



Santa Maria
General Plan

imagine



Environmental Background Report

December 2020



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Environmental Background Report

Introduction

This section provides an overview of the key findings from the Environmental Background Report for the City of Santa Maria General Plan Update.

Key Findings

- **Public Health.** Santa Maria has the most small particulate matter less than 10 microns in diameter (PM₁₀) exceedances in the County, and the second highest annual mean PM₁₀ concentrations. Small particulate matter can reduce visibility, as well as cause respiratory health problems. The main source of airborne particulate in Santa Maria is local agricultural uses, but may also include fugitive dust generated by the Oceano-Nipomo Dunes, so the City may wish to consider establishing policies and processes in the General Plan Update, possibly in the Health and Environmental Justice and/or Conservation/Open Space elements, to address land use compatibility of sensitive receptors and sources of PM₁₀, as uses change, intensify and/or expand.
- **Transportation.** Continued regulatory (Senate Bill 743) and local focus on reducing vehicle miles traveled (VMT) provides opportunities for air quality co-benefits because reductions in VMT equate to reductions in mobile emissions of criteria pollutants and toxic air contaminants, providing local and regional air quality benefits over time. The City may wish to consider including policies in the General Plan Update, possibly in the Circulation and Mobility and/or Land Use and Community Design elements, to fund and develop VMT mitigation strategies, as local and regional programs to reduce VMT are established.
- **Biological Resources.** The city is home to plant and animal species, particularly along the Santa Maria River, near the Santa Maria Public Airport, Area 9 Specific Plan area, and areas that pond in agricultural areas, that are protected due to their status as a State or federal species of concern. Balancing potentially adverse effects to these species and plant communities with economic and urban growth will continue to be a challenge in the city.
- **Urban Forest.** The city hosts a rich urban forest of over 27,800 trees that is managed by its Urban Forestry Program. The City may wish to consider incorporating Urban Forestry Program policies into the General Plan Update, possibly in the Conservation/Open Space and/or Land Use and Community Design elements, to facilitate protection of this urban forest resource in land development processes. Such policies may include establishing a Tree Master Plan with guidance for street and park trees on overall planting design and maintenance recommendations, incentivizing private tree planting through a City program, and/or incorporating private tree planting requirements for new development.
- **Impacts of Climate Change.** Based on the findings in California's Fourth Climate Change Assessment, Santa Maria will be impacted by climate change, including increases in average

maximum and minimum temperatures, increases in extreme heat events, changes in precipitation patterns, more severe storms, and more urban flooding.

- **Climate Action Plan.** Santa Maria currently does not have an adopted Climate Action Plan (CAP). The City may wish to consider including a policy in the General Plan Update, possibly in the Conservation/Open Space Element, to develop a CAP because it would facilitate access to State grant funding programs and streamline greenhouse gas (GHG) and climate impact analyses under the California Environmental Quality Act (CEQA) for new development projects. As part of the transition to community choice aggregation with Central Coast Community Energy, the Association of Monterey Bay Area Governments will be completing a localized GHG inventory for the City of Santa Maria in the near future.
- **Adaptation and Resilience Strategies.** As required by Senate Bill (SB) 379, the Santa Maria General Plan Update Safety Element will include a local climate change vulnerability assessment, adaptation and resiliency strategies to address climate change vulnerabilities. This will enable policymakers to build local resilience to climate change impacts and allow the City to participate in ongoing regional climate adaptation efforts.
- **Assembly Bill (AB) 52 and Senate Bill (SB) 18.** Since the last General Plan was adopted, there has been a greater emphasis in Santa Maria and throughout California on historic preservation and outreach to Native Americans before the development of new projects. The General Plan Update provides an opportunity for the City to complete proactive outreach with Native American tribal stakeholders to identify potential tribal cultural resources within the city, which would be consistent with the goals of SB 18 and AB 52.
- **Preservation.** The City will need to continue balancing the desire for new development with the desire to maintain historic character, as well as cultural and tribal resources, by identifying approaches, such as adaptive re-use of historic buildings or preservation protocols in the event unexpected cultural resources are identified, to allowing development of key sites while preserving historic, archaeological, and tribal cultural integrity.
- **Flood Risk.** Santa Maria is exposed to low risk of flood hazards related to Twitchell Dam, the Santa Maria River, and agricultural runoff; however, flat topography can result in localized incidents of flooding during rain events. Current stormwater runoff standards reduce the likelihood that new development would substantially increase localized flooding.
- **Seismic-Related Hazards.** Generally, lands in Santa Maria have low potential for liquefaction due to the relatively deep groundwater levels. However, the City of Santa Maria Hazard Mitigation Plan identifies a high risk for seismic hazards in the city, including potential liquefaction areas near the Santa Maria Public Airport, due to perched groundwater in the area.
- **Groundwater.** The Santa Maria River Valley Groundwater Basin was adjudicated into three management areas, the largest of which is the Santa Maria Valley Management Area (SMVMA), which underlies Santa Maria.
- **Santa Maria River.** The Santa Maria River has thirteen identified beneficial uses, including Municipal & Domestic Water Supply, agricultural supply, and groundwater recharge.
- **Major Noise Sources.** The Santa Maria Public Airport, Santa Maria Valley Railroad, agricultural and industrial operations, and roadway noise (e.g. U.S. 101 and major arterials) are the City's predominant noise sources. The City may wish to consider including policies or development

standards in the General Plan Update Noise Element that address land use compatibility near these noise sources.

- **Fiber Optic Internet Access.** Currently less than one percent of consumers in Santa Maria have access to fiber optic internet service. With greater demand on internet service due to increased access to technology and with more widespread demand from more people working from home due, in part, to the effects of the COVID-19 pandemic. The City is currently implementing new agreements to bring high speed internet to City services, which would also improve community access. The City may wish to consider a policy in the General Plan Update, possibly in the Health and Environmental Justice and/or Public Facilities and Services elements, to continue to build on work being done to improve its internet and utility services as users demand more access.
- **Transition to Community Choice Aggregation.** The City will begin to be serviced by Central Coast Community Energy in January 2021. During this transition period, the City may wish to consider developing an approach to outreach and education for residents as they see changes to their energy bills.

Purpose

The purpose of the Existing Conditions Report is to provide background context on baseline environmental conditions in Santa Maria to inform the General Plan Update.

Overview

The City of Santa Maria is undertaking a multi-year effort to update their General Plan and conduct the environmental review in accordance with the California Environmental Quality Act (CEQA).

The Existing Conditions Report provides high-level analysis for important topics such as air quality; biological and natural resources; greenhouse gases, climate change, and climate resilience; cultural resources; geology and hazards; hydrology and water quality; noise; utilities, facilities, and public services. The Existing Conditions Report provides background context, analysis of existing conditions, and summarizes key issues and opportunities for the future. The Existing Conditions Report serves as a technical document, but can be used by a range of stakeholders, including City staff, decision-makers, property owners, residents, and community members of Santa Maria.

Depending on the land use scenarios considered in the General Plan Update, certain elements may need to include policies or actions to address environmental issues so that the General Plan Update is self-mitigating (i.e. includes policies to mitigate significant environmental impacts under CEQA caused by proposed land use changes). In particular, the General Plan Update may require updated policies related to noise, hazards and hazardous materials, transportation/vehicle miles travelled, and public facilities to ensure the plan is self-mitigating.

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Air Quality

This section of the Existing Conditions Report addresses topics related to regional and local air quality.

Key Findings

- **Public Health.** Santa Maria has the most small particulate matter less than 10 microns in diameter (PM₁₀) exceedances in the County, and the second highest annual mean PM₁₀ concentrations. Small particulate matter can reduce visibility, as well as cause respiratory health problems. The main source of airborne particulate in Santa Maria is local agricultural uses, but may also include fugitive dust generated by the Oceano-Nipomo Dunes,¹ so the City may wish to consider establishing policies and processes in the General Plan Update, possibly in the Health and Environmental Justice and/or Conservation/Open Space elements, to address land use compatibility of sensitive receptors and sources of PM₁₀, as uses change, intensify and/or expand.
- **Transportation.** Continued regulatory (Senate Bill 743) and local focus on reducing vehicle miles traveled (VMT) provides opportunities for air quality co-benefits because reductions in VMT equate to reductions in mobile emissions of criteria pollutants and toxic air contaminants, providing local and regional air quality benefits over time. The City may wish to consider including policies in the General Plan Update, possibly in the Circulation and Mobility and/or Land Use and Community Design elements, to fund and develop VMT mitigation strategies, as local and regional programs to reduce VMT are established.

Introduction

Purpose of Section

The purpose of this section is to characterize existing regional and local air quality in Santa Maria and describe the regulatory framework guiding air quality policy and improvements. Community air quality is fundamental to public health and safety. Evaluating the community's existing air quality and emerging trends allows the City to coordinate the planning of land use, circulation, housing, and other City policies with their potential effects on air quality.

Context

Regulatory Setting

Airborne pollutants emitted from mobile and stationary sources are regulated by both federal and State Clean Air Acts, administered by the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB), respectively. These agencies establish ambient air quality standards at the level required to protect public health. Local air quality management control and planning is provided through regional air districts established by the CARB for the 15 air basins statewide. CARB is responsible for control of mobile emission sources, while local air districts are responsible for control of stationary sources and enforcing regulations. Santa Maria is located in the Santa Barbara portion of the South Central Coast Air Basin (SCCAB), which is under the jurisdiction of the Santa Barbara County Air Pollution Control District (SBCAPCD). In response to Assembly Bill 617, CARB established the Community

Air Protection Program in 2017 to reduce exposure in communities most affected by air pollution. Priority areas identified as disadvantaged or low-income are targeted for community air monitoring, specific emissions reduction programs, funding for clean technology, and grants to promote community participation in public decision-making. Since 2018, school districts, farms, and business owners in and near Santa Maria have received funding from SBCAPCD to implement clean technologies through this program.² Projects receiving funding included the Santa Maria Joint Union High School District replacing a 1989 diesel school bus with a more efficient 2019 diesel school bus and H&R Souza replacing a 1992 Tier 0 agricultural tractor with a 2019 Tier 4F agricultural tractor, as well as others.¹

Plans of Significance

2019 Ozone Plan

State law requires SBCAPCD to prepare a plan to improve air quality in the district. The 2019 Ozone Plan³ is the latest update to this plan and describes the air quality setting for Santa Barbara County, including the local climate and meteorology, the regulatory framework of the management of air quality, current and projected air quality, and measures and strategies for reducing emissions and improving air quality. The Old Car Buy Back program removes older and less fuel-efficient vehicles from the on-road fleet, reducing air pollution. Three dismantlers in the County, including Black Road Auto and Tow in Santa Maria, facilitate implementation of the program. School districts have been prioritized to receive funding for low or zero emission school buses, replacing diesel-fueled buses, including Santa Maria Joint Union High School District. The Old Car Buy Back program and replacement of less efficient school buses reduces emissions of nitrogen oxides (NOx) in the air basin, which is a pollutant that contributes to ozone creation (see Appendix A). The 2019 Plan addresses State ozone standards only, because the Santa Barbara County portion of the SCCAB was designated “attainment” for the federal 8-hour ozone standard of 0.070 ppm.

Regional Transportation Plan/Sustainable Communities Strategy

The Santa Barbara County Association of Governments (SBCAG) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) was developed to meet passenger vehicle greenhouse gas (GHG) emission reduction targets, as required by the Sustainable Communities and Climate Protection Act of 2008 (also known as Senate Bill 375). SBCAG’s RTP/SCS, called Fast Forward 2040⁴, was adopted in 2017 and aims to achieve zero per capita increases in GHG emissions from passenger vehicles and light trucks in 2020 and 2035, using a 2005 baseline. The investments and development strategies outlined in the plan are intended to reduce GHGs, but they have the co-benefit of also reducing air pollutant emissions from passenger vehicles. Goals and policies included in Fast Forward 2040 to reduce emissions include concentrating density in proximity to transit stations, planning for growth around livable corridors with mixed-use development, and encouraging active transportation (i.e., non-motorized transportation such as bicycling and walking).

Santa Maria General Plan

The Santa Maria General Plan references air quality in the Land Use, Circulation, Resource Management, and Housing Elements. These planning documents highlight the importance of air quality to ensuring residents’ health and wellbeing. The Land Use Element strives to promote livability by minimizing the

¹ Community Air Protection funds are used by the District to replace old high emission diesel engines (lower tier engines, like Tier 0), equipment, and vehicles with new low or zero emission engines (higher tier engines, like Tier 4), and vehicles.

community's exposure to adverse effects of urban development, including air quality impacts. The Circulation Element highlights air quality improvement as a goal and identifies alternative transportation development as a strategy to reduce emissions. The Resource Management Element aims to reduce mobile emission sources through the promotion of clean fuel sources, and aims to reduce stationary emission sources by monitoring known point sources such as industrial uses, dry cleaners, and paint booths. The Resource Management Element also describes an urban forest program that would harness the potential of trees planted within the city to absorb and intercept harmful pollutants, as well as reduce urban heat, which tends to exacerbate air pollution conditions. The Housing Element identifies California codes for energy and green building which guide building development in accordance with standards that reduce emissions related to heating and cooling.

Projects of Significance

Santa Maria Open Streets

Santa Maria Open Streets was an event hosted in 2019 by the SBCAG Traffic Solutions division to promote community wellness by creating safe and temporarily car-free spaces on streets and roads. Traffic Solutions hosts unique events in cities throughout Santa Barbara County, and is working to make these annually recurring opportunities to encourage the use of public spaces for exercise and social interaction. The City is developing its alternative transportation network and parks and open spaces with the goals of reducing mobile emissions of air pollutants and GHGs and improving air quality, ensuring connectivity and accessibility of various neighborhoods, and promoting community health and fitness.

Clean Air Express

The Clean Air Express is a weekday commuter bus service offering transportation from Santa Maria to Santa Barbara and Goleta. This alternative transit service is managed by SBCAG Traffic Solutions to reduce traffic congestion and improve regional air quality.

Santa Maria-San Luis Obispo Transportation Connectivity Study

Conducted in 2017, the Santa Maria-San Luis Obispo Transportation Connectivity Study⁵ identifies opportunities to improve transit and ridesharing services between the two jurisdictions. Based on significant population and employment growth projected for Santa Maria through 2040, increased transportation service needs for the area are anticipated. The study found that opportunities exist for expansion of existing transit routes and development of park-and-ride facilities. Increased use of shared transportation services reduces VMT and associated air pollutant emissions from individual vehicles.

Overview of Criteria Pollutants and Effects

There are seven major, or "criteria," pollutants for which ambient air quality standards have been established. These are common air pollutants which have been proven to damage human health and the environment. Federal and State standards have been established for ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), lead (Pb), small particulate matter less than 10 microns in diameter (PM₁₀) and fine particulate matter less than 2.5 microns in diameter (PM_{2.5}). Generally, criteria pollutants cause respiratory or neurological damage, either from short-term exposure or chronic exposure. A more detailed description of each pollutant and its health and environmental effects is provided in Appendix A.

The EPA and the CARB establish ambient air quality standards for criteria pollutants. These 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. Standards are designed to protect the 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. Therefore, the majority of sensitive receptor locations in Santa Maria are residences, schools, hospitals, and parks.

The SBCAPCD monitors criteria pollutant levels in Santa Barbara County to ensure that air quality standards are met, and if they are not met, develops strategies to meet the standards. Depending on whether the standards are met or exceeded, the county is classified as being in “attainment” or “nonattainment.” Some areas are unclassified, which means no monitoring data is available, but the area is considered to be in attainment. Appendix B summarizes the National Ambient Air Quality Standards (NAAQS) and the California Ambient Air Quality Standards (CAAQS) for each of these pollutants.

Existing Conditions

Climate and Meteorology

Santa Maria is located within the SCCAB which includes San Luis Obispo, Santa Barbara, and Ventura counties. The air quality in the region is strongly influenced by climatic factors related to its proximity to the Pacific Ocean and the location of the high-pressure cell in the northeastern Pacific. The area is subject to a diurnal cycle in which daily onshore winds from the west and northwest are replaced by mild offshore breezes flowing from warm inland valleys during the night and early morning hours. This alternating cycle can create a situation where suspended pollutants are swept offshore at night, and then carried back onshore the following day. Dispersion of pollutants decreases when wind velocity for both day and nighttime breezes is low.

The region is also subject to seasonal “Santa Ana” winds, which are typically hot and dry northerly winds blowing offshore at 15-20 miles per hour (mph), but occasionally reach speeds in excess of 60 mph. The Santa Anas are associated with higher wildfire risk.⁶

Two types of temperature inversion are created in the area: subsidence and radiational. The subsidence inversion occurs more frequently in summer months higher up in the atmosphere, while radiational (or surface) inversions form more frequently during the winter when air near the ground cools at night. Both types of inversions are characterized by stable air (low wind speeds and uniform temperatures), which limits the dispersion of pollutants.

Ambient Air Quality

Of the 18 air quality monitoring stations in Santa Barbara County, eight are managed by SBCAPCD, and the other ten are managed by CARB and private industry. CARB operates the Santa Maria station, located at 907 South Broadway. The air quality parameters monitored at this station include O₃, PM₁₀, PM_{2.5}, NO₂, wind speed, wind direction, and ambient temperature. Appendix C shows the number of exceedances of air quality standards at the Santa Maria station.

Santa Barbara County is in attainment or unclassified for all NAAQS and is in attainment or unclassified for all CAAQS, except PM₁₀, for which it is in non-attainment (see Appendix B). The SBCAPCD achieved “attainment” status for the federal 8-hour ozone standard in April 2018 and the State 1-hour and 8-hour standards in July 2020.⁷ The County is also unclassifiable/attainment for the federal PM_{2.5} standard and unclassified for the State PM_{2.5} standard.

In 2018, Santa Maria had no exceedances for ozone standards. It did, however, experience 14 days on which the State standard for PM₁₀ was exceeded, and one day on which the federal PM_{2.5} standard was exceeded⁸. The annual arithmetic mean PM concentrations for 2018 at the Santa Maria station were 23.9 µg/m³ PM₁₀ and 6.9 µg/m³ PM_{2.5} – second-highest and third-highest in the County, respectively.

Major Sources for Odors and Toxic Air Contaminants

Nuisance odors in Santa Maria may be produced by agricultural operations such as fertilizing, harvesting and turning of soil, and application of pesticides and herbicides. Other odor sources may include a composting facility just outside of the city, the Santa Maria Regional Landfill, food processing plants, and the lake at Jim May Park near Donovan Road. The lake is a County flood control sedimentation basin and collects run-off from County Flood Control’s Bradley channel that collects run-off from agricultural operations east of the city along with urban run-off. The discharge into the sedimentation basin does not include any natural waters and is high in nutrients which contributes to algal blooms and other water quality conditions that may cause odors. The City of Santa Maria Wastewater Treatment Plant, in the western area of the city, may also be a source of odor. Santa Maria residents may also experience offensive odors generated by pesticides, dust, and petroleum from residential or commercial activities.

