazards are further discussed below (see Section 4.1 Hazard Identification in the Base Plan for more detailed information about these hazards and their impacts on the Placer County Planning Area). Methodologies for evaluating vulnerabilities and calculating loss estimates are the same as those described in Section 4.3 of the Base Plan.

An estimate of the vulnerability of the District to each identified priority hazard, in addition to the estimate of likelihood of future occurrence, is provided in each of the hazard-specific sections that follow. Vulnerability is measured in general, qualitative terms and is a summary of the potential impact based on past occurrences, spatial extent, and damage and casualty potential. It is categorized into the following classifications:

- **Extremely Low**—The occurrence and potential cost of damage to life and property is very minimal to nonexistent.
- **Low**—Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal.
- **Medium**—Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. Here the potential damage is more isolated and less costly than a more widespread disaster.
- **High**—Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have occurred in the past.
- **Extremely High**—Very widespread with catastrophic impact.

Depending on the hazard and availability of data for analysis, this hazard specific vulnerability assessment also includes information on values at risk, critical facilities and infrastructure, populations at risk, and future development.

Climate Change

Likelihood of Future Occurrence—Likely

Vulnerability—Medium

Hazard Profile and Problem Description

Climate change adaptation is a key priority of the State of California. The 2018 State of California Multi-Hazard Mitigation Plan stated that climate change is already affecting California. Sea levels have risen by as much as seven inches along the California coast over the last century, increasing erosion and pressure on the state's infrastructure, water supplies, and natural resources. The State has also seen increased average temperatures, more extreme hot days, fewer cold nights, a lengthening of the growing season, shifts in the water cycle with less winter precipitation falling as snow, and earlier runoff of both snowmelt and rainwater in the year. In addition to changes in average temperatures, sea level, and precipitation patterns, the intensity of extreme weather events is also changing.

Location and Extent

Climate change is a global phenomenon. It is expected to affect the whole of the District, Placer County, and State of California. There is no scale to measure the extent of climate change. Climate change exacerbates other hazards, such as drought, extreme heat, flooding, wildfire, and others. The speed of onset of climate change is very slow. The duration of climate change is not yet known, but is feared to be tens to hundreds of years.

Past Occurrences

Climate change has never been directly linked to any declared disasters. While the District noted that climate change is of concern, no specific impacts of climate change could be recalled. The District and HMPC members did, however, note that in Placer County, the strength of storms does seem to be increasing and the temperatures seem to be getting hotter. A protracted, hotter, drier and windier summer season, combined with the cumulative impact of drought conditions, high amounts of excessive vegetation, referred to in fire terms as fuel and tree mortality exacerbates the potential for damaging wildfires. California's Fourth Climate Change Assessment by UC Davis (2018) indicated the impacts of climate change on the Sacramento Region will result in extreme heatwaves, drier landscapes, less snow, variable precipitation, more intense droughts, and increased risk of wildfire. These impacts will lead to a decrease in air quality via higher levels of ground-level ozone and particulate matter (PM), leading to air quality impacts on public health

Vulnerability to and Impacts from Climate Change

The 2014 California Adaptation Planning Guide (APG) prepared by California OES and CNRA was developed to provide guidance and support for local governments and regional collaboratives to address the unavoidable consequences of climate change. California's APG: Understanding Regional Characteristics has divided California into 11 different regions based on political boundaries, projected climate impacts, existing environmental setting, socioeconomic factors and regional designations. Placer County falls within the North Sierra Region characterized as a sparsely settled mountainous region where the region's economy is primarily tourism-based. The region is rich in natural resources, biodiversity, and is the source for the majority of water used by the state. This information can be used to guide climate adaptation planning in the District and Placer County Planning Area.

The California APG: Understanding Regional Characteristics identified the following impacts specific to the North Sierra region in which the Placer County Planning Area is part of:

- Temperature increases
- Decreased precipitation
- Reduced snowpack
- Reduced tourism
- Ecosystem change
- Sensitive species stress
- Increased wildfire

As noted above, many of these impacts will result in increased ground-level ozone and particulate matter (PM), leading to injurious effects on public health. PCAPCD will require increased resources to develop programs and strategies to effectively address this increased air pollution to continue to move toward attainment of state and federal ambient air quality standards. In the case of increased wildfire, there would be an expectation of increased wildfire smoke. This would result in the need to provide clean air shelter and other clean air equipment, including the District's office.

Assets at Risk

The District noted that its facilities will most likely not be at risk from climate change. However, with increased wildfire albeit smoke, the District's main office would need to be kept free from smoke in order for staff to work safely inside.