Toxic air contaminants (TACs) are a 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 emitted from a variety of common sources, including gas stations, vehicles, dry cleaners, industrial operations, airport operations, painting operations, and research and teaching facilities. Gas stations tend to be clustered along the major roadways, and industrial operations are concentrated in zones on the west side of the city. Phillips 66 operates the Santa Maria Refinery for crude oil adjacent to Highway 1 on the Nipomo Mesa. However, it was recently announced that the refinery will close in 2023.⁹

One of the main sources of TACs in California is diesel engines, which emit exhaust that contains diesel particulate matter (DPM). In the city, high volume roadways like U.S. 101 and Main Street (S.R. 166) are local sources of DPM. Ambient air quality standards do not yet exist for TACs, but even low levels of exposure can lead to carcinogenic or otherwise adverse effects on human health.

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Biological Resources and Natural Resources

This section provides brief information on the current state of biological resources and natural resources in Santa Maria.

Key Findings

- **Biological Resources.** The city is home to plant and animal species, particularly along the Santa Maria River, near the Santa Maria Public Airport, Area 9 Specific Plan area, and areas that pond in agricultural areas, that are protected due to their status as a State or federal species of concern. Balancing potentially adverse effects to these species and plant communities with economic and urban growth will continue to be a challenge in the city.
- **Urban Forest.** The city hosts a rich urban forest of over 27,800 trees that is managed by its Urban Forestry Program. The City may wish to consider incorporating Urban Forestry Program policies into the General Plan Update, possibly in the Conservation/Open Space and/or Land Use and Community Design elements, to facilitate protection of this urban forest resource in land development processes. Such policies may include establishing a Tree Master Plan with guidance for street and park trees on overall planting design and maintenance recommendations, incentivizing private tree planting through a City program, and/or incorporating private tree planting requirements for new development.

Introduction

Purpose of Section

The purpose of this section is to provide information on the current state of biological resources and natural resources in the city.

Context

Regulatory Setting

Federal Endangered Species Act

The Federal Endangered Species Act, also known as the Endangered Species Act (ESA) of 1973 is the primary national legislation for the conservation of threatened and endangered plants and animals and their respective habitats. The U.S. Fish and Wildlife Service (U.S. FWS) and the U.S. National Oceanic and Atmospheric Administration (NOAA) Fisheries Service help to implement the ESA by ensuring that what they authorize, fund, and carry out is consistent and compliant with the ESA.

California Endangered Species Act

The California Endangered Species Act (CESA) has remained the State's leading wildlife protection act for plant and animal species that are listed as "threatened" or "endangered" in the state. The California Department of Fish and Wildlife (CDFW) enforces the CESA and is responsible for permitting and maintaining the State's endangered species list.

Quimby Act

The California State Quimby Act authorizes a city or County to require the dedication of land or to impose fees for park or recreational purposes as a condition of the approval of a tentative or parcel

subdivision map. The Quimby Act allows developer-paid Quimby Act fees to be used for rehabilitating and building parks in neighborhoods outside the neighborhood where the developer's subdivision is specifically located.

Parks and Water Bond Act of 2018

In June 2018, voters in the State of California passed Proposition 68, also known as the Parks and Water Bond Act of 2018. This proposition allocated \$4 billion to put towards California's most pressing water, park, and natural resource needs. Funding has gone toward issues such as regional water supplies and water quality, stormwater management, water recycling, flood protection and repairs, ocean and coastal protection, local parks and open districts, and clean water and drought preparedness. Many of the specific issues targeted by this bill are prevalent in the city, such as the need for flood protection and repairs, regional water supplies, and local parks and open space districts. Many cities like Santa Maria continue to rely on State and Federal funding in addition to local funding programs for the protection of natural resources.

Plans of Significance

City of Santa Maria General Plan Resources Management Element

The City of Santa Maria General Plan 1996 Resources Management Element, written in 1996 and last amended in 2001, outlines various goals, policies, objectives, and programs related to the protection of biological resources. The Resources Management Element emphasizes conservation and open space as it relates to biological resources, agricultural resources, water resources, energy resources, and urban forestry.

Projects of Significance

Santa Maria River Restoration Project

In January 2020, the City initiated a restoration project of native plants on about 150 acres of the Santa Maria Riverbed.¹⁰ The intent of the project was to reduce overgrown shrubbery and invasive plant species in order to reduce wildfire risk and encourage native plants and animals in the habitat.

Existing Resources

Physical Habitat

Santa Maria has a Mediterranean climate characterized by warm, dry summers and cool, moist winters. Plants in this climate have adapted to grow in the early spring and winter, when water is available, and become mostly dormant in the long dry summers, when water availability is limited. The varied topography and soil types of the Santa Maria Valley have enabled a mix of native plant communities to exist in the region. Each vegetation community exists in areas of preferred soil, slope, exposure, and availability of sub-surface moisture. Major plant associations in the Santa Maria River Valley include: chaparral, coastal scrub, riparian scrub, oak woodland, annual grassland (including grazing lands), sandyhill chaparral and agricultural.¹¹ The plant communities in the region provide suitable habitat for various species of animals, including populations of some wide ranging and mobile species of raptors, waterfowl, and deer.

Sensitive Biological Communities

The California Natural Diversity Database (CNDDDB), a tool developed by the CDFW, has identified one environmentally sensitive community in the city, Southern Vernal Pool, located west of the Santa Maria Public Airport. Vernal pools are a type of temporary wetland that support plants and animals that are

specifically adapted to living with very wet winter and spring conditions followed by very dry summer and fall conditions.¹² Many specially-adapted crustaceans, amphibians, and insects occur only in vernal pools. Plant species associated with Southern Vernal Pools include Howell's foxtail (*Alopecurus howellii*), water pygmyweed (*Crassula aquatica*), needle spikerush (*Eleocharis acicularis*), common spikerush (*Eleocharis palustris*), western marsh cudweed (*Gnaphalium palustre*), meadow barley (*Hordeum brachyantherum*), toad rush (*Juncus bufonius*), flowering quillwort (*Lilaea scilloides*) and rough-nutlet popcornflower (*Plagiobothrys trachycarpus*).

Wetlands and Waters of the United States

Santa Maria contains a number of U.S. FWS-recognized wetlands, which are registered in the National Wetlands Inventory (NWI).¹³ These wetlands include freshwater ponds and freshwater emergent wetlands, concentrated in agricultural and open space areas, as well as freshwater forested/shrub wetland and riverine habitat along the Santa Maria River. These wetlands provide habitat for fish, wildlife, and plants; and have commercial and recreational value in the form of groundwater recharge, flooding prevention, and providing clean drinking water.

Species of Concern

Along with the environmentally sensitive communities discussed above, the city has specific species of plants and animals that are of concern either at the federal or State level. Rincon Consultants conducted a search through CNDDDB in August 2020. Table 1 identifies protected plant and wildlife species that have been sited within the City's Planning Area.

Wildlife Movement Corridors

Wildlife corridors are generally defined as connections between habitat patches that allow for physical or genetic exchange between isolated animal populations. These connections may serve a local purpose, such as foraging, nesting or denning, or they may be regional in nature. There is limited information on the actual use of wildlife corridors in the region. However, there is a potential that the Santa Maria River, Cuyama River and Sisquoc River are used by wildlife to access habitats in the Sierra Madre and San Rafael Mountains. Wildlife corridors form a network that is essential to the regional ecology of an area.

Table 1: Protected Species Found in Santa Maria

Species	Designation
American Badger	CDFW Species of Special Concern
Burrowing Owl	CDFW Species of Special Concern; USFWS Birds of Conservation Concern
California Red Legged Frog	ESA Threatened; CDFW Species of Special Concern
California Tiger Salamander	ESA Threatened; CDFW Species of Special Concern
Coast Horned Lizard	CDFW Species of Special Concern
Monarch	State rank- vulnerable to imperiled.
Northern California Legless Lizard	CDFW Species of Special Concern
Vernal Pool Fairy Shrimp	ESA Threatened; Global rank – vulnerable; State rank- vulnerable
Western Pond Turtle	CDFW Species of Special Concern
Western Spadefoot	CDFW Species of Special Concern
Dune Larkspur	State rank- imperiled
Blochman's Leafy Daisy	Global rank - imperiled; State rank- imperiled
Notes: 1. CDFW: California Department of Fish and Wildlife 2. ESA: Federal Endangered Species Act 3. USFWS: United States Fish and Wildlife Services Source: CDFW, 2020.	

Protected Trees

The City's urban forest contains over 27,800 trees within parks and along streets managed through the Urban Forestry Program.¹⁴ The City has a tree planting easement in commercial and residential areas and requires that one tree be planted for every forty feet of street frontage. City managed trees are protected and tree removals must be approved by the Recreation and Parks Commission. If healthy trees are removed, they must be replaced at a two to one ratio according to the City's Landscape and Irrigation Standards (2007). In addition, Municipal Code Chapter 12-44 governs the removal and replacement of trees on private and development sites. The City's urban forest provides a number of benefits to the community, including reducing the urban heat island effect, and sequestering carbon dioxide.

Greenhouse Gases, Climate Change, and Climate Resilience

This section outlines climate change and its projected impacts on Santa Maria, as well as a summary of California's ongoing climate mitigation and adaptation regulations and programs.

Key Findings

- **Impacts of Climate Change.** Based on the findings in California's Fourth Climate Change Assessment, Santa Maria will be impacted by climate change, including increases in average maximum and minimum temperatures, increases in extreme heat events, changes in precipitation patterns, more severe storms, and more urban flooding.
- **Climate Action Plan.** Santa Maria currently does not have an adopted Climate Action Plan (CAP). The City may wish to consider including a policy in the General Plan Update, possibly in the Conservation/Open Space Element, to develop a CAP because it would facilitate access to State grant funding programs and streamline greenhouse gas (GHG) and climate impact analyses under the California Environmental Quality Act (CEQA) for new development projects. As part of the transition to community choice aggregation with Central Coast Community Energy, the Association of Monterey Bay Area Governments will be completing a localized GHG inventory for the City of Santa Maria in the near future.
- **Adaptation and Resilience Strategies.** As required by Senate Bill (SB) 379, the Santa Maria General Plan Update Safety Element will include a local climate change vulnerability assessment, adaptation and resiliency strategies to address climate change vulnerabilities. This will enable policymakers to build local resilience to climate change impacts and allow the City to participate in ongoing regional climate adaptation efforts.

Context

Purpose of Section

The purpose of this section is to provide current information on climate change and how it will affect Santa Maria. Topics include sources of greenhouse gases, state climate regulations, local and regional climate actions, climate impacts, and climate resiliency.

Regulatory Setting

Senate Bill 379

Beginning January 1, 2017, SB 379 requires all cities and counties to complete a climate vulnerability assessment and develop climate adaptation and resiliency strategies as a part of their next general plan or local hazard mitigation plan update. The bill requires the climate adaptation update to include a set of goals, policies, objectives, and implementation measures for communities based on the vulnerability assessment. Implementation measures may include creating cooling centers, improving drainage systems, increasing local tree canopy, and expanding the use of bioswales and stormwater capture systems.

Senate Bill 32

Effective January 1, 2017, SB 32 requires California to reduce its statewide greenhouse gas (GHG) emissions to 40 percent below 1990 levels by the year 2030. In response to SB 32, the California Air Resources Board (CARB) adopted the 2017 Scoping Plan, which identifies GHG reductions by emissions sector to achieve the 2030 target. In that document, CARB recommends statewide targets of no more than six metric tons of carbon dioxide equivalent (CO₂e) per capita by 2030 and no more than two metric tons of CO₂e per capita by 2050. CARB specifically states that these goals are appropriate for the plan level (city, county, sub-regional, or regional level, as appropriate), but not for specific individual projects because the goals include all emissions sectors in the state except emissions due to agricultural.

Senate Bill 375

Signed in September 2008, SB 375 aligns regional transportation planning efforts, regional GHG emission reduction targets, and land use and housing allocations. SB 375 requires Metropolitan Planning Organizations (MPOs) to adopt a Sustainable Community Strategy (SCS) or Alternative Planning Strategy, showing prescribed land uses in each MPO's Regional Transportation Plan. CARB, in consultation with the MPOs, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in their respective regions for 2020 and 2035. The Santa Barbara County Association of Governments (SBCAG) serves as the MPO for the Santa Barbara County region. SBCAG adopted its latest Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) in 2017, which describes the regional measures to meet State GHG reduction targets. An update, Connected 2050, will be completed in August 2021.

Plans of Significance

California's Fourth Climate Change Assessment Central Coast Region Report

California's Climate Change Assessments form the scientific foundation for understanding climate-related vulnerability and informing resilience action at the local scale.¹⁵ It also informs State policies and programs promoting effective and integrated action to protect the State from climate change. The Central Coast Region Summary Report is part of California's Fourth Climate Change Assessment, published in 2018. The Central Coast report presents an overview of climate science, specific strategies to adapt to climate impacts, and key research gaps needed to spur additional progress to safeguard the Central Coast Region from climate change.

Fast Forward 2040 (Regional Transportation Plan/Sustainable Communities Strategy)

Fast Forward 2040 is the Santa Barbara County Association of Government's (SBCAG) currently adopted RTP/SCS, which is a long-range planning document that defines how the region plans to invest in the transportation system over the next 20 years based on regional goals, multi-modal transportation needs, and estimated available funding. The SCS outlines a forecasted development pattern for the region which when implemented will reduce GHG emissions from passenger vehicles and light trucks. The plan presents a future land use and transportation scenario that accommodates forecast population, employment, and housing sufficient to meet the needs of all economic segments of the population, as well as State housing goals for the region.¹⁶

SBCAG updates its RTP/SCS every four years. It is currently in the process of developing its next update, Connected 2050. The Connected 2050 plan will provide a collective vision for the region's future and

aims to balance transportation and housing needs with social, environmental, and economic goals. Connected 2050 will help guide future planning efforts throughout the county, as well as policy decisions that affect transportation, housing, land use, and efforts to reduce both vehicle miles traveled and GHG emissions.¹⁷

County of Santa Barbara Sea Level Rise & Coastal Hazards Vulnerability Assessment

Part of the County of Santa Barbara Coastal Resiliency Project, the Sea Level Rise and Coastal Hazards Vulnerability Assessment adopted in 2017 includes an evaluation of sea level rise impacts and other coastal hazards along the North County coastline.¹⁸ The North County coastline stretches from Vandenberg Air Force Base north to the Santa Barbara/San Luis Obispo County line but excludes the air force base. The analysis compares sea level rise scenarios for the years 2030, 2060, and 2100 to conditions in the year 2010. Santa Maria is approximately 10 miles inland from the Pacific Ocean. Potential impacts that could affect the Santa Maria area include increased saltwater intrusion to the Santa Maria River Valley Groundwater Basin, population displacement from coastal communities, changes to critical habitats like the Rancho Guadalupe Dunes Preserve for endangered species, risks to coastal hazardous material sites, and transportation disruptions to both United States Highway (U.S.) 101 and State Route (S.R.) 1 in the surrounding area.

Projects of Significance

County of Santa Barbara 2030 Climate Action Plan

The County of Santa Barbara is beginning to develop a County-wide Climate Action Plan that will provide various GHG planning toolkits and GHG reduction measures for each local municipality to use and/or adopt appropriately.¹⁹ The 2030 Climate Action Plan will update the existing Energy and Climate Action Plan ECAP by including: 1) a GHG emission reduction target of 50 percent by 2030 from 1990 levels; 2) both GHG emission reduction and adaptation strategies; and (3) a regional approach for future GHG emission reduction and resilience planning efforts. The County started updating the plan in summer 2020 and is expecting adoption by summer 2022.

County of Santa Barbara Coastal Resiliency Project

The County of Santa Barbara's Coastal Resiliency Project is a multi-year, grant-funded effort to evaluate the impacts of sea level rise and related coastal hazards along the County's entire 110-mile long coastline.²⁰ The goals of the project are to identify potential coastal hazards and plan for adaptation to these climate-related impacts with regards to important infrastructure, ecological resources, and community assets. The overall project involves four steps, including (1) modeling and mapping both coastal hazards and assets, (2) developing a vulnerability assessment, (3) identifying adaptation measures to manage impacts to vulnerable assets and protect future development from sea level rise hazards, and (4) amending the County's Local Coastal Program (LCP) to include new or enhanced existing coastal hazard policies. The County Board of Supervisors adopted the Coastal Resiliency Project Local Coastal Program on December 11th, 2018. The Sea Level Rise and Coastal Hazards Vulnerability Assessment was completed as part of this project.

Santa Barbara County Regional Climate Collaborative

The County is in the process of establishing a Regional Climate Collaborative (RCC) to build local capacity and increase regional collaboration for climate mitigation and adaptation. The RCC is currently comprised of local governments and special districts in Santa Barbara County. The RCC intends to open

membership to non-local government members as well. Local governments participating in the RCC currently meet bi-monthly.

Central Coast Community Energy

In January 2021, Santa Maria customers will begin to receive their electricity from Central Coast Community Energy (previously known as Monterey Bay Community Power), which is a community choice energy agency. Community choice energy agencies allow local governments to procure power on behalf of their residents, businesses, and municipal accounts from an alternative supplier while still receiving transmission and distribution service from their existing utility provider (in this case, Pacific Gas and Electric). This is typically an attractive option for communities that want more local control over their electricity sources, more clean energy than is offered by their default utility, and/or lower electricity prices. As a public agency, Central Coast Community Energy is governed by a Policy Board and Operations Board, which every member jurisdiction (including Santa Maria) has at least one representative on to provide their community's input on important decisions.

Existing Conditions

Greenhouse Gas Emissions and Climate Change Background

Greenhouse Gas Effect and Climate Scenarios

Greenhouse Gas Effect

Certain gases in the earth's atmosphere, classified as GHGs, play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface and a smaller portion of this radiation is reflected toward space. As GHGs accumulate in the earth's atmosphere, they absorb some of the sun's radiation, trapping heat and slowly affecting climate conditions on the planet. This phenomenon, known as the greenhouse effect, is important for maintaining a habitable climate on earth. Prominent GHGs contributing to the greenhouse effect are carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

Climate Scenarios

The Intergovernmental Panel on Climate Change (IPCC) established several GHG emissions scenarios used to describe possible future GHG emissions and associated warming.²¹ Two of these are commonly used to compare possible futures. The Representative Concentration Pathway (RCP) 4.5 represents a "mitigation" scenario in which emissions peak around 2040 and then decline at the end of the century. This scenario assumes global agreement and implementation of GHG reduction strategies. RCP 8.5 represents a "business as usual" scenario in which emissions continue to rise throughout the 21st century.

Greenhouse Gas Emission Sources

Santa Maria currently has not adopted a CAP or conducted an inventory of its local GHG emissions. CARB prepares an annual GHG inventory for all activities occurring within the State. The sectors in the statewide inventory and forecast are similar, although not identical, to those outlined in the International Council for Local Environmental Initiatives (ICLEI) Community Protocol and used in the annual federal GHG emissions inventory prepared by the United States Environmental Protection Agency. Summaries

of State inventory results from CARB for 2005 and 2017, as well as the percent change in emissions for each sector, are shown below in Table 2.