Severe Weather: Extreme Heat

Likelihood of Future Occurrence—Highly Likely

Vulnerability—Medium

Hazard Profile and Problem Description

According to FEMA, extreme heat is defined as temperatures that hover 10 degrees or more above the average high temperature for the region and last for several weeks. Heat kills by taxing the human body beyond its abilities. In extreme heat and high humidity, evaporation is slowed, and the body must work extra hard to maintain a normal temperature.” Most heat disorders occur because the victim has been overexposed to heat or has over-exercised for his or her age and physical condition. Older adults, young children, and those who are sick or overweight are more likely to succumb to extreme heat.

In addition to the risks faced by citizens of the District, there are risk to the built environment from extreme heat. While extreme heat on its own does not usually affect structure, extreme heat during times of drought can cause wildfire risk to heighten. Extreme heat and high winds can cause power outages and PSPS events, causing issues to buildings in the District.

Extreme Heat and Power Shortage/Power Failure

The US power grid crisscrosses the country, bringing electricity to homes, offices, factories, warehouses, farms, traffic lights and even campgrounds. According to statistics gathered by the Department of Energy, major blackouts are on the upswing. Incredibly, over the past two decades, blackouts impacting at least 50,000 customers have increased 124 percent. The electric power industry does not have a universal agreement for classifying disruptions. Nevertheless, it is important to recognize that different types of outages are possible so that plans may be made to handle them effectively. In addition to blackouts, brownouts can occur. A brownout is an intentional or unintentional drop in voltage in an electrical power supply system. Intentional brownouts are used for load reduction in an emergency. Electric power disruptions can be generally grouped into two categories: intentional and unintentional. More information on types of power disruptions can be found in Section 4.3.2 of the Base Plan.

Public Safety Power Shutoff (PSPS)

A new intentional disruption type of power shortage/failure event has recently occurred in California. In recent years, several wildfires have started as a result of downed power lines or electrical equipment. This was the case for the Camp Fire in 2018. As a result, California's three largest energy companies (including PG&E), at the direction of the California Public Utilities Commission (CPUC), are coordinating to prepare all Californians for the threat of wildfires and power outages during times of extreme weather. To help protect customers and communities during extreme weather events, electric power may be shut off for public safety in an effort to prevent a wildfire. This is called a PSPS. More information on PSPS criteria can be found in Section 4.3.2 of the Base Plan.

Since the District Office is located in the urban downtown of the City of Auburn, power to the building has remained relatively stable during the PSPS events. However, most District employees live outside the city in more rural areas more frequently subject to PSPS. Likewise, the District's air quality monitoring equipment and purple air sensors are located in areas that could be subject to PSPS.

Location and Extent

Heat is a regional phenomenon and affects the whole of the District. Heat emergencies are often slower to develop, taking several days of continuous, oppressive heat before a significant or quantifiable impact is seen. Heat waves do not strike victims immediately, but rather their cumulative effects slowly affect vulnerable populations and communities. Heat waves do not generally cause damage or elicit the immediate response of floods, fires, earthquakes, or other more "typical" disaster scenarios.

The NWS has in place a system to initiate alert procedures (advisories or warnings) when extreme heat is expected to have a significant impact on public safety. The expected severity of the heat determines whether advisories or warnings are issued. The NWS HeatRisk forecast provides a quick view of heat risk potential over the upcoming seven days. The heat risk is portrayed in a numeric (0-4) and color (green/yellow/orange/red/magenta) scale which is similar in approach to the Air Quality Index (AQI) or the UV Index. This can be seen in Section 4.3.2 of the Base Plan.

Past Occurrences

There has been no federal or state disaster declarations in the County for heat. The District Planning Team noted that since extreme heat is a regional phenomenon, events that affected the County also affected the District. Those past occurrences were shown in the Base Plan in Section 4.3.2. Additionally, California's Fourth Climate Change Assessment prepared by UC Davis (2018) expects Sacramento maximum temperatures to be 10 degrees F higher by the end of this century, leading to increasingly poor air quality and increased fire danger. The average number of days exceeding 104 degrees F annually is expected to increase from 4 to 40 by 2100. This will lead to an increase in ground level ozone and a decrease in public health.

Vulnerability to and Impacts from Extreme Heat

The District experiences temperatures in excess of 100°F during the summer and fall months. The temperature moves to 105-110°F in rather extreme situations. During these times, drought conditions may worsen. Also, power outages and PSPS events may occur during these times as well. Health impacts, including loss of life, are the primary concern with this hazard, though economic impacts are also an issue.

Days of extreme heat have been known to result in medical emergencies, and unpredictable human behavior. Periods of extended heat and dryness (droughts) can have major economic, agricultural, and water resources impacts. Extreme heat can also further dry out vegetation, making it more vulnerable to completely burning if a wildfire occurred.

The District noted the following impacts:

- Causes an increase in ozone and ozone exceedances which leads to an increase in public health issues. The western portion of Placer County is in nonattainment area for both the federal and state ambient air quality standards for ozone. While air quality has improved, as it gets hotter more often, it will become increasingly difficult to achieve the standards (greater heat = more ozone due to more reaction with ozone precursor pollutants).
- Causes an increase in wildfire frequency and severity, leads to increase in particulate matter in the air from smoke, increase in public health issues, asthma, etc. While close to meeting the air quality standards, the County is technically in non-attainment of federal and state PM standards as well.
- With respect to wildfire smoke, the Sacramento area air districts have asked the US EPA a number of times, as needed, to make an Exceptional Event finding for the Sacramento Region and to exclude data in the last few years from attainment emissions. Without these Exceptions, the County will most likely not be able to meet the PM standard by the EPA's deadline which could result in repercussions for the area.

Assets at Risk

While none of the District's assets are directly impacted by extreme heat, District resources to address the increased air pollution will be impacted. As ambient and average temperatures rise in the Sacramento Region, it will be increasingly difficult to address the impact on air quality and continue to move the County toward attainment of state and federal air quality standards.

Wildfire

Likelihood of Future Occurrence–Highly Likely

Vulnerability–High

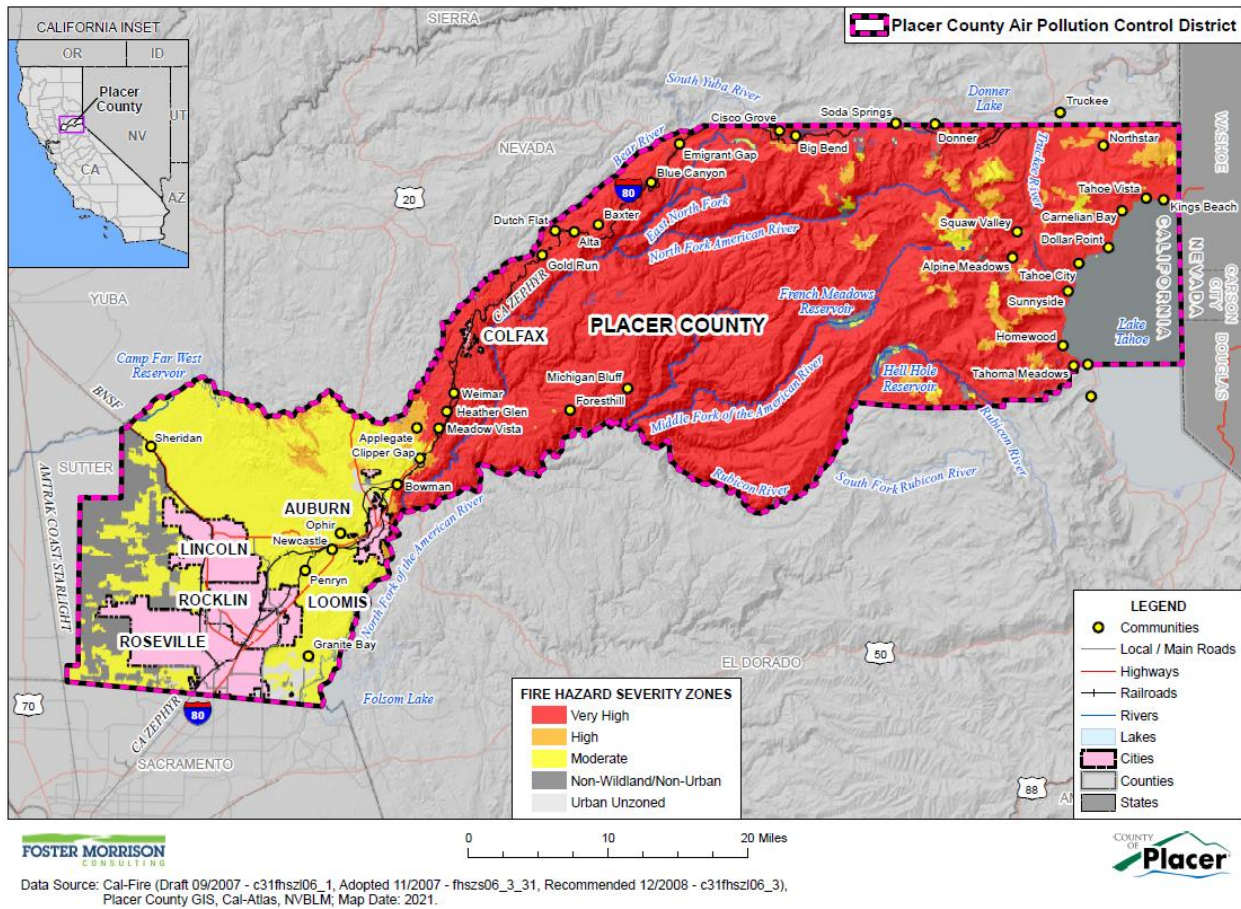
Hazard Profile and Problem Description

Wildland fire and the risk of a conflagration is an ongoing concern for the PCAPCD. Throughout California, communities are increasingly concerned about wildfire safety as increased development in the foothills and mountain areas and subsequent fire control practices have affected the natural cycle of the ecosystem. Wildland fires affect grass, forest, and brushlands, as well as any structures located within them. Where there is human access to wildland areas the risk of fire increases due to a greater chance for human carelessness and historical fire management practices. Historically, the fire season extends from early spring through late fall of each year during the hotter, dryer months; however, in recent years, the risk of wildfire has become a year around concern. Fire conditions arise from a combination of high temperatures, low moisture content in the air and fuel (vegetation), accumulation of excess vegetation, and high winds. While wildfire risk has predominantly been associated with more remote forested areas and wildland urban interface (WUI) areas, significant wildfires can also occur in more populated, urban areas.

Location and Extent

Wildfire can affect all areas of the District. CAL FIRE has estimated that the risk varies across the District and has created maps showing risk variance. Following the methodology described in Section 4.3.19 of the Base Plan, wildfire maps for the PCAPCD were created. Figure Y-2 shows the CAL FIRE Fire Hazard Severity Zones (FHSZ) in the District. As shown on the maps, FHSZs within the District range from Urban/Unzoned to Very High.