Table 2: California Greenhouse Gas Emissions, 2005 and 2017

Category	2005 Emissions (MMTCO ₂ e)	2017 Emissions (MMTCO ₂ e)	Percentage Change (2005-2017)
Transportation	189.05	169.86	-10.15%
Industrial	95.93	89.40	-6.39%
Electric Power	107.85	62.39	-42.15%
Commercial & Residential	43.07	41.14	-4.48%
Agriculture	33.70	32.42	-3.80%
High Global Warming Potential ²	9.26	19.99	115.87%
Recycling & Waste	7.78	8.89	14.27%
Total	487	424	-12.85%
Notes: 1. MMTCO ₂ e = million metric tons of carbon dioxide equivalent. 2. High Global Warming Potential refers to fluorine-containing gases including hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF ₆). Source: CARB, California Greenhouse Gas Inventory for 2000-2017 – by Category as Defined in the 2008 Scoping Plan, 2019.			

Based on the CARB California Greenhouse Gas Inventory for 2000-2017, California produced 424.1 MMT CO₂e in 2017. The largest source of GHGs in California is associated with transportation, contributing 40 percent of the state's total GHG emissions. This is mostly from fossil-fuel powered cars, as well as buses and other on-road motor vehicles. The industrial sector is the second largest source, contributing 21 percent of the state's GHG emissions, and electric power accounting for approximately 15 percent. With the passage of SB 100 in 2018, the State will get its electricity from 100 percent renewable energy and zero-carbon resources by 2045, which will make emissions from electricity zero. Many of the emission sources identified in the state inventory also exist in Santa Maria, such as agriculture, commercial and residential buildings, recycling and waste facilities, and transportation, although the breakdown of emissions sources likely differs substantially from the state inventory due to local conditions.

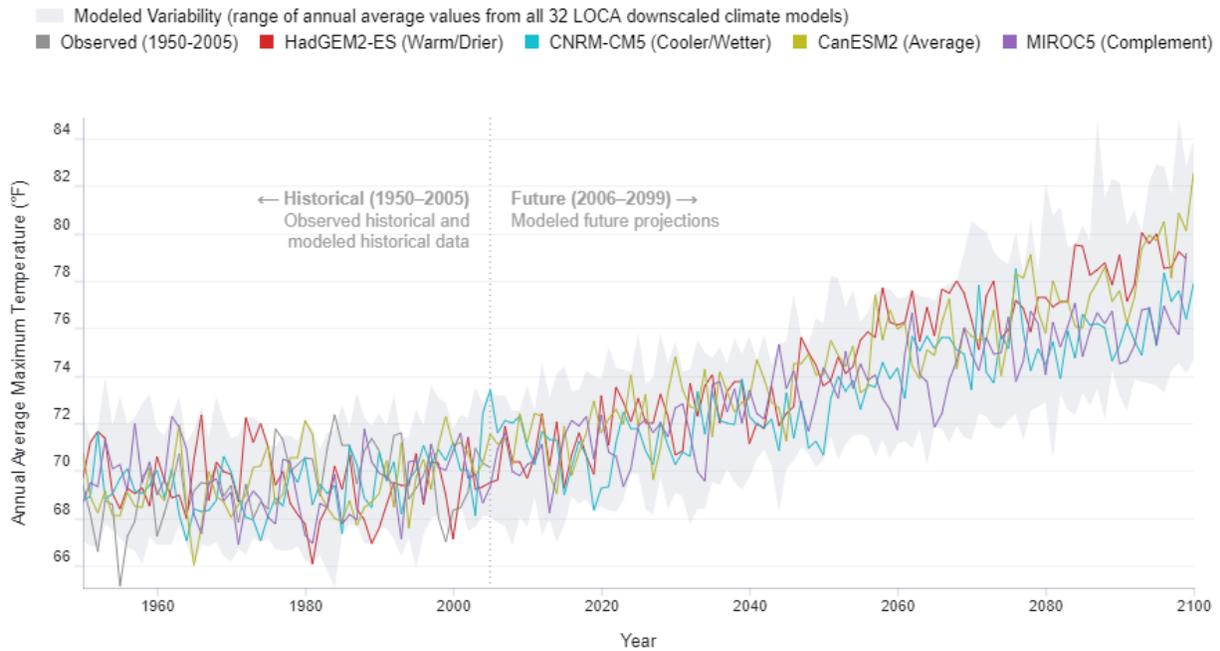
Potential Effects of Climate Change

Climate change is projected to continue affecting California in the form of increasing average temperatures and extreme heat days, rising sea levels, and altered precipitation patterns. These impacts are expected to impact health and prosperity through decreased water availability, increased frequency and intensity of storms and wildfires, decreased air quality, shifts in growing season, and increases in agricultural pests. Climate risks and impacts vary depending on location. Understanding local climate risks and impacts allows communities to prepare for the future and increase their resilience. Projected climate change impacts and climate resilience for Santa Maria are described below based on information presented by Cal-Adapt²² and the Central Coast Summary Report of California's Fourth Climate Change Assessment.²³

Temperature

Average Minimum and Maximum Temperatures

Average maximum temperatures in Santa Maria are expected to rise between 5.1° Fahrenheit (F) and 7.6°F by the end of the century, depending on the emissions scenario (see the Climate Scenarios section for more information regarding the differences between RCP 4.5 and RCP 8.5). Additionally, average minimum temperatures in the city are expected to rise between 4.8°F and 7.5°F by the end of the century. Historical climate data has already demonstrated increasing maximum and minimum temperatures in Santa Barbara County. The projected continued warming of average minimum and maximum temperatures, as well as more frequent temperature extremes, may have substantial effects on the community in Santa Maria, in particular the agricultural industry. Water and energy prices are likely to increase, due to greater demand for air conditioning and from the agriculture sector and will put additional stress on supplies of both. Local public health will also be negatively impacted, due to increases in heat-related illnesses. Endangered species and ecosystem functions in the region may be impaired due to the change in average temperatures. [Figure 1](#) shows average maximum temperatures in Santa Maria based on the RCP 8.5 (business as usual) emissions scenario.

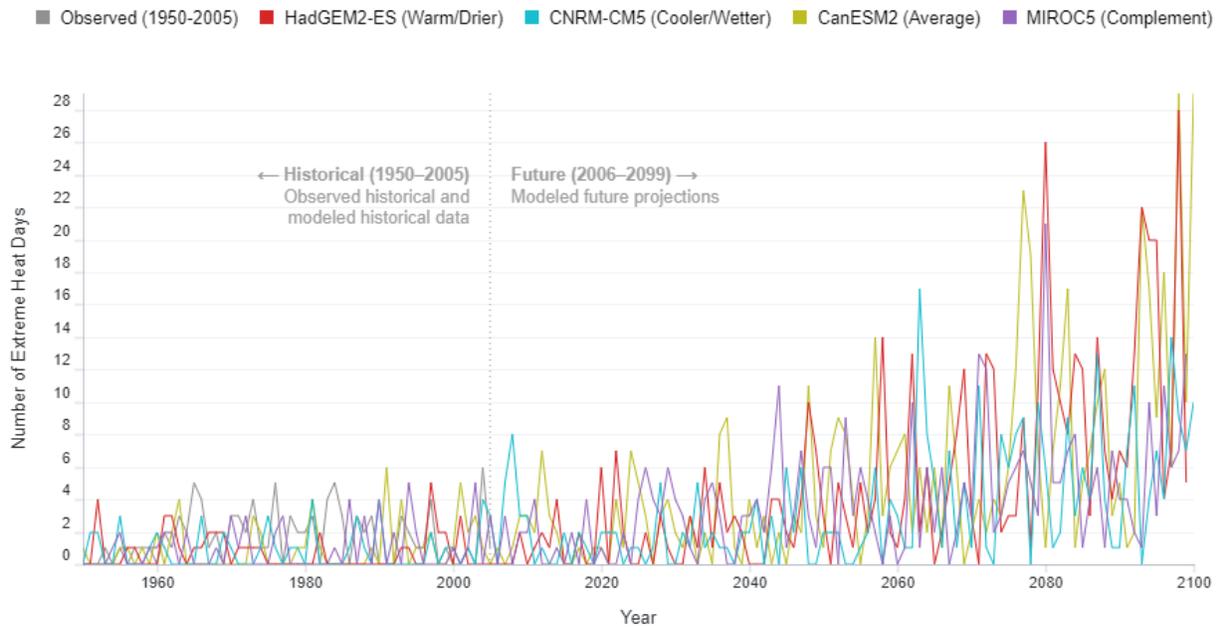
Figure 1: Historical and Projected Maximum Temperatures in Santa Maria

Sources: Cal-Adapt, 2020; **Data:** LOCA Downscaled Climate Projections (Scripps Institution of Oceanography Gridded Historical Observed Meteorological and Hydrological Data (University of Colorado, Boulder).

Extreme Heat Events

Santa Maria is projected to experience more extreme heat conditions. The annual number of extreme heat days, defined as days with temperatures over the extreme heat threshold of 94.1°F, is projected to increase by 3 to 7 days by the end of the century depending on the emissions scenario. From 1961 to 1990, the observed average number of days in the longest heat wave was 1.7. By the end of the century, the business as usual emissions scenario projects the average number of days in the longest heat wave to be 3.2. This will result in increased public health risks, particularly to vulnerable populations like farm workers, through heat-related diseases, air quality degradation, more vector-borne illnesses, and an increase in harmful algal blooms. Figure 2 shows average maximum temperatures in Santa Maria based on the business as usual emissions scenario.

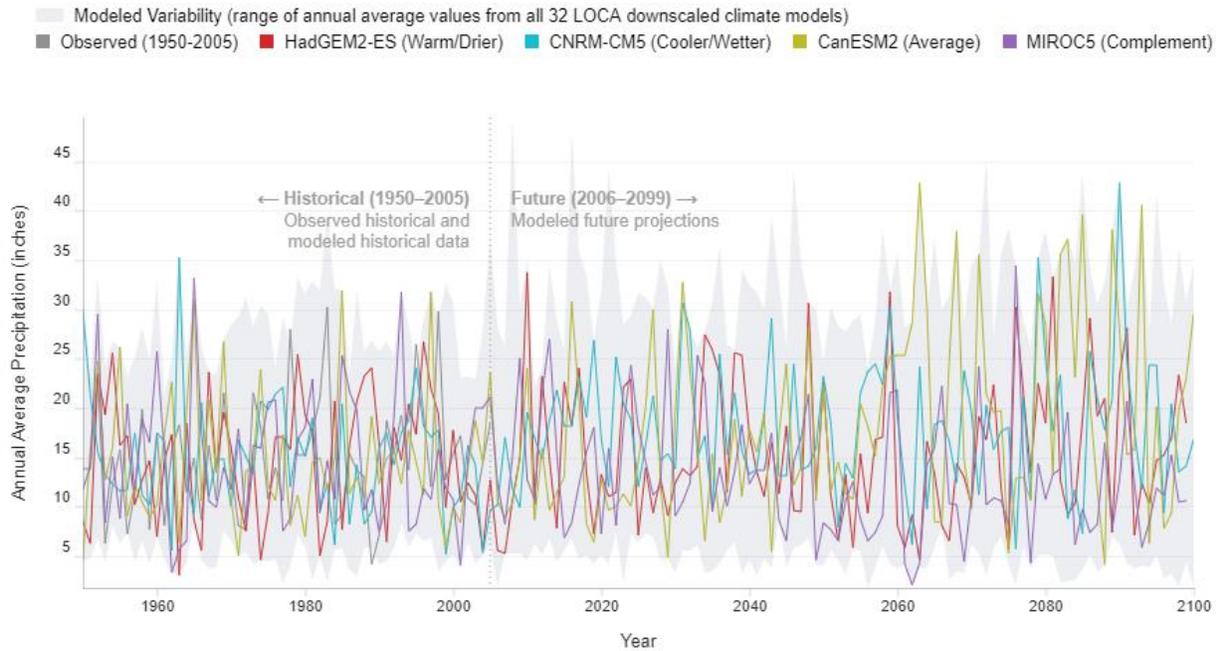
Figure 2: Number of Extreme Heat Days in Santa Maria



Sources: Cal-Adapt, 2020; **Data:** LOCA Downscaled Climate Projections (Scripps Institution of Oceanography Gridded Historical Observed Meteorological and Hydrological Data (University of Colorado, Boulder).

Precipitation

Projections show that Santa Maria will likely experience 1 to 3 inches more of annual average precipitation by the end of the century. Even small changes in precipitation can lead to significant effects on agriculture and water supply. Projections for California predict an intensification of precipitation, as well as an increase in the annual number of dry days and a decrease in the number of wet days. Fewer, but more severe rainfall events are projected, which will result in intense stormwater runoff that may overwhelm percolation ponds at the sewer and treatment facilities, and potentially adversely impact the Santa Maria River, Cuyama River, Sisquoc River, and coastal water quality. Figure 3 shows annual average precipitation in Santa Maria based on the business as usual emissions scenario.

Figure 3: Historical and Projected Annual Average Precipitation in Santa Maria

Sources: Cal-Adapt, 2020; **Data:** LOCA Downscaled Climate Projections (Scripps Institution of Oceanography Gridded Historical Observed Meteorological and Hydrological Data (University of Colorado, Boulder).

Drought

Climate change will increase the probability that low precipitation years will coincide with above-average temperature years. This increases the likelihood of drought due to decreased supply of moisture and increased atmospheric demand for moisture as evaporation from bare soils and evapotranspiration from plants increase. Global climate models project a 25 to 100 percent increase in extreme dry-to-wet precipitation events throughout the state by the end of the current century. However, the specifics of projected drought conditions, such as their magnitude and duration, are not currently available for California or Santa Maria.

In addition to evidence of increased drought severity, there is also evidence for occasional wet years. Because precipitation is projected to be variable, some years will be less drought prone than others due to more frequent and possibly stronger storms. Even if there is greater precipitation, the projected increase in evaporative demand from higher temperatures implies that more water could be lost to the atmosphere and increase the possibility of drought. Water shortages and price hikes resulting from droughts affect access to safe, affordable water, with substantial impacts on low-income families and communities burdened with environmental pollution. This will have a substantial impact on the local agriculture industry, which is a major economic driver for the city.

Heavy Precipitation Events

Both increased temperatures and altered precipitation patterns can lead to altered seasons and intense rainstorms in Santa Barbara. California's Fourth Climate Change Assessment projects more extreme precipitation events throughout Santa Barbara County and the entire Central Coast. Intense rainstorms

could result in increased flooding, which could impact infrastructure and human health and safety in Santa Barbara. Currently, there is insufficient infrastructure to harness that surplus of local water.²⁴

Urban Flooding

Climate change may cause low-lying areas throughout Santa Maria to experience more frequent flooding and an increase in the extent of 100-year floods. Areas in Santa Maria designated as flood hazard zones by the Federal Emergency Management Agency include 100-year flood zones concentrated near the city's northern border along the Santa Maria River, and 500-year flood zones concentrated near S.R.166 and Orcutt Creek. Flooding can occur by rivers and creeks following persistent precipitation, when soils become saturated and runoff is increased; but flash floods resulting from short duration, high intensity rainfall does not require saturated soils. Both increased temperatures and more frequent short-duration, high intensity rainfall could increase the potential for flash flooding and debris flows, particularly after wildfires. These events have the potential to pose a major threat to life and property in Santa Maria.

Vulnerability Assessment

As required by Senate Bill (SB) 379, the Santa Maria General Plan Update Safety Element will include a local climate change vulnerability assessment and adaptation and resiliency strategies to address climate change vulnerabilities. This will enable policymakers to build local resilience to climate change impacts and allow the City to participate in ongoing regional climate adaptation efforts. The Santa Barbara County region is generally expected to experience higher temperatures, changing precipitation, and coastal sea level rise as a result of climate change. The combination of higher temperatures and changing precipitation could have significant impacts to the local economy, particularly the agriculture and tourism industries, as well as recreation throughout the city and region. Regional wildfire risk will also increase, leading to worsening air quality and danger to life and property for the entire community.

While sea level rise will not impact Santa Maria directly, its effects on coastal zones is likely to have regional implications that the City will have to grapple with, including damage to coastal communities, negative economic impacts, and threats to natural resources. Expected coastal impacts include increased erosion from sea level rise and storms, more severe and frequent flooding, increased frequency of tidal inundation, and increased impacts from waves. This could result in damage to coastal communities and housing, with vulnerable populations most at risk and leading to population displacement. Major infrastructure along the coast may be damaged and cause significant disruptions, including regional transportation routes such as U.S. 101 and S.R. 1. Nearby coastal recreation and tourism attractions could also be damaged, including the Rancho Guadalupe Dunes Preserve. Natural resources are also at risk, including saltwater intrusion into the Santa Maria River Valley Groundwater Basin, limiting its use for drinking water, and changes in critical habitats for endangered species.²⁵

Cultural Resources

This chapter identifies existing cultural resources, including cultural and historic resources, within Santa Maria.

Key Findings

- **Assembly Bill (AB) 52 and Senate Bill (SB) 18.** Since the last General Plan was adopted, there has been a greater emphasis in Santa Maria and throughout California on historic preservation and outreach to Native Americans before the development of new projects. The General Plan Update provides an opportunity for the City to complete proactive outreach with Native American tribal stakeholders to identify potential tribal cultural resources within the city, which would be consistent with the goals of SB 18 and AB 52.
- **Preservation.** The City will need to continue balancing the desire for new development with the desire to maintain historic character, as well as cultural and tribal resources, by identifying approaches, such as adaptive re-use of historic buildings or preservation protocols in the event unexpected cultural resources are identified, to allowing development of key sites while preserving historic, archaeological, and tribal cultural integrity.

Introduction

Purpose of Section

The purpose of this section is to provide current information on historic and cultural resources in Santa Maria.

Context

Regulatory Setting

National Historic Preservation Act of 1966

The National Historic Preservation Act (NHPA) was the first national policy governing preservation, establishing permanent institutions and a clearly defined process for historic preservation in the United States. It created the Advisory Council on Historic Preservation and National Register of Historic Places, an official list not only of individual buildings and structures, but also of districts, objects, and archeological sites that are important due to their connection with the past. Individual states were also required to take more responsibility for historic sites in their jurisdiction. The California Office of Historic Preservation administers both federal and state historic preservation programs, with the goal of furthering the identification, evaluation, registration, and protection of California's historic resources.

Senate Bill 18

Senate Bill (SB) 18, passed in 2004, establishes responsibilities for local governments to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or any amendment of a general plan or specific plan.²⁶ It also states that tribes must be consulted before the designation of open space if the affected land contains a cultural place. A local government must notify the appropriate tribes of the opportunity to conduct consultations for the purpose of preserving, or mitigating impacts to, cultural places located on land within the local government's jurisdiction that is affected by the proposed plan

adoption or amendment. The provisions of SB 18 apply only to city and county governments and not to other public agencies.

Assembly Bill 52

Assembly Bill (AB) 52, passed in 2014, requires a lead agency to begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project prior to determining whether a negative declaration, mitigated negative declaration, or environmental impact report is required for a project. The bill required an update to Appendix G (Initial Study Checklist) of the California Environmental Quality Act Guidelines to include questions related to impacts to tribal cultural resources. These changes to Appendix G were approved by the Office of Administrative Law on September 27, 2016.

Mills Act

The Mills Act is a self-directed, economic incentive program designed to provide private property owners the opportunity to actively participate in the restoration of their properties while receiving property tax relief. If a homeowner's property is listed on the City landmark register, they may qualify for property tax relief by pledging to rehabilitate and maintain the historical and architectural character of a property for at least a 10-year period. Mills Act participants may realize a property tax savings of up to approximately 50 percent each year for newly improved or purchased older properties.

Plans of Significance

City of Santa Maria General Plan Resources Management Element

The City of Santa Maria General Plan 1996 Resources Management Element, written in 1996 and last amended in 2001, outlines various goals, policies, objectives, and programs related to the protection of cultural, historical, and archaeological resources. The Resources Management Element identifies general archaeological sensitive areas in the city.

Santa Maria Municipal Code

Santa Maria Municipal Code Chapter 9-12 Historical Building Code adopts the provisions of the (2019) California Historical Building Code. The California Historical Building Code recognizes that there are unique construction issues inherent in maintaining and reusing historic resources. Therefore, the California Historical Building Code provides alternative building regulations in order to preserve California's architectural heritage.

Chapter 12-25A of the Santa Maria Municipal Code established a Historic Overlay District. The Historic Overlay District encourages preservation of architecturally significant structures by permitting relaxed development standards, such as parking requirements and setbacks, intended to preserve architectural features.²⁷ The Historic Overlay District accommodates land uses that are compatible with the structure and the adjacent neighborhood, such as professional and administrative offices, home occupations, and limited light commercial activities.

Projects of Significance

Santa Maria Valley Historical Society

The Santa Maria Valley Historical Society, established in 1955, collects, preserves, and presents the history of the Santa Maria Valley. Since its establishment, the Santa Maria Valley Historical Society opened a museum at 616 South Broadway in Santa Maria and published a book, *This is Our Valley*. The Santa Maria Valley Historical Society Museum was opened to the public on January 20, 1974 in honor of

the pioneers of the Santa Maria Valley. The museum preserves the history and nostalgia of Santa Maria and its environs with pictures, artifacts and valley memorabilia.²⁸

Enos Ranch House and Gardens Project

The Enos Ranch House and Gardens project is located on the north side of Betteravia Road, west of U.S. Highway 101.²⁹ The house was recently relocated to its current location to allow for the development under the Enos Ranchos Specific Plan, which includes a retail commercial center, school, and residential area. While not a designated State historic resource, the City of Santa Maria Recreation and Parks Department started renovating the Enos Ranch House in 2017.³⁰ The proposed park includes plans to preserve the Enos family home, to plant an orchard, and to build a barn for community events in order to preserve the historic relevance of the property. The Enos Ranch House and Gardens project represents renovation and reuse of a historical structure in order to meet community needs.

Cultural Setting

The cultural history of Santa Maria and the surrounding Santa Maria River Valley can be divided into three major eras: Native-American, Spanish-Mexican and Anglo-American. Remnants from these unique eras exist in the region as a diverse range of tribal, archaeological and architectural resources. The Santa Maria River Valley served as part of the larger Chumash territory that extended from the coast and Channel Islands and inland to include Santa Barbara, most of Ventura, parts of San Luis Obispo, Kern and Los Angeles Counties. The late 18th and early 19th centuries saw the influx of Spanish-Mexican culture, with the establishment of large Spanish Land Grants in the area along the coast, while the modern Anglo-American era began in the late 19th century with the break-up and sale of the Spanish Land Grants.

Native American Era

The Chumash were the primary Native American inhabitants of Santa Maria before the arrival of Europeans. The earliest inhabitants of Southern California were transient hunters visiting the region approximately 12,000 B.C.E. (Before the Common Era), who were the cultural ancestors of the Chumash. At the peak, the Chumash population was estimated to be in the tens of thousands, with territory of around 7,000 square miles that spanned from Malibu to Paso Robles, stretching inland to the western edge of the San Joaquin Valley. They lived in dome-shaped homes that up to 50 people could live in at one time.

The Chumash people were known as skilled boat builders, allowing them to travel up and down the Pacific Coast and inhabit the Channel Islands. Their villages became increasingly permanent over time, with chiefs and shaman priests generally at the highest positions of authority. Women could serve equally with men as chiefs and priests. One chief would often hold responsibility for multiple villages. The Chumash Native American population was decimated due to European disease in the 1700s and 1800s, spread primarily by Spaniards as the mission system was founded and as the region was increasingly colonized by Mexicans and Americans.

Spanish-Mexican Era

Spanish settlement of the Santa Maria Valley began with the establishment of Mission San Luis Obispo in 1772 and Mission La Purisima in Lompoc 1787. In 1821, Spain granted Mexico independence and soon after the Missions were secularized.²⁸ Administrators were appointed to transfer such lands to private property owners and to proceed with secular development of the area. This is now known as the Rancho Era, which ended with the transfer of California from Mexico to the United States following the Mexican-American War.

Anglo-American Era

Americans from the United States began arriving in California in the 1840s. After gold was discovered elsewhere in California, settlers were drawn to the Santa Maria Valley by the possibility of free land, when mission lands were made available for private ownership. With the arrival of farmers and other settlers after California gained statehood, the Santa Maria River Valley became one of the most productive agricultural areas in the state. Four prominent settlers, Rudolph Cook, John Thornburg, Isaac Fesler, and Isaac Miller, each contributed 40 acres of land where their properties met at the present day intersection of Broadway and Main Street to form what was then called “Central City” in 1875. Ten years later, the city’s name was changed to “Santa Maria.”³¹

Oil exploration began in the valley in 1888, with large discoveries in the early 20th century. Oil discoveries rapidly attracted a growing population to the valley, bringing about the need for local governance. In 1905, Santa Maria was incorporated as a general law city. Until 1954, the city remained four square miles in size. Since that time, annexations have increased the size to approximately 22 square miles.³²

Since 1957, the city’s economic and population growth has been influenced by growth of Vandenberg Air Force Base, 20 miles south of the city. In the 1970s, the Santa Maria Town Center mall was constructed. Since that time the City Council has worked to maintain Santa Maria’s status as a regional retail hub, continuously working to add retail outlets. Santa Maria remains the leader in retail sales growth for Santa Barbara County. Agriculture, however, remains the city’s chief economic influence. The Santa Maria Valley is home to several vineyards and wineries and primary crops include strawberries, celery, lettuce, peas, and squash. The valley is also home to several cattle ranches.³³

Existing Cultural Resources

Historic District and Landmarks

The history of Santa Maria is preserved in its Historic Overlay District, landmarks, and objects of historical merit. The following is a description of the City’s Historic Overlay District and existing landmarks and objects of historical merits, with locations shown in [Figure 4](#). In particular, there are 12 historic structures officially designated by the City of Santa Maria in the *Downtown Specific Plan*.³³ Additional historic landmarks and objects of historical merit are identified by the Landmark Committee.³⁴³⁵

Historic Overlay District

The City of Santa Maria Zoning Map established a Historic Overlay within Santa Maria. As of January 2019, four parcels on Broadway,³⁶ between Liberty Street and El Camino Colegio, are zoned Historic. Buildings in the area generally consist of California mission architecture. The Historic Overlay District is shown in [Figure 4](#).

The First United Methodist Church

Built in 1922, the architecture of this Church at 311 South Broadway is representative of the Spanish Renaissance period and remains the home of the church of the bell salvaged from the ship Anna Lyle on December 25, 1876, at Point Sal by the Charles Clark family.

Saint Peter's Episcopal Church

Completed in 1932, this Church is located at 402 Lincoln Street. The committed efforts of the Women's Guild raised money to build this English Country style building over a twenty-year time period. Originally, the church had only four stained glass windows, but throughout the years, parishioners donated the remaining windows, deciding on their theme as each donation was made.

The Martin Luther Tunnell Home

Built in 1868, this home at 428 South Lincoln Street is believed to be one of the oldest homes still standing in Santa Maria. Originally, this two-story house stood on the 160-acre Tunnell Homestead that has now become the campus for Allan Hancock Community College. The home was moved to its present location in 1905 after George Tunnell sold it to the Crakes family.

The Santa Maria Inn

Opened in May of 1917 at 801 South Broadway, the Inn originally offered 24 rooms, 24 baths, a dining room, and a kitchen. Today, the Inn has 166 rooms and includes the Tap Room and an old English pub. The Inn still evokes the old country inn feel that Frank J. McCoy envisioned for his business almost a century ago.

The Minerva Club

Designed by Julia Morgan (the architect responsible for the design of Hearst Castle) in 1927, this craftsman style building has served as a clubhouse for the women of Santa Maria throughout the decades. The building, located at 127 W. Boone Street, includes many of the typical design elements of Julia Morgan's work: natural dark wood; large decorative hardwood trusses of the ceiling; long, narrow windows; and colored handcrafted tiles.

The Reuben Hart Home

Built in 1877 at 412 South McClelland Street, this vernacular-Greek revival style Hart Home has been moved twice from its original location at the corner of Broadway and Church Street. Hart is often considered the father of Santa Maria, and today his home houses the Natural History Museum.

Santa Maria High School

Located at 901 South Broadway, this school opened in 1925. Considered one of California's oldest school buildings, the building has many Spanish architectural elements. Much of the façade of the building and the 100-foot tall bell tower have been removed due to the Fields Earthquake Act.

The Landmark Building

Originally built in 1907 for Henrietta Louise Newlove Martin, her husband Robert Franklin Martin, and their 8 children, this two-story, thirteen-room home was purchased by the Santa Maria Club in the 1920s. It has been said that the original Santa Maria Style Barbecue can trace its original to the annual Stag Barbecue, put on by the Santa Maria Club at this Landmark Building, located at 800 S. Broadway Street. The building traded hands and was completely renovated in 1981. Since then it has served primarily as a restaurant.

City Hall

After strong earthquakes on the Central Coast in the late 1920s and early 1930s, the City commissioned this new City Hall to comply with stricter requirements for public buildings. Designed in 1934, Santa Maria's City Hall blends Moorish influences into the California mission style. Located at 110 East Cook Street, the building, with its distinctive blue and yellow tiled tower, arched entrances, clay-colored roof, and wood-beamed ceiling, was featured in the April 1940 issue of Life Magazine.

The Coca Cola Bottling Company

Built in 1938, this Company is located at 120 East Jones Street. Built in the art-deco/art modern style, the building has glass block façade, which was very modern and advanced for its time. Serving as a bottling facility for the Coca Cola Company until 1976; the building today is a center for non-profit organizations serving Santa Barbara and San Luis Obispo counties. The site includes the Santa Maria Valley Discovery Museum, constructed in 2005.

Heritage Walk

Heritage Walk is a pedestrian corridor that connects Town Center West to Town Center East. Construction for this walkway began in early 1990, with a grand opening ceremony in November of 1990. The Walk is just south of Main Street, stretching from Broadway to Pine Street. The corridor is 30 feet wide and is furnished with special benches, a special street sign, and bordered by large paved terracotta tiles which have been privately purchased and custom imprinted. As part of the opening ceremony of Heritage Walk, a time capsule was buried and is to be uncovered in the year 2040.

The Haslam Building

This building on the corner of Main Street and Lincoln Avenue was originally built for the I.O.O.F, the Odd Fellows of Santa Maria, in 1906 in the distinctive style typical of Odd Fellows Lodge buildings of that time. William Haslam was the first tenant and he occupied the ground floor. In 1977, the W. Haslam Co. purchased the building from the Odd Fellows. Currently, it is still owned by the family, although there is no longer a Haslam's Store and the ground floor at 126 W. Main Street is used for commercial retail.

Buena Vista Park

Land for the city's first park, located at Morrison and Pine Streets, was deeded to the community by Esra and Amanda M. Morrison in 1897, five years before Santa Maria was incorporated. Members of the Ladies Literary Society, now the Minerva Club, carried buckets of water from their wells to keep the trees and plants growing until the land was turned over to the one-year old city on February 8, 1906.

Flagpole at the George S. Hobbs' Civic Center

The flagpole was dedicated in August 1918 in honor of Santa Maria Valley men and women who were serving in World War I. Initially it was in the intersection of Main Street and Broadway, but was relocated in 1942 because it interfered with World War II military traffic.

Site of Santa Maria's First Waterworks

Reuben Hart built the Waterworks, located in the 600 block of South Broadway, in 1879 to provide the community of 3,500 residents with water for drinking and irrigation. With a capacity of 800,000 gallons a day, the facility also included a device that could quickly create 125 pounds of pressure for fighting fires. Mr. Hart sold his system in 1912 to Lewis Sloss, who, in turn, sold it to the City in 1916.

Site of the Pacific Coast Railroad Depot

The narrow-gauge tracks extended from San Luis Obispo through Santa Maria and Orcutt to Los Olivos. Pacific Coast trains also carried crops and other freight. The track-laying crew reached Santa Maria in April 1882. Train service ended in 1951. The depot is located at West Main and Depot Streets.

Four Corners Intersection at Main Street and Broadway

Central City, as the community was initially called, was created in 1874 when four farmers – Rudolph Cook, Isaac Fesler, Isaac Miller and John Thornburg – each gave 40 acres of their adjoining lands. The intersection became the heart of the community and the street names have continued through the decades.

Veterans' Memorial Community Center

Financed with a combination of Federal and County funds, construction began in 1933 by the Dick Doane Construction co., a local builder, directed by R. A. Polley, a local architect. The American Legion building, located at South Pine and East Tunnell Streets, was dedicated May 30, 1936, and continues to be the site for a wide variety of community activities.

First Masonic Temple Site

The Masons came to the Santa Maria Valley in 1874 and the Hesperian Lodge began meeting in Central City, the original name of Santa Maria, in 1881. The cornerstone of the first temple in Santa Barbara County was placed September 23, 1905.

John Long House

John and Annie Long built their Victorian style 3,000-square-foot home in 1885. He operated a blacksmith shop until 1920. Family members lived in the four-bedroom, two-bath house until 1960. Purchased by the City in 1970, it houses administrative offices of the Recreation and Parks Department. In 2004, it was moved a few doors south to allow for construction of a new public library. The John Long House was originally located at 419 S. McClelland and then moved to 615 S. McClelland.

Orange Street Kindergarten

The Mission Revival building, located at 401 East Orange, was constructed in the 1920s for use as a kindergarten in conjunction with the Miller Street School. Morning and afternoon classes were held until after World War II. The building is now used for law offices and the only reminder of the kindergarten days in the bathroom sinks.

Cypress Street Kindergarten

The Mission Revival building, located at 324 West Cypress Street, mirrored the Orange Street Kindergarten in architecture and, like it, was constructed in the late 1920s. It came under the jurisdiction of the Cook Street School. Morning and afternoon classes used the building until the late 1940s.

St. Mary's Catholic Church

The first Catholic Church in Santa Maria was built in 1906 and located at Miller and Cypress Streets. Initially served about 75 families, who no longer needed to travel to Guadalupe or Sisquoc. In 1964, the St. Mary of the Assumption Church recreation hall was built on the site of the first church.

Bell at El Camino School

The school bell originally was at the "Rice District" in nearby Garey. It was brought to the Main Street School. When the school was torn down, the bell was moved to El Camino School with the intention of

placing it in the school tower. It turned out the tower was too small to house it, and then the crane housing the bell dropped it. Although cracked from the fall, the bell has a place of honor in front of the school and was used to signal lunchtime.

Site of Leo's Drive-In

A popular teenage hang-out in the 1950s and 1960s, Other businesses have succeeded Leo's but for many years the site remained popular for teenagers visiting Broadway on weekend nights.

Bas Relief of Columbus' Ship, Santa Maria

Gladding, McBean of Lincoln, CA made the bas relief in 1918 for the former Bank of Santa Maria building on Main Street and Broadway. The panel, molded by hand from 1,500 pounds of clay, consists of two pieces. The estimated cost was \$300. It was shipped in straw by rail and installed by masonry craftsmen over the front door. When the bank was torn down in 1968, Harrell Fletcher rescued the panel for the Los Padres Bank, where he was board chairman. The bank was sold to Wells Fargo.

Santa Maria Civic Theater

In 1964, the theater company bought the 1935 building, which had been a switching and relay station for the Pacific Telephone Co. The theater group initiated an improvement district as a way to install street lights and pave the dirt road.

Zanetti Home

In 1918, the California bungalow residence was built for the parents of Mrs. Edwinna Twitchell, wife of T.A. "Cap" Twitchell, an attorney and Santa Barbara County supervisor. That area of the city, near Santa Maria High School, has become commercial and the house is now used as a business.

Site of Rusconi's Café

During a routine practice on January 30, 1945, a P-38 that had taken off from the Santa Maria Army Air Base went into a flat spin shortly after noon and crashed into buildings on the east side of Broadway and Main Street. The plane tore off the roof of the Economy Drug Store and smashed into the wall of Rusconi's Café. A fireball from the exploding gas took out the front window the café. The accident killed the pilot and two people in the café and injured the pharmacist. A branch of Bank of America is now located at the site.

Waller House

The 3,000-square-foot home, built in 1924 by Lionel D. Waller, is a 20th century adaptation of New England colonial architecture. Of frame and brick construction, the house was designed by Soule, Murphy and Hastings of Santa Barbara and built by the Doane Building Co. of Santa Maria. Waller, a flower seed grower and horticulturist, emigrated from England in 1908 and established the Waller Seed Co. in Guadalupe.

Franklin House

Dr. John Henry Franklin and his wife, Claire, built the house in 1925 of redwood, lath and plaster, topped with a Spanish style roof. Franklin, a physician had moved from the East Coast and became a seed breeder and partner in 1912 with Lionel D. Waller in the Waller-Franklin Seed Co. Successive owners of the home preserved most of the interior features, including a maids-quarters' bell installed in the floor.