Figure Y-2 PCAPCD – Fire Hazard Severity Zones



Wildfires tend to be measured in structure damages, injuries, and loss of life as well as on acres burned. Fires can have a quick speed of onset, especially during periods of drought or during hot dry summer months. Fires can burn for a short period of time, or may have durations lasting for a week or more.

Past Occurrences

There has been five state and six federal disaster declarations for Placer County from fire. These can be seen in Table Y-4.

Table Y-4 Placer County – State and Federal Disaster Declarations Summary 1950-2020

Disaster Type	State Declarations		Federal Declarations	
	Count	Years	Count	Years
Fire	5	1961, 1965, 1973, 1987, 2010	6	2002, 2004, 2008, 2009, 2014 (twice)

Source: Cal OES, FEMA

The District noted the following past events:

- The Trailhead Fire (2016) was across the of Middle Fore of the American River in El Dorado County, but certainly impacted Placer as there was a huge concern it would travel into Todd Valley and the Foresthill area. Although it did not spread into those areas, the smoke significantly impacted the Foresthill area. The highest hourly average PM2.5 concentration was 268 ug/m³. This would be in hazardous level if this value or higher continued for a 24-hour period.
- From an air quality perspective, Placer County has been impacted by the Detwiler (2017), Ferguson (2018), Carr Fire (2018), Mendocino Complex Fire (2018), Camp Fire (2018), Loyalton Fire (2020), SCU Lightning Complex Fire (2020), August Complex Fire (2020), LNU Lightning Fire (2020), and North Complex Fire and countless other wildfires that were smaller in acreage. The smoke from these wildfires impacted Placer County residents significantly, resulting in three (3) days in 2017, 25 days in 2018, and 35 days in 2020 that exceeded the PM2.5 daily average standards, respectively.
- Ten joint Air Quality and Public Health Advisories were issued in 2018 and five were issued in 2020, spanning multiple consecutive days. The District briefed its Board with information items in February 2019 and October 2020 with charts showing the air quality impacts. The District also had one advisory for 2016, two advisories for 2017, and one advisory in 2019.

Vulnerability to and Impacts from Wildfire

Risk and vulnerability to the Placer County Planning Area and the District from wildfire is of significant concern, with some areas of the Planning Area being at greater risk than others as described further in this section. High fuel loads in the Planning Area, combined with a large built environment and population, create the potential for both natural and human-caused fires that can result in loss of life and property. These factors, combined with natural weather conditions common to the area, including lightning strikes, periods of drought, high temperatures, low relative humidity, and periodic winds, can result in frequent and potentially catastrophic fires. During the nearly year-round fire season, the dry vegetation and heat, and sometimes windy weather with an ignition source can result in an increase in fire. Any fire, once ignited, has the potential to quickly become large, and out-of-control. As development continues throughout the County and the District, especially in these interface areas, the risk and vulnerability to wildfires will likely increase.