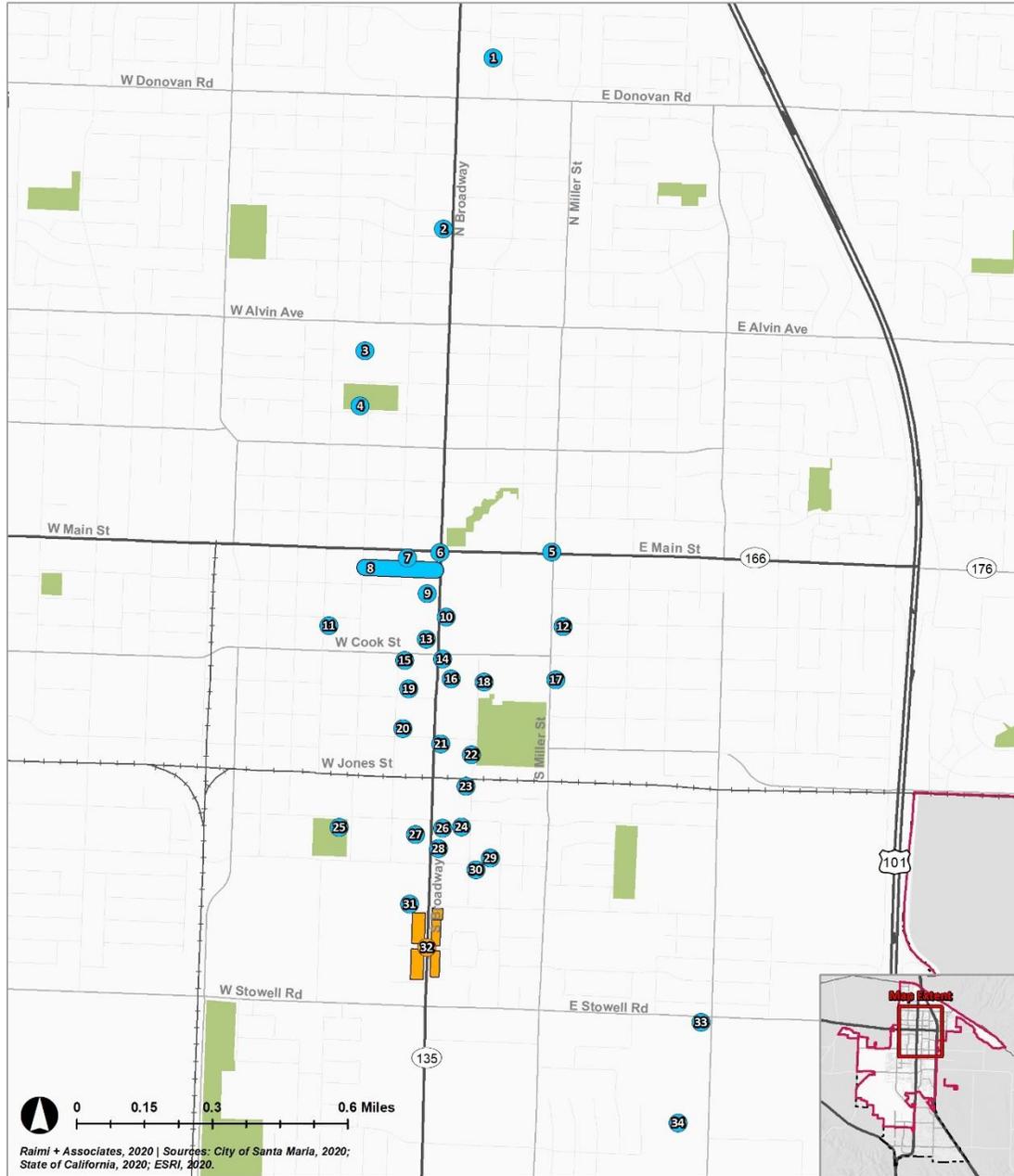
Independent Order of Oddfellows and Haslam Building

Lodge 302 of the IOOF, formed in 1883, constructed its headquarters in 1906 in a style typical of the turn-of-the-century, European classic architecture with a definite American flair. Building material was fired red clay, inexpensive and manufactured locally. Features include 18-inch thick walls, hardwood floors and a grand interior staircase that leads to a central court area. The building was sold in 1977 to the W.A. Haslam Co, which had been a tenant since 1906. The company began by selling goods and materials to farmers and ranchers, carrying accounts for a year at a time.

Rubel House

Built in 1929, the 4,500-square-foot Spanish Colonial Revival home has some Moorish influences. Features of the white stucco, two-story house include hand-forged wrought iron inside and out, hand-hewn Douglas fir beams, a tile staircase, arched doorways and a second-story balcony. It was built by Edward E. (Bink) Rubel, who owned one of the city's first car-dealerships.

Figure 4: Historic Resources in Santa Maria



Raimi + Associates, 2020 | Sources: City of Santa Maria, 2020; State of California, 2020; ESRI, 2020.

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| <p>Santa Maria City Limits</p> <p>Sphere of Influence</p> <p>County Boundaries</p> <p>Parks</p> <p>Railroads</p> <p>Historic Overlay District</p> <p># Historic Landmarks</p> | <p>Historic Landmarks and Objects of Historical Merit</p> <table border="0"> <tr> <td>1. Santa Maria Civic Theatre</td> <td>12. Saint Marys Roman Catholic Church</td> <td>23. Cola Bottling Company</td> </tr> <tr> <td>2. Leo's Drive-In</td> <td>13. First United Methodist Church</td> <td>24. Rubel House</td> </tr> <tr> <td>3. Bell at El Camino School</td> <td>14. Flagpole</td> <td>25. Buena Vista Park</td> </tr> <tr> <td>4. Veterans' Memorial Community Center</td> <td>15. Saint Peter's Episcopal Church</td> <td>26. Landmark Building</td> </tr> <tr> <td>5. Bas Relief of Columbus' Ship</td> <td>16. City Hall</td> <td>27. Santa Maria Inn</td> </tr> <tr> <td>6. Four Corners Intersection</td> <td>17. Orange Street Kindergarten</td> <td>28. Zanetti Home</td> </tr> <tr> <td>7. Haslam building</td> <td>18. Reuben Hart Home</td> <td>29. Franklin House</td> </tr> <tr> <td>8. Heritage Walk</td> <td>19. Martin Luther Tunnell Home</td> <td>30. Waller House</td> </tr> <tr> <td>9. First Masonic Temple Site</td> <td>20. Minerva Club</td> <td>31. Santa Maria High School</td> </tr> <tr> <td>10. Site of Ruscon's Cafe</td> <td>21. Site of Santa Maria's first Waterworks</td> <td>32. Historic Overlay District</td> </tr> <tr> <td>11. Cypress Street Kindergarten</td> <td>22. John Long House</td> <td>33. Santa Maria Cemetery District</td> </tr> <tr> <td></td> <td></td> <td>34. Santa Maria Cemetery</td> </tr> </table> | 1. Santa Maria Civic Theatre | 12. Saint Marys Roman Catholic Church | 23. Cola Bottling Company | 2. Leo's Drive-In | 13. First United Methodist Church | 24. Rubel House | 3. Bell at El Camino School | 14. Flagpole | 25. Buena Vista Park | 4. Veterans' Memorial Community Center | 15. Saint Peter's Episcopal Church | 26. Landmark Building | 5. Bas Relief of Columbus' Ship | 16. City Hall | 27. Santa Maria Inn | 6. Four Corners Intersection | 17. Orange Street Kindergarten | 28. Zanetti Home | 7. Haslam building | 18. Reuben Hart Home | 29. Franklin House | 8. Heritage Walk | 19. Martin Luther Tunnell Home | 30. Waller House | 9. First Masonic Temple Site | 20. Minerva Club | 31. Santa Maria High School | 10. Site of Ruscon's Cafe | 21. Site of Santa Maria's first Waterworks | 32. Historic Overlay District | 11. Cypress Street Kindergarten | 22. John Long House | 33. Santa Maria Cemetery District | | | 34. Santa Maria Cemetery |
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Other Cultural Resources

Santa Maria Museum of Flight

The Santa Maria Museum of Flight is located at 3015 Airpark Drive in the Santa Maria Public Airport. Founded in 1984, the mission of the museum is to preserve the history of aviation and to inspire a new generation of aviators.

Archaeological, Paleontological, and Tribal Cultural Resources

Archaeological resources refer to the material remains (artifacts, structures, refuse) produced purposely or accidentally by human beings. Archaeological remains identify the type of activities, types of adaptation to the environment, and changes in activities and organization that were experienced by people in the past. Furthermore, these remains often have special significance to ethnic groups, special interest groups and the general public.

Santa Maria has a long history of human inhabitation. Existing state laws, including Senate Bill 18 and Assembly Bill 52, require that historic resources are considered for preservation and impacts to such resources are mitigated to the extent feasible, and also require more outreach to Native American groups. In order to protect sensitive archaeological, paleontological and tribal cultural resources that have been identified, descriptions and locations are not public knowledge.

Cemeteries

Santa Maria Cemetery District

The I.O.O.F. and F. & A.M. Cemetery was established on July 9, 1883 by the I.O.O.F.³⁷ Lodge in conjunction with the F. & A.M. Lodge. At the time, the property (located at 1501 South College Drive) was deemed outside of the Downtown, minimizing potential interference with planned growth and development. The community was encroaching on a cemetery that was started in 1872 called Thornburg-Jones Cemetery. In 1884, the Thornburg-Jones Cemetery was moved to the new I.O.O.F. and F. & A.M. Cemetery location. Removal of all remains was completed by 1886. Ultimately, the Santa Maria Cemetery District was created on August 6, 1917. Thus, the Santa Maria Cemetery was organized as a special district in and for the County of Santa Barbara. The Santa Maria Cemetery District identified potential for creating a Master Plan in order to identify future operations and growth of the cemetery; however, a Master Plan has not been developed.

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Geology and Hazards

This section discusses existing hazards in Santa Maria, including seismic and geologic hazards, wildfires, flooding, airport hazards, and hazardous materials.

Key Findings

- **Flood Risk.** Santa Maria is exposed to low risk of flood hazards related to Twitchell Dam, the Santa Maria River, and agricultural runoff; however, flat topography can result in localized incidents of flooding during rain events. Current stormwater runoff standards reduce the likelihood that new development would substantially increase localized flooding.
- **Seismic-Related Hazards.** Generally, lands in Santa Maria have low potential for liquefaction due to the relatively deep groundwater levels. However, the City of Santa Maria Hazard Mitigation Plan identifies a high risk for seismic hazards in the city, including potential liquefaction areas near the Santa Maria Public Airport, due to perched groundwater in the area.
- **Storage Facilities.** Large agricultural freezer and cold storage facilities are an additional hazard in the City because of their use of ammonia. Several large agricultural freezer and cold storage facilities are located on the west side of the city. Commercial fertilizer storage facilities within and surrounding the City also pose a threat due to chemical fertilizers, herbicides, and pesticides. The City may wish to consider a policy or implementation action in the General Plan Update to coordinate with the Santa Barbara County Environmental Health Department, the Certified Unified Program Agency (CUPA) for the jurisdiction, to inventory these facilities and assess their safety protocols.

Introduction

Purpose of Section

The purpose of this section is to identify existing conditions related to airport hazards, hazardous materials, and natural hazards within Santa Maria to inform land use and safety policies.

Context

Regulatory Setting

Federal Toxic Substances Control Act and Resource Conservation and Recovery Act

The Federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA) established a program administered by the U.S. Environmental Protection Agency (EPA) for the regulation of the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act, which affirmed and extended the “cradle to grave” system of regulating hazardous wastes.

Comprehensive Environmental Response, Compensation and Liability Act

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) was enacted in 1980 and amended by the Superfund Amendments and Reauthorization Act in 1986. This law provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. Among other things, CERCLA established

requirements concerning closed and abandoned hazardous waste sites, provided for liability of persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act, signed into law in 1972, addresses development in areas prone to faulting. Under the Act, the State Geologist is required to delineate earthquake fault zones (also known as Alquist-Priolo zones or special study areas) along active faults in California. The act defines an active fault as one that has “had surface displacement within the Holocene epoch (approximately the last 11,000 years).” Cities and counties with Alquist-Priolo zones must regulate certain development in these zones.

Plans of Significance

2017 Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan

The Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan identifies hazards within Santa Barbara County, including cities and unincorporated areas, with input from each incorporated city, including Santa Maria, the County of Santa Barbara, individual citizens, responsible officials, the State of California Governor’s Office of Emergency Services (CalOES) and the Federal Emergency Management Agency (FEMA).³⁸ The Plan guides disaster preparedness and resilience efforts throughout the County.

City of Santa Maria Hazard Mitigation Plan

The City adopted the City of Santa Maria Hazard Mitigation Plan in 2017 as an addition to the Santa Barbara County Multi-Jurisdictional Hazard Mitigation Plan. The intent of the City of Santa Maria Hazard Mitigation Plan is to improve disaster resiliency, meet regulatory requirements, including the Disaster Mitigation Act of 2000, and facilitate eligibility for grant funding, including Pre-Disaster Mitigation Grants, the Flood Mitigation Assistance Program, and the Hazard Mitigation Grant Program. The following hazards were analyzed: earthquake, liquefaction, wildfire, flood, climate-related hazards, energy shortage and energy resilience, oil spill, dam failure, agricultural pests and disease, epidemic/pandemic/vector borne disease, hazardous material release, radiological incident, terrorism, cyber threat, aircraft crash, train accident, natural gas pipeline/shortage, levee failure, civil disturbance, and well stimulation/hydraulic fracking.³⁹ In addition, the Plan identifies hazard mitigation implementation actions.

City of Santa Maria General Plan Safety Element

The City’s General Plan guides the use and protection of various resources to meet community purposes. The Safety Element (1995) establishes goals, policies, objectives, and implementation programs to protect the city from unreasonable risks associated with seismically and geologically induced hazards, flooding, wildland and urban fires, electromagnetic fields, oil wells/sumps, landfill gas migration, safe drinking water, aircraft safety, and hazardous materials.

Existing Conditions

The locations of existing geologic and flood hazards in Santa Maria are shown in [Figure 5](#). The locations of existing airport hazards in Santa Maria are shown in [Figure 8](#).

Seismic Hazards

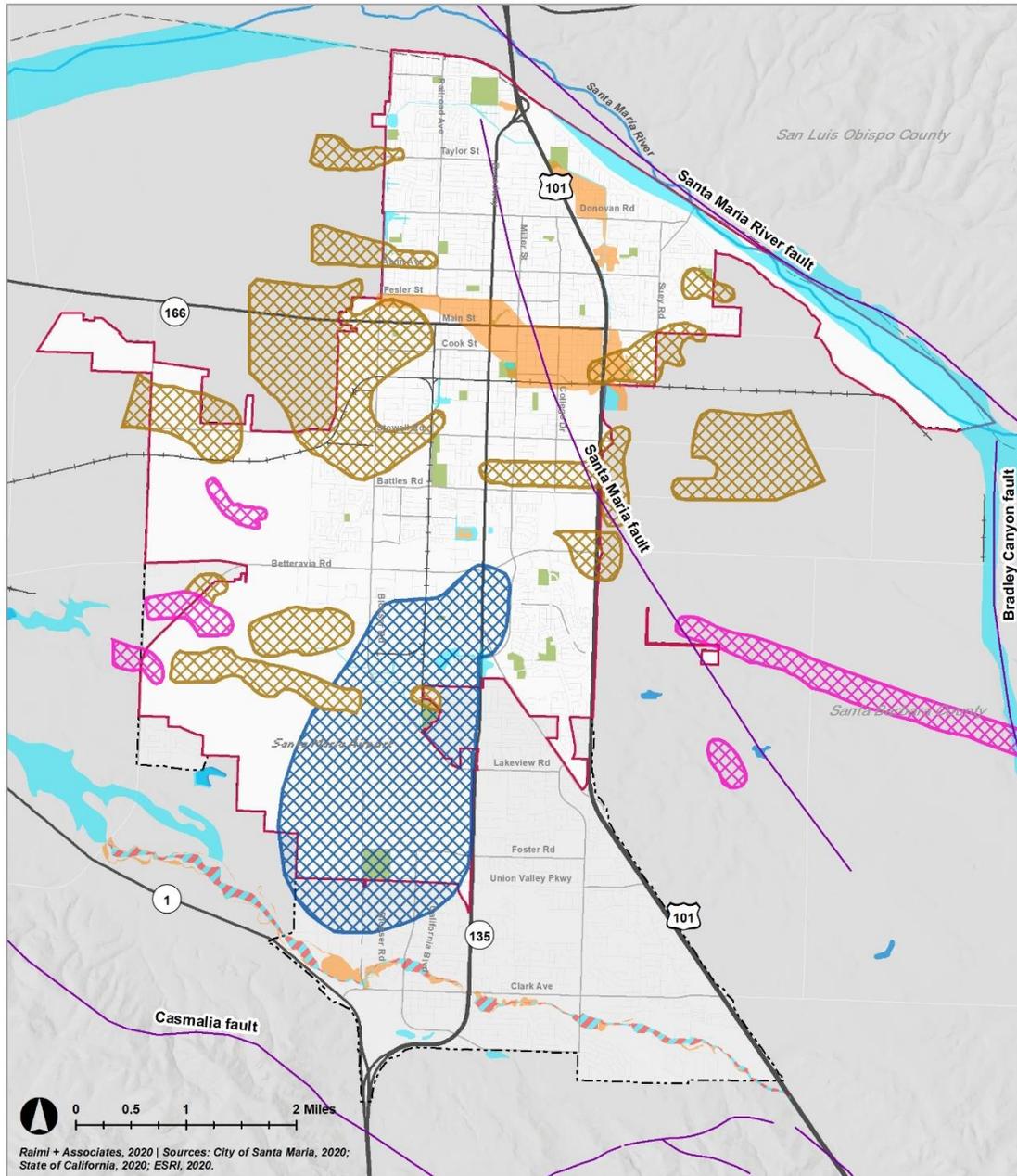
Santa Maria is in Seismic Zone 4, which is the zone at greatest risk from earthquakes in California.⁴⁰ As shown in [Table 3](#), many potentially active quake faults have been identified in the Santa Maria River Valley, as well as areas at risk from hazards associated with earthquakes, including fault rupture, seismic shaking, and liquefaction. Potential damage to property and structures can range from minimal to catastrophic depending on the properties of the fault from which an earthquake originates, proximity to the fault, and ground and soil characteristics. Ongoing earthquake research has improved construction standards for buildings, roadways, and other structures.

Fault Rupture

Fault rupture occurs when displacement along a fault reaches the ground surface. Fault rupture can cause several inches or greater of ground movement with potentially devastating effects to the integrity of a structure. Fault rupture can be unpredictable, as it may not always occur along existing faults, and there can be multiple ruptures that occur along a single earthquake fault.

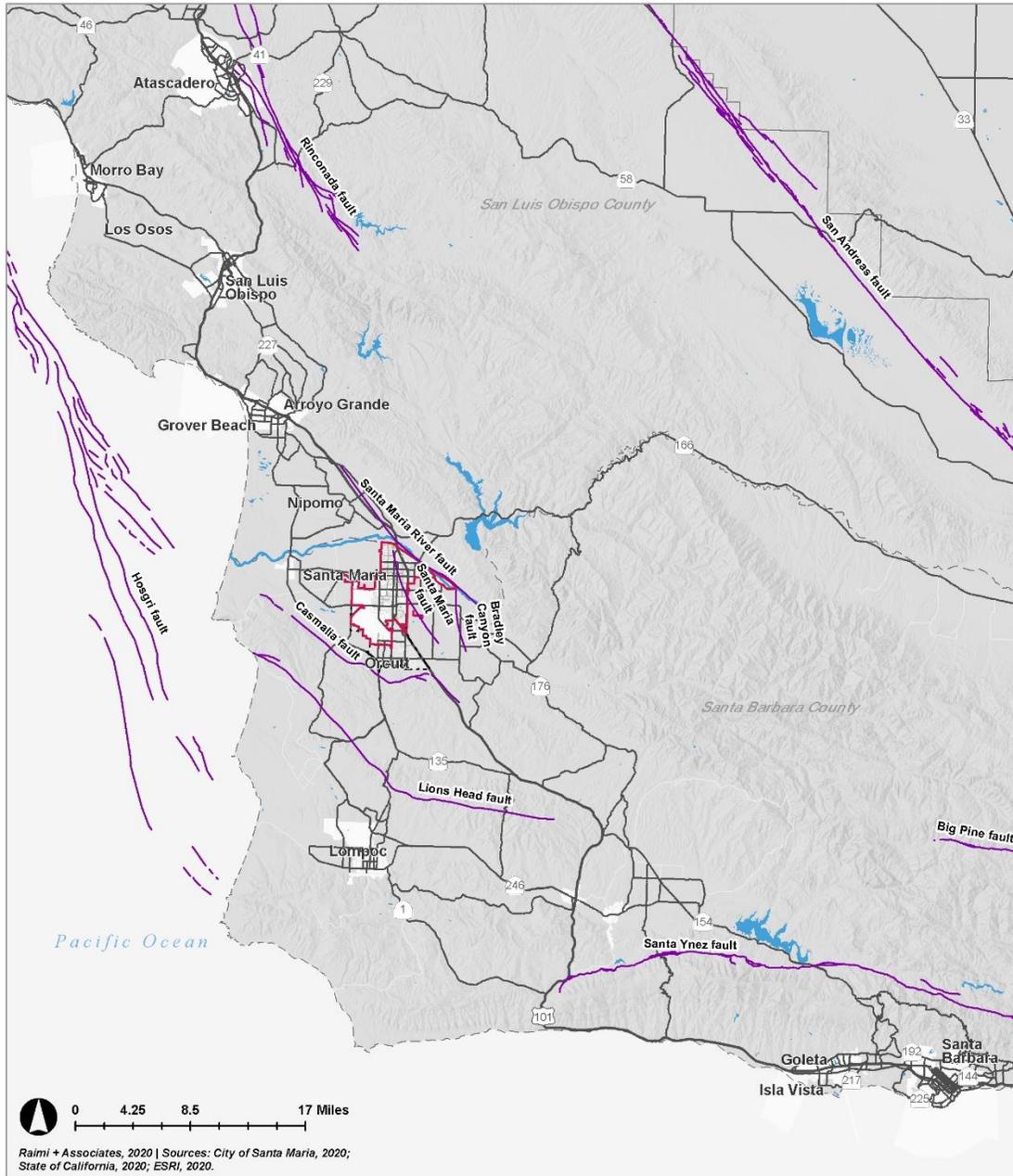
The Santa Maria River Valley is within a structural fold and thrust fault area. Most of the structural elements in the region run northwest-southeast, parallel to the valley. Relatively little direct evidence of active faulting (such as offset of bedding or structures observed at a surface fault) has been observed in the region. However, measurements of seismic activity unrelated to surface faults and other evidence indicate the region is seismically active. [Table 3](#) lists several active and potentially active faults within the region. These faults are northwest trending breaks. The risk of seismically induced ground rupture from these faults is expected to be minor and they are not included as Alquist-Priolo special study areas. The faults closest to Santa Maria include the Santa Maria Fault, the Santa Maria River Fault, and the Casmalia Fault. However, none of these faults qualify for Earthquake Fault Zone status as identified by the State Geologist under the Alquist-Priolo Earthquake Fault Zones Act.⁴¹ [Figure 6](#) shows earthquake faults near Santa Maria.

Figure 5: Existing Geologic and Flood Hazards in Santa Maria



- | | | |
|---------------------------|-----------------------------|---------------------------------|
| — Santa Maria City Limits | Geologic Hazards | Flood Hazard Zones |
| - - - Sphere of Influence | Expansive Soils | 1% Annual Chance Flood Hazard |
| County Boundaries | Shallow Perched Groundwater | Regulatory Floodway |
| Parks | Steep Slopes | 0.2% Annual Chance Flood Hazard |
| Water | Earthquake Fault Lines | |
| Railroads | | |

Figure 6: Earthquake Faults Within and Surrounding Santa Maria



0 4.25 8.5 17 Miles
 Raimi + Associates, 2020 | Sources: City of Santa Maria, 2020; State of California, 2020; ESRI, 2020.



- Santa Maria City Limits
- Earthquake Fault Lines
- Sphere of Influence
- County Boundaries
- Parks
- Water

Table 3: Active and Potentially Active Faults

Fault	Distance from City Limits	Status
San Andreas	40 miles northeast	Active
Rinconada	18 miles northeast	Active
Hosgri	17 miles west	Active
Santa Ynez (West)	29 miles south	Active
Big Pine	43 miles southeast	Potentially Active
Santa Maria	Within City Limits	Potentially Active
Santa Maria River	0.5 miles north	Potentially Active
Bradley Canyon	5 miles east	Potentially Active
Casmalia	5 miles south	Potentially Active
Lion's Head	7 miles south	Potentially Active
<i>Source: Namson and Davis, 1990.</i>		

Seismic Shaking

Ground shaking generated by earthquakes is the greatest cause of widespread damage during a seismic event. Ground shaking is the shockwave produced when there is a sudden movement created by an earthquake rupture. In general, the intensity of ground shaking diminishes as the distance from the point of rupture, or epicenter, increases. Local conditions can also greatly influence the intensity of ground shaking. Soil type, depth to bedrock, depth to groundwater, and orientation of the fault all influence the intensity of ground shaking.

Available geologic information indicates that the potential for strong ground shaking in the California central coast is high. The potential for severe ground shaking would occur as a result of movement along one of the major California faults (e.g. San Andreas Fault) and such movement could generate significant damage throughout the city. However, scientists theorize that mapped “blind” thrust faults may have greater potential for movement than major, known faults. A “blind” thrust fault is a thrust fault that does not rupture all the way up to the surface so there is no evidence of it visible at the surface.⁴²

Liquefaction

Liquefaction occurs when soil that exists below the water table temporarily loses strength during an earthquake and changes to a near-liquid state. Depending on specific soil conditions, such as density, uniformity of grain size, and saturation of soil materials, a certain intensity of seismic shaking is required to trigger liquefaction. Liquefaction is typically associated with medium to fine-grained sands in a loose to medium-dense condition. Liquefaction can cause large movements of the ground, and the resettling of soils after a liquefaction event can damage buildings and buried utilities. Generally, lands in Santa Maria have low potential for liquefaction due to the relatively deep groundwater levels that are ordinarily

over 70 feet below the ground surface. However, as shown in [Figure 7](#), areas of perched groundwater in the vicinity of the Santa Maria Public Airport could cause liquefaction during an earthquake.

Landslides

“Landslide” is a general term for the dislodging and fall of a mass of soil or rocks along a sloped surface. Many landslides have resulted from indiscriminate modification of sloping ground or the creation of slopes from cut and fill in geologically unstable areas. Landslides and mudslides could potentially occur in areas with steep slopes or containing escarpments. The City’s Hazard Mitigation Plan determined that risk of landslide incidence is low throughout the majority of the city, and moderate in the southern portion of the city, where an escarpment runs in an east-west direction, as shown in [Figure 7](#).³⁹

Expansive Soil

Expansive soils are distinguished by the presence of swelling clay minerals that can absorb a significant amount of water molecules. When expansive soils obtain moisture they expand and swell. Likewise, when expansive soils shrink when it undergoes drying. Expansive soils can cause foundation problems since foundation walls are designed to support loads from above rather than lateral bearings. As shown in [Figure 7](#), expansive soils exist throughout Santa Maria.

Wildfire

Wildfire risk is determined by a combination of factors including precipitation, winds, temperature, and landscape and vegetation conditions. Fires have the potential to cause loss of life and property, and adverse environment effects. Fire hazard severity in rural areas, including areas on the edge between urban and rural land (commonly called the wildland interface), is highly influenced by the slope of the landscape, site vegetation and climate.

Wildland fires affect grass, forest, and brush lands, as well as any structures on these lands, and can result from either human-made or natural causes. The region’s topography, type, and amount of fuel, climate, and the availability of water for firefighting are the primary factors influencing the degree of fire risk. According to the City of Santa Maria Hazard Mitigation Plan, there is low probability of wildland fires in the city.⁴³ Santa Maria is surrounded by irrigated row crop farms and has not experienced a wildfire within or immediately adjacent to the city since the very early 20th Century. Undeveloped lots and rights-of-way are maintained to limit vegetation growth and the potential for fire risk. The City’s Recreation and Parks Department has an Urban Forestry unit that maintains public rights-of-way in addition to the park properties. The most significant wildland fire hazards in Santa Maria are associated with the coastal sage scrub and grass covered slopes in the Casmalia and Solomon Hills area, south of the City limits. The Santa Maria Valley Oil Field represents another potential fire risk due to the presence of flammable liquids and spark-producing machinery near vegetation. The remaining areas of Santa Maria are generally protected from most aspects of grassland and brush fires.

In comparison to wildfire risk, there are potentially higher risks for urban fires in the city due to high occupancy housing units and older mobile home parks, which can have aging electrical systems. While a large urban fire would likely be limited in area, it has the potential to have greater adverse effects to property and life.

Flooding

Santa Maria is located at the floor of a valley in a reclaimed riverbed. When Santa Maria was first developed in the late 19th century, the pioneers diverted the Santa Maria River to create the City limits.

The Army Corps of Engineers subsequently constructed the Santa Maria River Levee in 1963 to contain the river flow to the north end of the valley. Due to the relatively flat terrain, Santa Maria is subject to localized urban flooding during rainstorms and from agricultural irrigation runoff from the east side of the city. Santa Barbara County Flood Control District (SBCFCD) maintains significant flood control facilities within City limits. Nearly all City stormwater infrastructure discharges to SBCFCD infrastructure before discharging to the Santa Maria River.

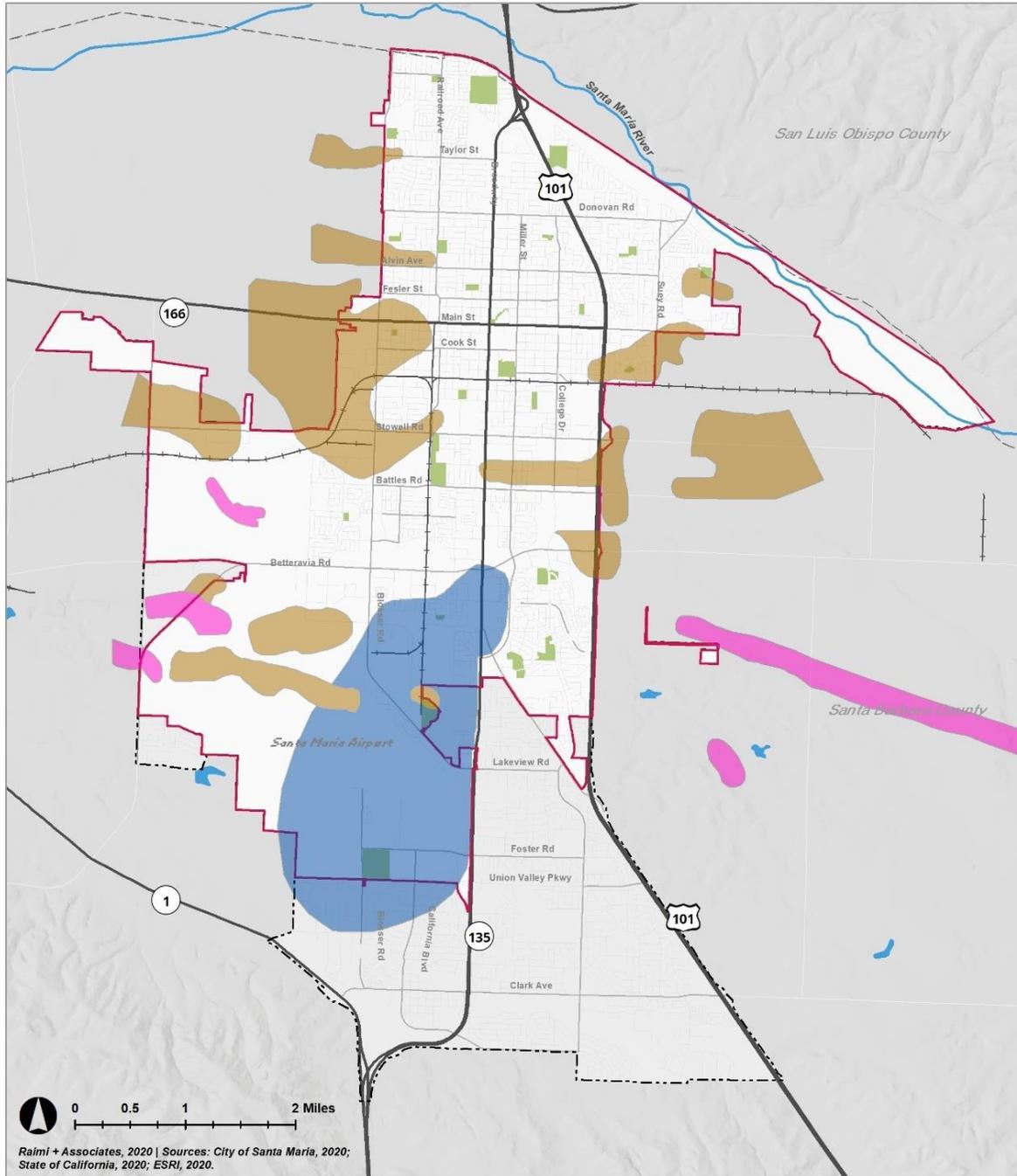
According to Flood Insurance Rate Maps prepared by FEMA, portions of Santa Maria lie within 1 percent annual chance (100-year) flood zones. Some areas are located throughout the city, with the most significant concentration along the city's northern border, near the Santa Maria River. Additionally, portions of Santa Maria lie within 0.2 percent annual chance (500-year) flood zones. These areas are concentrated near Highway 166 and Orcutt Creek. FEMA flood hazard zones are shown below in Figure 9.

Dam Failure

Twitchell Dam, which is located approximately 4 miles northeast of Santa Maria, was constructed in the early 1950s to serve as a flood control and groundwater basin recharge tool. The dam receives runoff water from approximately 1,135 square miles of Cuyama watershed areas north and east of Santa Maria. The dam has a storage capacity of approximately 224,300 acre-feet of water. The dam is a seasonal water collection system and water is released regularly to recharge the groundwater basin in the Santa Maria River Valley or to manage flooding in high rain events.

Twitchell Dam is a facility managed by the U.S. Department of the Interior, Bureau of Reclamation. The Santa Maria Valley Water Conservation District oversees the daily operations, maintenance and emergency planning for the dam, in coordination with Santa Barbara County Public Works. Dam failure is a remote possibility, however, the potential damage to Santa Maria would be significant if it occurred.

Figure 7: Geologic Hazards in Santa Maria



Raimi + Associates, 2020 | Sources: City of Santa Maria, 2020; State of California, 2020; ESRI, 2020.



- | | |
|-----------------------------|-------------------------------|
| —●— Santa Maria City Limits | Geologic Hazards |
| - - - Sphere of Influence | ■ Expansive Soils |
| - - - County Boundaries | ■ Shallow Perched Groundwater |
| ■ Parks | ■ Steep Slopes |
| ■ Water | |
| —+— Railroads | |

Airport, Rail, and Highway Hazards

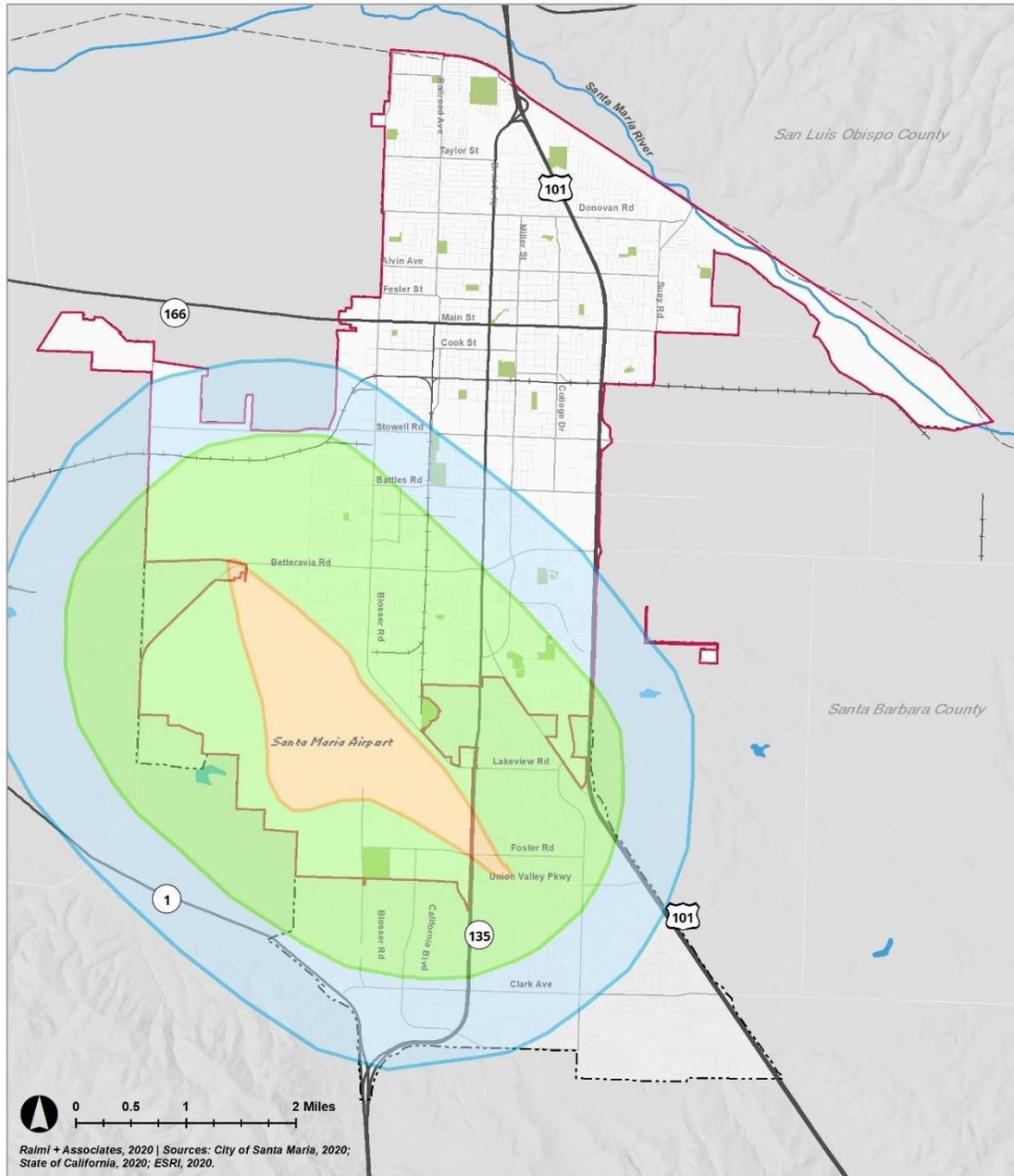
Airport Hazards

The Santa Maria Public Airport is located in the southwestern corner of Santa Maria. Airport hazards include hazards related to obstructing landing and approach zones, airplane accidents, and noise. The Airport Area of Influence is divided into three hazard zones, as shown in [Figure 8](#).⁴⁴ Airplane crashes involving air tankers are an additional concern because the firefighting foam, Aqueous Film Forming Foams (AFFF), contains PFAS (per- and polyfluoroalkyl) substances, which are emerging pollutants of concern. Hazard Zone I represents the boundary of the Airport Area of Influence. Height, safety, and noise policies apply to all three hazard zones.⁴⁵ In addition, the City adopted the Clear Zone and Airport Approach Overlay zoning designations in coordination with the Santa Maria Airport District and Santa Barbara County to further mitigate airport-related hazards.