Potential impacts from wildfire include loss of life and injury; damage to structures and other improvements, natural and cultural resources, croplands, and loss of recreational opportunities. Wildfires can cause short-term and long-term disruption to the District. Fires can have devastating effects on watersheds through the loss of vegetation and soil erosion, which may impact the District by changing runoff patterns, increasing sedimentation, reducing natural and reservoir water storage capacity, and degrading water quality. Fires can also affect air quality in the District; smoke and air pollution from wildfires can be a severe health hazard.

Although the physical damages and casualties arising from large fires may be severe, it is important to recognize that they also cause significant economic impacts by resulting in the loss of function of buildings and infrastructure. Economic impacts of the loss of transportation and utility services may include traffic delays/detours from road and bridge closures and loss of electric power, potable water, and wastewater services. Schools and businesses can be forced to close for extended periods of time. Recently, the threat of wildfire, combined with the potential for high winds, heat, and low humidity, has caused PG&E to initiate PSPSs which can also significantly impact a community through loss of services, business closures, and other impacts associated with loss of power for an extended period. More information on power shortage and failure can be found in the Severe Weather: Extreme Heat Section above, as well as in Section 4.3.2

of the Base Plan. In addition, catastrophic wildfire can create favorable conditions for other hazards such as flooding, landslides, and erosion during the rainy season.

The District noted the following impacts:

- With respect to wildfire smoke, in the last few years, the Sacramento area Air Districts have requested the U.S. EPA several times to determine an Exceptional Event finding for the Sacramento Region to exclude data from attainment emissions. Without these Exceptions, the County will most likely not be able to meet the PM standard by the U.S. EPA's deadline which could result in repercussions for the area.

Assets at Risk

The District assets most at risk due to increased wildfires would be the remote air quality monitoring stations and weather stations (RAWS), and to a lesser extent, the District's office in the City of Auburn.

Y.6 Capability Assessment

Capabilities are the programs and policies currently in use to reduce hazard impacts or that could be used to implement hazard mitigation activities. This capabilities assessment is divided into five sections: regulatory mitigation capabilities, administrative and technical mitigation capabilities, fiscal mitigation capabilities, mitigation education, outreach, and partnerships, and other mitigation efforts.

Y.6.1. Regulatory Mitigation Capabilities

Table Y-5 lists regulatory mitigation capabilities, including planning and land management tools, typically used by local jurisdictions to implement hazard mitigation activities and indicates those that are in place in the PCAPCD.

Table Y-5 PCAPCD Regulatory Mitigation Capabilities

Plans	Y/N Year	Does the plan/program address hazards? Does the plan identify projects to include in the mitigation strategy? Can the plan be used to implement mitigation actions?
Comprehensive/Master Plan/General Plan		The District develops strategies and rules designed to decrease air pollutant emissions and improve air quality thereby moving the region toward attainment of state and federal ambient air quality standards. The proposed mitigation measures are consistent with the District's air quality improvement planning.
Capital Improvements Plan		
Economic Development Plan		
Local Emergency Operations Plan		
Continuity of Operations Plan		
Transportation Plan		
Stormwater Management Plan/Program		
Engineering Studies for Streams		

Community Wildfire Protection Plan		
Other special plans (e.g., brownfields redevelopment, disaster recovery, coastal zone management, climate change adaptation)		The District worked with other Sacramento local air districts to develop the Sacramento Wildfire Exceptional Event Mitigation Plan in 2018. The plan is developed to minimize the public exposure to PM2.5 generated from wildfire events.
Building Code, Permitting, and Inspections	Y/N	Are codes adequately enforced?
Building Code		Version/Year:
Building Code Effectiveness Grading Schedule (BCEGS) Score		Score:
Fire department ISO rating:		Rating:
Site plan review requirements		
		Is the ordinance an effective measure for reducing hazard impacts?
Land Use Planning and Ordinances	Y/N	Is the ordinance adequately administered and enforced?
Zoning ordinance		
Subdivision ordinance		
Floodplain ordinance		
Natural hazard specific ordinance (stormwater, steep slope, wildfire)		
Flood insurance rate maps		
Elevation Certificates		
Acquisition of land for open space and public recreation uses		
Erosion or sediment control program		
Other		
How can these capabilities be expanded and improved to reduce risk?		
Additional resources and funding for District operations and the proposed mitigation measures will help address impacts to public health due to Climate Change, Extreme Heat, and Wildfire (Smoke) impacts. Increased public education and outreach will better inform the public of potential health impacts due to these three hazards. More local, low-cost air sensors (ex. Purple Air) will allow the public to make informed decisions about daily activities during wildfire smoke events. Air purifying equipment at local Clean Air Centers during wildfire smoke events will provide a healthier environment especially for the low income community.		

Source: PCAPCD

Y.6.2. Administrative/Technical Mitigation Capabilities

Table Y-6 identifies the District department(s) responsible for activities related to mitigation and loss prevention in PCAPCD.

Table Y-6 PCAPCD's Administrative and Technical Mitigation Capabilities

Administration	Y/N	Describe capability Is coordination effective?
Planning Commission		
Mitigation Planning Committee		

Maintenance programs to reduce risk (e.g., tree trimming, clearing drainage systems)	Y	The District periodically must clear the area around monitors and weather stations of vegetation. This is sometimes done in coordination with CAL FIRE and/or USFS.
Mutual aid agreements		
Other		
Staff	Y/N FT/PT	Is staffing adequate to enforce regulations? Is staff trained on hazards and mitigation? Is coordination between agencies and staff effective?
Chief Building Official	N	
Floodplain Administrator	N	
Emergency Manager	N	
Community Planner	N	
Civil Engineer	N	
GIS Coordinator	N	
Other	Y	Deputy APCO, Associate Planner, Air Quality Specialist II, and Senior Air Quality Planner are trained in mitigation.
Technical		
Warning systems/services (Reverse 911, outdoor warning signals)	N	
Hazard data and information	N	
Grant writing	N	
Hazus analysis	N	
Other		
How can these capabilities be expanded and improved to reduce risk?		
The District will collaborate with the County/OES to utilize warning systems to inform the public if areas reach very unhealthy/hazardous and how to find a Clean Air Center.		

Source: PCAPCD

Y.6.3. Fiscal Mitigation Capabilities

Table Y-7 identifies financial tools or resources that the District could potentially use to help fund mitigation activities.

Table Y-7 PCAPCD's Fiscal Mitigation Capabilities

Funding Resource	Access/ Eligibility (Y/N)	Has the funding resource been used in past and for what type of activities? Could the resource be used to fund future mitigation actions?
Capital improvements project funding	N	
Authority to levy taxes for specific purposes	N	
Fees for water, sewer, gas, or electric services	N	
Impact fees for new development	N	
Storm water utility fee	N	

Funding Resource	Access/ Eligibility (Y/N)	Has the funding resource been used in past and for what type of activities? Could the resource be used to fund future mitigation actions?
Incur debt through general obligation bonds and/or special tax bonds	N	
Incur debt through private activities	N	
Community Development Block Grant	N	
Other federal funding programs	Y	
State funding programs	Y	
Other		
How can these capabilities be expanded and improved to reduce risk?		
The District can identify and pursue State funding programs for Clean Air Centers.		

Source: PCAPCD

Y.6.4. Mitigation Education, Outreach, and Partnerships

Table Y-8 identifies education and outreach programs and methods already in place that could be/or are used to implement mitigation activities and communicate hazard-related information.

Table Y-8 PCAPCD's Mitigation Education, Outreach, and Partnerships

Program/Organization	Yes/No	Describe program/organization and how relates to disaster resilience and mitigation. Could the program/organization help implement future mitigation activities?
Local citizen groups or non-profit organizations focused on environmental protection, emergency preparedness, access and functional needs populations, etc.		
Ongoing public education or information program (e.g., responsible water use, fire safety, household preparedness, environmental education)		The District has produced various wildfire smoke safety outreach materials, such as the outdoor smoke activity table for school day decision making developed with the County's Office of Education.
Natural disaster or safety related school programs		
StormReady certification		
Firewise Communities certification		
Public-private partnership initiatives addressing disaster-related issues		
Other		
How can these capabilities be expanded and improved to reduce risk?		
Develop and distribute wildfire smoke related materials to the public. Support wildfire smoke impact response, such as press releases, public education events, webpage based information, social media posts and brochures/flyers/pamphlets. This comment seems like it is a county comment and not for our annex specifically if we are talking our infrastructure.		

Source: PCAPCD

Y.6.5. Other Mitigation Efforts

The District has many other completed or ongoing mitigation efforts that include the following:

Climate Change: This issue area is not a distinct and separate hazard but rather exacerbates the two hazards below.

Extreme Heat: The District participates in the regional “Spare the Air” program, which is a service alerting the public during time of unhealthy air quality both during the summer (ozone) and winter (particulate matter). The District also performs its own public education and outreach concerning the hazards of unhealthy air quality and ways to minimize air pollutant emissions around open burning, and other combustion activities. The District has a robust grants and incentives program to reduce air pollutant emissions by replacing dirty pieces of equipment and vehicles with cleaner equipment/vehicles, offering incentives to changeout high-polluting wood stoves with cleaner heating devices, installing zero emission fueling infrastructure, and incentivizing the purchase of electric passenger vehicles.