Rail and Highway Hazards

According to the City's Hazard Mitigation Plan, the areas in the city most at risk of hazardous materials accidents include major transportation routes (such as U.S. 101 and Main Street (S.R. 166)), Betteravia Road, Blosser Road, railroads, and airport industrial zones.⁴⁶ The proximity of these transportation routes to densely populated areas is a concern identified in the Hazard Mitigation Plan. Truck and railroad accidents along transportation routes could result in hazardous materials spills.

Figure 8: Airport Hazard Zones in Santa Maria



0 0.5 1 2 Miles
 Raimi + Associates, 2020 | Sources: City of Santa Maria, 2020; State of California, 2020; ESRI, 2020.



- Santa Maria City Limits
 - - - Sphere of Influence
 - - - County Boundaries
 - Parks
 - Water
 - +— Railroads
- Airport Hazard Zones**
- Hazard Zone 1 (Airport Area of Influence)
 - Hazard Zone 2
 - Hazard Zone 3

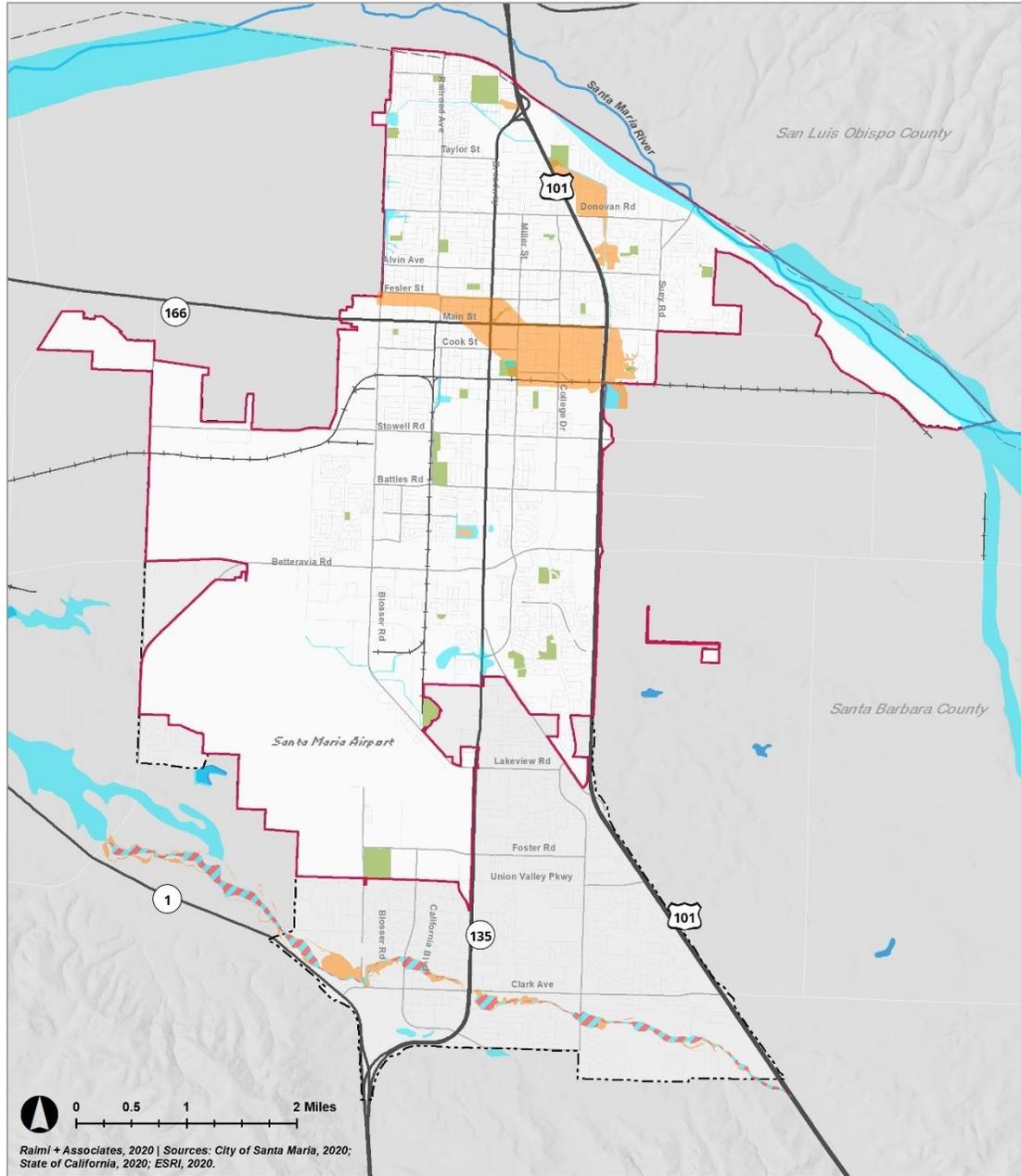
Presence of Hazardous Materials

A wide variety of products, chemical and purified chemical compounds, and elements that are considered hazardous or toxic are used in households, commercial businesses, and industrial operations and processes. These include home and pool related chlorine products, chemical fertilizers, herbicides and pesticides, stored fuels and waste oil, chemical solvents and lubricants, and a variety of medical materials. Large agricultural freezer and cold storage facilities are an additional concern because of their use of ammonia. Several large agricultural freezer and cold storage facilities are located on the west side of the city. Commercial fertilizer storage facilities within and surrounding the city also pose a threat due to chemical fertilizers, herbicides, and pesticides. The improper use and management of hazardous materials can pose a potential threat to the community and the environment. Industrial and commercial activities sometimes utilize hazardous and toxic chemicals for operations, and spills or mishandling of these materials can result in site contamination, illicit discharges to the stormwater drainage system, and illegal discharges to the sewer system and wastewater treatment plant.

Leaking underground storage tanks (LUST) and current and former industrial and commercial sites can expose the community and environment to hazardous materials. Gasoline storage tanks from former or current gas stations are subject to leaking over time, which can contaminate soil, groundwater and/or surface water. Leaks require immediate action upon detection to reduce the spread of contaminants and reduce potential harm. These sites are known as “brownfields”, and their clean-up and revitalization is regulated by the U.S. Environmental Protection Agency.

Santa Barbara County is certified by the California Environmental Protection Agency (CalEPA) as the Certified Unified Program Agency (CUPA) for the jurisdiction. The Santa Barbara County Environmental Health Department is responsible for the enforcement and administration of six consolidated environmental programs: Hazardous Materials Release Response Plans and Inventory (Business Plan), LUST, Hazardous Waste Generators, Onsite Hazardous Waste Treatment (Tiered Permitting), Aboveground Petroleum Storage Act (APSA), and California Accidental Release Prevention (CalARP). Therefore, the Santa Barbara County Environmental Health Department regulates a group of active facilities that have an inventory of hazardous material on site, including their use, storage and disposal of hazardous waste, in accordance with CUPA regulations. The overall CUPA requirements are found in Health & Safety Code (HSC) Chapter 6.11 and California Code of Regulations (CCR), Title 27, Division 1, Subdivision 4, Chapter 1.

Figure 9: FEMA Flood Hazard Zones in Santa Maria



Raimi + Associates, 2020 | Sources: City of Santa Maria, 2020; State of California, 2020; ESRI, 2020.



- | | |
|---------------------------|---------------------------------|
| — Santa Maria City Limits | Flood Hazard Zones |
| - - - Sphere of Influence | 1% Annual Chance Flood Hazard |
| · · · County Boundaries | Regulatory Floodway |
| ■ Parks | 0.2% Annual Chance Flood Hazard |
| ■ Water | |
| —+— Railroads | |

The following databases provide records relating to any known hazardous materials contamination within Santa Maria::

- United States Environmental Protection Agency (U.S. EPA) databases;
- The State Water Resources Control Board (SWRCB) Geotracker database;
- Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) database;
- Department of Toxic Substances Control (DTSC) EnviroStor database;
- State Water Resources Control Board (SWRCB) solid waste disposal sites, active Cease and Desist Orders (CDOs), and Cleanup and Abatement Orders (CAOs); and
- The Cortese List.

Santa Maria contains hazardous material sites such as LUST sites, contaminated groundwater sites under the jurisdiction of the State Water Resources Control Board (SWRCB) Site Cleanup Program, and hazardous waste sites under the Department of Toxic Substances Control (DTSC) Site Cleanup Program. There are approximately 22 DTSC sites in Santa Maria, of which one site is under an “operating permit” and another site is currently “active”. There are also approximately 67 LUST sites, of which 58 are closed and nine are “active.”^{47,48} Sites currently open under an operating permit or undergoing active treatment in or near Santa Maria are shown in [Figure 10](#).

Crude Oil and Natural Gas Industry Hazards

Crude oil in and near Santa Maria includes an extensive network of oil wells. Crude oil was discovered in Santa Maria in 1901, at the Carega 3 pump, which is still in operation today. It is the oldest well still pumping in California and may be one of the oldest wells in continual operation in the United States, according to the California Geologic Energy Management Division (CalGEM).⁴⁹ The largest crude oil pipelines crossing Santa Maria are owned by ConocoPhillips, which bought the pipelines from Unocal in 1997.⁵⁰ Potential hazards associated with crude oil production and extraction include fires and explosions associated with ignition of flammable vapors or gases and release of compressed gases from high-pressure lines. The CalGEM online mapping application Well Finder indicates there are numerous wells in and near the city, particularly in the southern area of the city, south of Stowell Road.⁵¹

In 2010, the City of Santa Maria prioritized researching existing crude oil and natural gas pipelines to gain confidence that the systems are safely operated and maintained within regulations, and acquire accurate and detailed maps to help City officials plan for and react to urgent situations.⁵² City officials contacted Southern California Gas Company, the County of Santa Barbara Energy Division, and the National Pipeline Mapping System to create a map of natural gas and crude pipelines under Santa Maria.

Oil wells that are no longer in production can be sealed up and abandoned. Multiple former oil sites have been remediated and cleaned up in order for properties to be reused for parks and open space as well as commercial and residential development. Remediation sites are concentrated in the western and southern portions of the city.

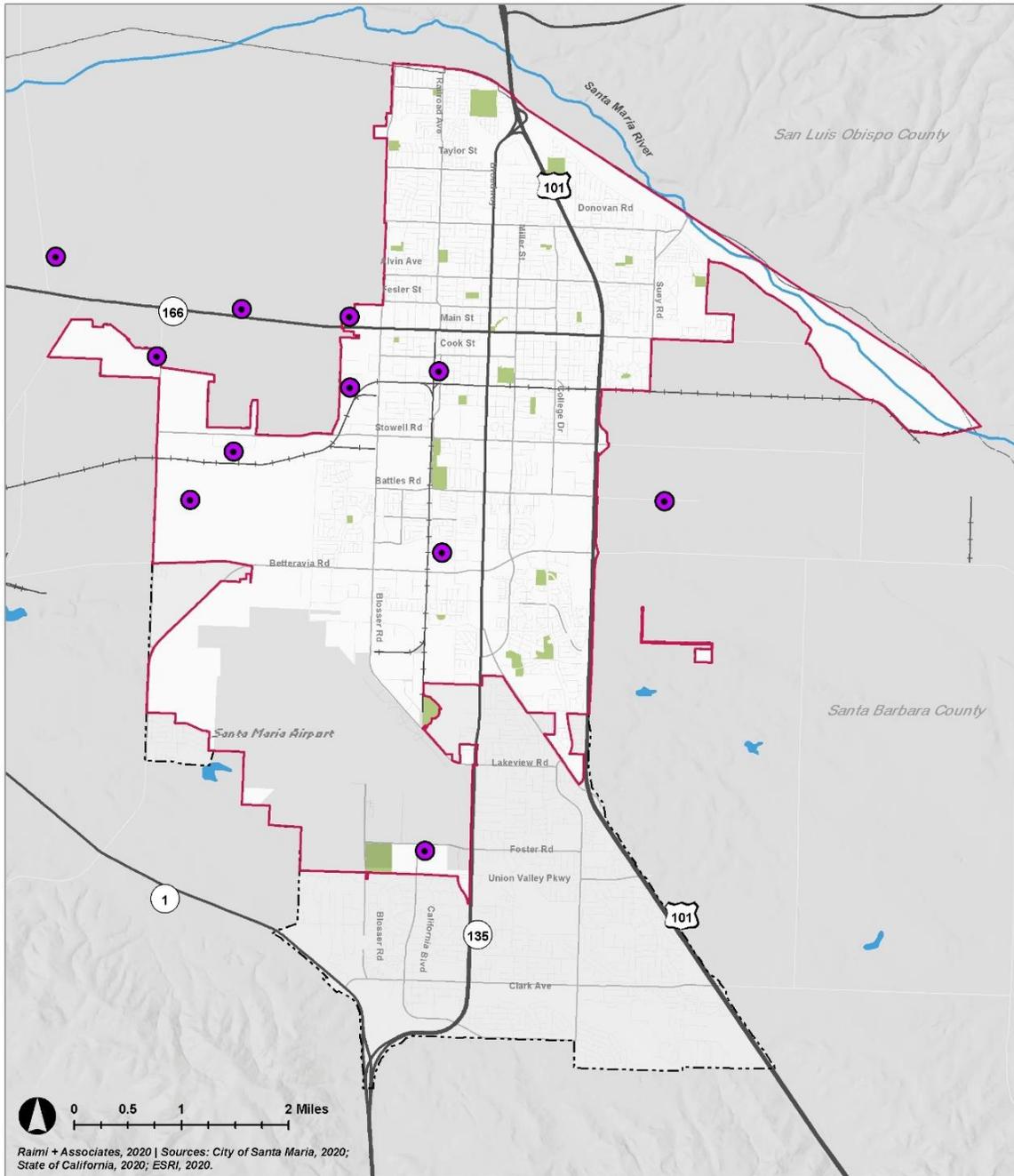
Natural gas in Santa Maria includes an extensive network of underground pipelines, including transmission lines owned and operated by the Southern California Gas Company. A large-diameter Southern California Gas Company natural gas transmission line (200 pounds per square inch or more) runs directly under the following streets: from south to north, California Boulevard to Depot

Street/Railroad Avenue; from Depot Street west along Betteravia Road to Guadalupe; and west to east on Depot Street along Battles Road.⁵³ Also, high-pressure distribution lines run from Depot Street along Donovan Road to Suey Road; and from Depot Street along West Morrison to Blosser Road. Potential hazards may occur if a gas transmission line ruptures and releases compressed gases. The County of Santa Barbara Energy Division conducts an annual safety audit to determine safety of existing crude oil and natural gas pipelines in the city.

Emergency Evacuation Routes

U.S. Highway 101 and Highway 1 are emergency evacuation routes out of the city.⁵⁴ In the event of an emergency, highway lanes in both directions can be closed to through traffic to facilitate evacuation.

Figure 10: Active Hazardous Material Sites in Santa Maria



Raimi + Associates, 2020 | Sources: City of Santa Maria, 2020; State of California, 2020; ESRI, 2020.



- Santa Maria City Limits
- Sphere of Influence
- County Boundaries
- Parks
- Water
- Railroads
- Active Hazardous Materials Sites

Hydrology and Water Quality

This section provides current information on water resources and water quality in Santa Maria. This section includes discussions of surface water, watersheds, and groundwater.

Key Findings

- **Groundwater.** The Santa Maria River Valley Groundwater Basin was adjudicated into three management areas, the largest of which is the Santa Maria Valley Management Area (SMVMA), which underlies Santa Maria.
- **Santa Maria River.** The Santa Maria River has thirteen identified beneficial uses, including Municipal & Domestic Water Supply, agricultural supply, and groundwater recharge.
- **Flood Risk.** Santa Maria is exposed to low risk of flood hazards related to Twitchell Dam, the Santa Maria River, and agricultural runoff; however, flat topography can result in localized incidents of flooding during rain events. Current stormwater runoff standards reduce the likelihood that new development would substantially increase localized flooding.

Introduction

Purpose of Section

The objective of this section is to identify existing conditions related to hydrology and quality of surface water and groundwater. The hydraulic system surrounding and within Santa Maria is complex and includes tributaries of the Cuyama River, Sisquoc River, and the Santa Maria River. These features contribute to the Santa Maria Watershed and the Santa Maria River Valley Groundwater Basin.

Context

Regulatory Setting

Clean Water Act

Federal Clean Water Act (CWA), 33 U.S.C. 1251 et seq. (1977) is the primary federal law regulating water pollution. Section 303(d) of the Federal CWA requires states to identify waters that do not meet water quality standards. The Santa Maria River is included on the Section 303(d) list for nitrate pollutants from agriculture, domestic animals/livestock, natural sources, and urban runoff/storm sewers. Chloride, Chlorpyrifos, Cypermethrin, DDD, DDE, DDT, Diazinon, Dieldrin, Endrin, E. coli, Fecal Coliform, Malathion, Sodium, Toxaphene, Toxicity, Turbidity are all listed pollutants for the Santa Maria River.

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) is a permit program that addresses water pollution by regulating point sources that discharge pollutants to waters of the United States. It was created in 1972 by the Clean Water Act and is delegated to the State of California for implementation through the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs). Local municipalities are required to obtain NPDES permit coverage and implement programs to reduce and eliminate pollutants from entering their municipal separate storm sewer systems (MS4). The city is covered by the State Water Resources Control Board Order No. 2013-0001-DWQ, National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000004. NPDES

has additional requirements beyond the General Permit that the City is subject to, including requirements for municipal wastewater treatment facilities and collection systems, described further below.