Wildfire (smoke): The District has previously purchased and installed low-cost Purple Air sensors for particulate matter and placed them strategically throughout the County in areas not covered our five regulatory air quality monitoring sites. These sensors give the public a real-time method of assessing air quality related to wildfire smoke. Additionally, the District has purchased temporary EBAM monitors which are technology more closely related to our regulatory monitors that can be deployed during wildfire smoke events for a higher level of accuracy.

The District has funded wood chipping programs through our Clean Air Grants (CAG) that provide a no or low-cost service to County residents to dispose of woody debris and create defensible space around structures. Several fire engines have been funded by the CAG as well. The District has also supported biomass to energy projects which remove woody fuel from the forests and convert it to electricity primarily through combustion to heat water, creating steam and turning steam generators.

Finally, the local air districts in the Sacramento region collaborated to prepare the “Wildfire Mitigation Plan for the Sacramento Federal Nonattainment Area for PM 2.5” in 2018. This plan was developed to minimize public exposure to the impacts of PM2.5 during wildfire events. The plan outlines the procedures the air districts should take to protect public health due to increases in PM concentrations from wildfires.

Y.7 Mitigation Strategy

Y.7.1. Mitigation Goals and Objectives

The PCAPCD adopts the hazard mitigation goals and objectives developed by the HMPC and described in Chapter 5 Mitigation Strategy.

Y.7.2. Mitigation Actions

The planning team for the PCAPCD identified and prioritized the following mitigation actions based on the risk assessment. Background information and information on how each action will be implemented and

administered, such as ideas for implementation, responsible office, potential funding, estimated cost, and timeline are also included. The following hazards were considered a priority for purposes of mitigation action planning:

- Climate Change
- Severe Weather: Extreme Heat
- Wildfire (smoke)

It should be noted that many of the projects submitted by each jurisdiction in Table 5-4 in the Base Plan benefit all jurisdictions whether or not they are the lead agency. Further, many of these mitigation efforts are collaborative efforts among multiple local, state, and federal agencies. In addition, the countywide public outreach action, as well as many of the emergency services actions, apply to all hazards regardless of hazard priority. Collectively, this multi-jurisdictional mitigation strategy includes only those actions and projects which reflect the actual priorities and capacity of each jurisdiction to implement over the next 5-years covered by this plan. It should further be noted, that although a jurisdiction may not have specific projects identified for each priority hazard for the five year coverage of this planning process, each jurisdiction has focused on identifying those projects which are realistic and reasonable for them to implement and would like to preserve their hazard priorities should future projects be identified where the implementing jurisdiction has the future capacity to implement.

Multi-Hazard Actions

Action 1. Air Quality Public Education & Outreach

Hazards Addressed: Wildfire Smoke Air Quality Impacts / Extreme Heat / Climate Change

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: General public knowledge about air quality, its effects on health, and ways to improve it, is low. Wildfire smoke events continue to be frequent, especially in areas that are not fully fire resilient such as northern California's mountainous counties like Placer County. Additionally, extreme heat events brought on by climate change greatly increase local ozone concentrations, leading to public health impacts. It is critical for the public to understand how wildfire smoke and extreme heat impact their health, how to identify poor air quality, and steps they can take to minimize their exposure.

Project Description: Develop and distribute wildfire smoke, extreme heat, and climate change related materials to the public. Support wildfire smoke impact response, and extreme heat events, such as press releases, public education events, webpage-based information, social media posts and brochures/flyers/pamphlets/fact sheets.

Other Alternatives: No action

Existing Planning Mechanism(s) through which Action Will Be Implemented: Placer County Air Pollution Control District (PCAPCD) staff have the experience and knowledge to provide public education and outreach on wildfire smoke impacts and extreme heat event impacts. PCAPCD staff can provide labor for this project.

Responsible Agency/ Department/Partners: Placer County Air Pollution Control District

Cost Estimate: \$100,000

Benefits (Losses Avoided): Increased Public Education and Outreach before and during wildfire incidents and extreme heat events to provide health-based information to the public so they can take steps to protect their health.

Potential Funding: Local, state, and federal grant sources.

Timeline: Immediate

Project Priority (H, M, L): High

Action 2. Local Air Quality Sensors to provide instantaneous public information on local PM concentrations due to wildfire smoke.

Hazards Addressed: Wildfire Smoke Air Quality Impacts / Extreme Heat / Climate Change

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: During the increasing number of acres burned during wildfire events along with the ensuing wildfire smoke (especially in times of extreme heat), the local air quality is greatly impacted with many hours to days with health based air quality standards exceeded. While there is a county-wide network (five total) of sophisticated PM air quality monitors, these are primarily used to monitor regulatory compliance with state and federal Ambient Air Quality Standards (AAQS), take measurements averaged over long periods of time, and do not provide instant “real-time” data for which to make quicker decisions affecting public health. Air quality sensors have become increasingly helpful to provide excellent indicators on widespread smoke and fairly accurate data that is vital for making immediate decisions concerning outdoor activities especially when wildfire smoke levels fluctuate greatly within just a few minutes to hours. The existing PM monitoring network for regulatory purposes cannot provide this localized, neighborhood timely information.

Project Description: This project would purchase and deploy throughout the county low-cost, local air quality sensors that instantaneously measure PM levels. Typically, this information is instantaneously uploaded to a website where anyone can view current and recent past readings of PM concentration. Various thresholds of concentrations are indicated allowing the viewer to determine if it is safe for them to spend time outdoors. Many groups, such as schools and outdoor sports leagues, use this information to determine the level and intensity of outdoor activities right before commencing.

Other Alternatives: Relying on existing regulatory PM air quality monitors, of which there are only 5 in the county, and which do not publicly provide real-time local PM concentrations.

Existing Planning Mechanism(s) through which Action Will Be Implemented: The Placer County Air Pollution Control District (PCAPCD) has experience deploying and installing these types of sensors and would provide personnel to install these units.

Responsible Agency/ Department/Partners: Placer County Air Pollution Control District, in partnership with Placer County and Health and Human Services.

Cost Estimate: Approximately \$250-300 per sensor

Benefits (Losses Avoided): These sensors provide the public no-cost, instantaneous PM concentrations in the vicinity of the sensor via a publicly accessible website in order to help make informed, real-time decisions about their level of outdoor activity to protect the public health.

Potential Funding: \$50,000 to provide 165-200 PM air quality sensors will be sought from state, local, and federal sources.

Timeline: Immediate to be prepared for the next wildfire smoke event

Project Priority (H, M, L): High

Action 3. Wildfire Smoke Impact Response – Clean Air Centers for Vulnerable Populations

Hazards Addressed: Wildfire Smoke Air Quality Impacts / Extreme Heat / Climate Change

Goals Addressed: 1, 2, 3, 4, 5, 6, 7

Issue/Background: During the increasing number of acres burned during wildfire events and the ensuing wildfire smoke, local air quality is greatly impacted, with air quality concentrations qualified with the U.S. EPA’s air quality index (AQI) reaching high levels in the very unhealthy and hazardous levels. These high levels of smoke increase health effects for everyone especially for those with more serious health effects in vulnerable populations including children, elderly, and those with health conditions. Placer County residents were exposed to 40+ days of heavy smoke in 2020.

Project Description: Establish Clean Air Centers to help those most affected by wildfire smoke impacts. The Centers will provide enhanced air filtration at facilities in communities with vulnerable populations in Auburn, Kings Beach, Lincoln, Rocklin and Roseville, recognizing that unhealthy air disproportionately impacts children and elderly populations, people with pre-existing health problems, and low-income communities. The Clean Air Centers will be equipped with portable, high performance ultra-fine particulate matter (PM2.5) air filtration units. Portable units will provide the Placer County Air Pollution Control District (PCAPCD) and regional emergency management authorities and disaster response agencies the flexibility to address smoke impacts anywhere in the county. Covered costs would include staffing at both portable sites and permanent ones (Roseville High School and Placer High School).

Other Alternatives: Increased impacts on the healthcare system to treat those seriously impacted by smoke inhalation. Purchase of high quality ultra-fine-particulate matter air filters for individual residences.

Existing Planning Mechanism(s) through which Action Will Be Implemented: PCAPCD staff have the experience and knowledge to coordinate the purchase and installation of enhanced air filtration systems. In addition, PCAPCD is equipped to provide localized air quality data, advisories and alerts including

health-based information on wildfire smoke and its impacts so the public can take appropriate action to protect their health. PCAPCD staff can provide labor for this project.

Responsible Agency/ Department/Partners: PCAPCD in collaboration with Placer County Health and Human Services and partnering facilities (schools, community, sports, veteran and senior centers, fairgrounds, and libraries).

Cost Estimate: \$100,000 (7 portable units and replacement filters)

Benefits (Losses Avoided): Decreased health impacts and serious health impacts to vulnerable populations

Potential Funding: Local, state, and federal funding sources will be sought.

Timeline: Immediate to be prepared for the next wildfire smoke event

Project Priority (H, M, L): High