Federal Emergency Management Administration (FEMA)

FEMA is the federal agency that oversees floodplains and manages the National Flood Insurance Program (NFIP). FEMA also prepares the Flood Insurance Rate Maps (FIRM) for communities participating in the NFIP. The FIRMs indicate the regulatory floodplain to assist communities with land use and floodplain management decisions, so that the requirements of the NFIP are met in the event of damaging floods.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA), passed in 2014, created a framework for sustainable, local groundwater management in California. SGMA directed the Department of Water Resources (DWR) to identify priority groundwater basins for the purpose of implementing SGMA. Only high and medium priority basins are currently subject to SGMA requirements, including the requirement of Groundwater Sustainability Agencies (GSA) to develop Groundwater Sustainability Plans (GSP) for groundwater basins. Adjudicated groundwater basins, like the Santa Maria Groundwater Basin, are not subject to SGMA requirements.

Porter-Cologne Water Quality Control Act (1969)

The Porter-Cologne Water Quality Control Act mandates that waters of the State shall be protected such that activities that may affect Waters of the State shall be regulated to attain the highest quality. The SWRCB is given authority to enforce Porter-Cologne Water Control Act and SWRCB regulations mandate a “non-degradation policy” for state waters, especially those of high quality. Under the authority of the SWRCB, the protection of water quality in the Santa Maria River and its tributaries is under the jurisdiction of the Central Coast RWQCB. The RWQCB establishes requirements prescribing the quality of point sources of discharge and establishes water quality objectives. These objectives are established based on the designated beneficial uses for a particular surface water or groundwater. Beneficial uses of the Santa Maria River include: municipal, domestic, agricultural, and industrial service supply; groundwater recharge; contact water recreation; non-contact water recreation; wildlife habitat; cold freshwater habitat; warm freshwater habitat; migration of aquatic organisms; rare, threatened, or endangered species; freshwater replenishment; and commercial and sport fishing.⁵⁵

Santa Maria River Valley Groundwater Basin Adjudication

When multiple parties withdraw water from the same aquifer, groundwater users can ask the court to adjudicate, or hear arguments for and against, to better define the rights that various entities have to use groundwater resources. The Santa Maria River Valley Groundwater Basin was adjudicated in Santa Clara County Superior Court through a 2005 Stipulation, which was approved and implemented in 2008.⁵⁶ The Stipulation divides the adjudicated area of the groundwater basin into three management areas, the largest of which is the Santa Maria Valley Management Area (SMVMA), which underlies Santa Maria.

City of Santa Maria Wastewater Collection and Treatment Requirements

The City regulates discharges into the City’s sewer collection system and wastewater treatment plant through implementation of Santa Maria Municipal Code Chapter 8-12, Wastewater Collection, Treatment and Disposal as a mandatory element of the City’s Pretreatment Program which is regulated under the

City's Waste Discharge Requirements, Order R3-2010-0001, for the Wastewater Treatment Plant. The Pretreatment Program is in place to prevent the introduction of pollutants into the wastewater system that will:

- interfere with the operations of the system,
- contaminate the resulting biosolids,
- will pass through the system, inadequately treated, into the receiving water

City of Santa Maria Storm Water Runoff Pollution Prevention

The City regulates stormwater discharges through implementation of Santa Maria Municipal Code Chapter 8-12A, Stormwater Runoff Pollution Prevention. This section of the Municipal Code, also incorporates the Post-Construction Stormwater Management Requirements for Development Projects in the Central Coast Region (Central Coast RWQCB Resolution No. R3-2013-0032) that is an additional requirement to the State Water Resources Control Board Order No. 2013-0001-DWQ.R3-2013-0032).

Plans of Significance

Central Coast RWQCB Basin Plan

In accordance with the California Water Code, the Central Coast RWQCB developed the Basin Plan, which is designed to preserve and enhance water quality and protect the beneficial uses of all regional waters.⁵⁷ Water quality objectives for the Central Coastal Basin satisfy State and federal requirements established to protect waters for beneficial uses, and are consistent with existing statewide plans and policies. The Basin Plan is described in more detail below.

Existing Conditions

Surface Hydrology, Flooding, and Inundation

Surface Water

The principal hydrologic feature in the Santa Maria River Valley is the Santa Maria Watershed, which drains approximately 1,880 square miles and includes all tributaries of the Cuyama River, Sisquoc River, and the Santa Maria River. The Santa Maria River begins where the Sisquoc and Cuyama Rivers converge. The watershed generally drains to the west where it meets the Pacific Ocean at Guadalupe. In the lower stretches, the Santa Maria River consists of a sandy, braided channel that is leveed along much of its length.⁵⁸ Major land uses in the Santa Maria Watershed that affect water quality and supply include irrigated and dry-land agriculture, oil production, and urban development.

Flooding and Inundation

According to Flood Insurance Rate Maps prepared by FEMA, portions of Santa Maria lie within 1 percent annual chance (100-year) flood zones; these areas are located throughout the city, but are predominately concentrated along the city's northern border, along the Santa Maria River. Additionally, portions of Santa Maria lie within 0.2 percent annual chance (500-year) flood zones. These areas are concentrated near Main Street (S.R. 166) and Orcutt Creek. FEMA flood hazard zones are shown in Figure 9.

Surface Water Quality

The city is predominately composed of agricultural and urban land uses, which affect surface water quality differently. In agricultural areas where impermeable plastic ground cover, hoop houses, or fully industrialized buildings are not in use, surface waters penetrate permeable surfaces or travel over the existing vegetative cover, resulting in little erosion or sedimentation. In many cases, however, agricultural

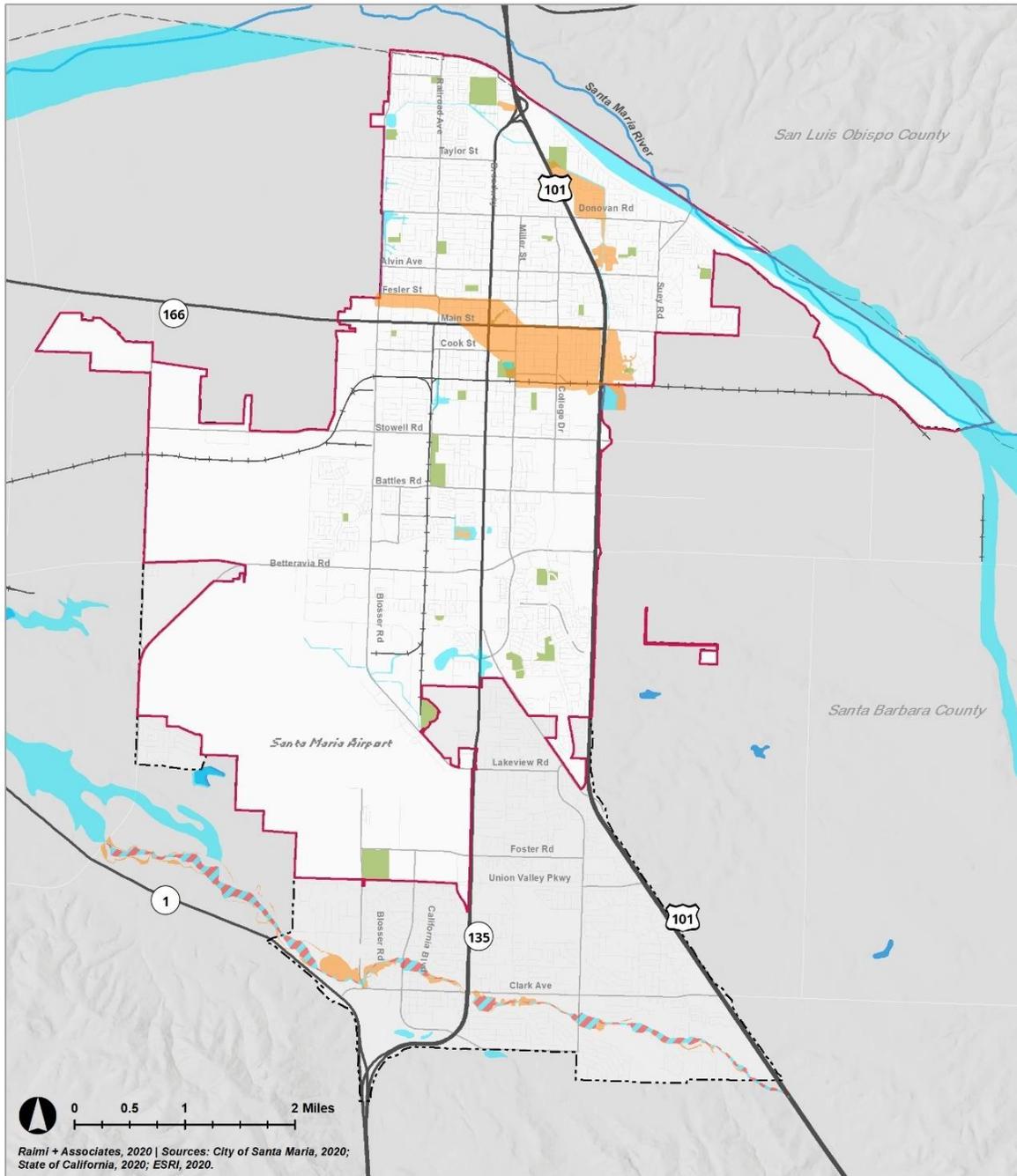
areas utilize impermeable coverings that can increase runoff quantity and intensity. Runoff from agricultural areas carry contaminants such as pesticides, herbicides, and fertilizers. Runoff from agricultural areas enter stormwater basins and ditches, which are part of the greater Santa Maria Valley drainage network of stormwater retention and recharge basins that feed through flood control channels into the Santa Maria River. Agricultural areas are exempt from the requirements for Construction Storm Water Permits by the RWQCB; therefore, they are not subject to the same sediment or runoff control that is typical with a Storm Water Pollution Prevention Plan (SWPPP). Large, areas of agricultural land with disturbed soil and no vegetative cover are a significant source of sediment entering the City's storm drain system, along with pesticides/herbicides and fertilizer (nitrates).

More urbanized areas, where vehicle use and urban land use activities are common, water runoff picks up pollutants on the ground surface that may be harmful to water quality and natural ecosystems, including heavy metals, hydrocarbons, detergents, fertilizers, and pesticides. Generally, these pollutants are associated with sediments that collect on roadways and are flushed or wind blown into the drainage systems either in dry weather flows, during construction, or by rainfall. Construction activities can also create erosion and cause sediment to be transported offsite, as surface water runs through a construction site. Water quality depends primarily on the hydrologic characteristics of the drainage basin, the makeup of the soils in the watershed, and sources of pollution in the watershed.

Pollutants of known concern in the Santa Maria Watershed include fecal coliform, nitrates, sediments, and ammonia in surface water; nitrates and total dissolved solids in groundwater; organochlorine pesticides in the Santa Maria River Estuary (located approximately 10 miles west of Santa Maria); and petroleum production by-product (diluent) in ground and surface water of the Guadalupe Dunes (located directly north and south of the Santa Maria River mouth and estuary) and nearby areas.⁵⁹ The Santa Maria River is included on the Section 303(d) list for nitrate pollutants from agriculture, domestic animals/livestock, natural sources, and urban runoff/storm sewers. In addition, Chloride, Chlorpyrifos, Cypermethrin, DDD, DDE, DDT, Diazinon, Dieldrin, Endrin, E. coli, Fecal Coliform, Malathion, Sodium, Toxaphene, Toxicity, Turbidity are all listed pollutants for the Santa Maria River.

There are 20 categories of "beneficial uses" that are outlined in the Basin Plan.⁶⁰ Each body of water in the State has a set of beneficial uses that may or may not include all 20 categories. For example, a reservoir may provide beneficial use as a municipal water supply, agricultural supply, wildlife habitat, and groundwater recharge at the same time. [Table 4](#) lists the 13 beneficial uses assigned to the Santa Maria River. In addition to these beneficial uses, the City has a mining permit for sand in the Santa Maria River.

Figure 11: FEMA Flood Hazard Zones in Santa Maria



- | | |
|-----------------------------|-----------------------------------|
| —●— Santa Maria City Limits | Flood Hazard Zones |
| - - - Sphere of Influence | ■ 1% Annual Chance Flood Hazard |
| · · · County Boundaries | ▨ Regulatory Floodway |
| ■ Parks | ■ 0.2% Annual Chance Flood Hazard |
| ■ Water | |
| —+— Railroads | |

Table 4: Beneficial Uses for the Santa Maria River

Abbreviation	Beneficial Use	Definition
MUN	Municipal & Domestic Water Supply	Community, military, or individual water supply systems including, but not limited to, drinking water supply.
AGR	Agricultural Supply	Farming or ranching including, but not limited to, irrigation, stock watering, or support of vegetation for grazing.
IND	Industrial Service Supply	Mining, cooling water supply, hydraulic conveyance, gravel washing, fire protection, or oil well repressurization.
GWR	Ground Water Recharge	Natural or artificial recharge of ground water for purpose of future extraction or maintenance of water quality.
REC1	Contact Water Recreation	Recreational activities involving body contact with water, where ingestion of water is reasonably possible. Example: swimming, fishing, and wading.
REC2	Non-Contact Water Recreation	Recreational activities close to water, but not normally involving body contact with water. Example: picnicking, hiking, and boating.
WILD	Wildlife Habitat	Terrestrial ecosystems including, but not limited to, preservation and enhancement of terrestrial habitats, vegetation, and wildlife.
COLD	Cold Freshwater Habitat	Cold water ecosystems including, but not limited to, preservation or enhancement of aquatic habitats, vegetation, fish or wildlife.
WARM	Warm Fresh Water Habitat	Support warm water ecosystems through preservation or enhancement of aquatic habitats, vegetation, fish, or wildlife, including invertebrates.
MIGR	Migration of Aquatic Organisms	Support for habitats necessary for migration or other temporary activities by aquatic organisms, such as anadromous fish.
RARE	Rare, Threatened, or Endangered Species	Habitats necessary for the survival of plant and animal species identified under state or federal law as rare, threatened, or endangered.
FRSH	Freshwater Replenishment	Natural or artificial maintenance of surface water quantity or quality (e.g. salinity).
COMM	Commercial & Sport Fishing	Commercial or recreational collection of fish or other organisms including, but not limited to, uses of the organism for human consumption or bait.

Source: Central Coast RWQCB, 2019.

Groundwater Basin Hydrology

The city overlies the Santa Maria Valley Groundwater Basin.⁶¹ The Basin has a surface area of approximately 184,000 acres, or 287.5 square miles. The Santa Maria Valley Management Area (SMVMA) includes approximately 175 square miles of the Santa Maria Valley Groundwater Basin in northern Santa Barbara and southern San Luis Obispo Counties.⁶² The SMVMA encompasses the contiguous area of the Santa Maria Valley, Sisquoc plain, and Orcutt upland, and is primarily comprised of agricultural land and areas of native vegetation, as well as the urban areas of Santa Maria, Guadalupe, Orcutt, Sisquoc, and several small developments. Surrounding the SMVMA are the Casmalia and Solomon Hills to the south, the San Rafael Mountains to the southeast, the Sierra Madre Mountains to the east and northeast, the Nipomo Mesa to the north, and the Pacific Ocean to the west. Sources of native (natural) water to the groundwater basin include the following: infiltration of precipitation, inflow from adjacent areas, return flows from applied water (irrigation), percolation of water from streams flowing across the Basin, especially the Arroyo Grande Creek to the north and Santa Maria and Sisquoc Rivers in the south.⁶¹ In addition, two reservoirs, Lopez Reservoir on Arroyo Grande Creek in the north, and Twitchell Reservoir on the Cuyama River (a tributary to the Santa Maria River in the south), provide storage of stormwater for recharge of the Basin. Groundwater discharges from the Basin includes consumptive use of groundwater by agricultural users, and municipal and industrial users (e.g., cities and the oil industry for secondary recovery of oil), and groundwater discharges to the ocean. Groundwater discharge to the ocean is required to prevent seawater intrusion into the Basin. The total groundwater storage capacity of the Basin is approximately 2,300,000 acre-feet.⁶¹

Groundwater Water Quality

Water quality conditions vary within the Santa Maria Valley, generally deteriorating, due to salt accumulation, from east to west, laterally from the Santa Maria River.⁶³ The use and reuse of groundwater, coupled with the introduction of additives from municipal and agricultural use, and evaporation of much of the applied water, result in increasingly mineralization of the groundwater. Shallower wells would probably be affected more than deeper wells. Water quality in the basin varies from one area to another due to concentrations of pumping in certain areas. The Santa Maria River is identified as a "losing" stream, which indicates that surface water flow infiltrates into underlying permeable layers, thereby serving as a major source of recharge to the Santa Maria River Valley Groundwater Basin.⁶⁴

Stormwater Runoff

Stormwater runoff is managed by the City's stormwater conveyance system. The existing condition of this system is discussed in detail in the Infrastructure Existing Conditions Report.

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Noise

This section describes existing noise conditions, major noise sources, and the regulatory framework related to noise levels in Santa Maria.

Key Findings

- **Major Noise Sources.** The Santa Maria Public Airport, Santa Maria Valley Railroad, agricultural and industrial operations, and roadway noise (e.g. U.S. 101 and major arterials) are the city's predominant noise sources. The City may wish to consider including policies or development standards in the General Plan Update Noise Element that address land use compatibility near these noise sources.

Introduction

Purpose of Section

This section describes existing noise conditions, major noise sources, and the regulatory framework related to noise levels in Santa Maria. Identifying the community's primary noise sources and areas with high noise levels allows the City to plan for new noise-sensitive uses in quieter areas and refine requirements that projects take measures to reduce exposure to ambient noise in sensitive areas.

Context

Noise Background

Noise can be defined as sound that is loud, unpleasant, unexpected, or undesired.⁶⁵ Negative effects of noise include general annoyance, sleep disturbance, interference with vocal communication, and in extreme cases, hearing impairment. Three elements of noise are used to characterize the level of nuisance caused – volume, duration, and time period.

Noise level, or volume, is usually measured in decibels (dB) using the A-weighted sound pressure level (dBA), which scales measurements to reflect human perception of noise. Decibels themselves are measured on a logarithmic scale of intensity, so that a 10dB increase indicates a 10-fold increase in sound intensity, a 20 dB change indicates a 100-fold difference, a 30 dB change indicates a 1000-fold difference, and so on. Therefore, doubling the energy of a noise source would increase the noise level by 3 dB. It is important to note, however, that human perception of noise does not correlate simply or linearly with acoustical energy. For example, although a 10dB increase corresponds to ten times the sound intensity, the average healthy ear perceives it as just twice as loud. To help give a sense of noise level values for common experiences, Appendix D shows typical noise levels from various sources.

In addition to noise intensity or volume, duration of a sound can determine its effect. Sounds that occur over a long period of time are more likely to be a nuisance or cause direct physical damage or environmental stress. Equivalent noise level (L_{eq}) is a common metric that takes into account both duration and sound power level, giving an average level of noise over a period of time. L_{eq} is typically summed over a one-hour period. L_{max} and L_{min} are used to refer to the highest and lowest root mean squares (RMS) sound pressure level within a measuring period.

Lastly, the timing of noise should be factored in because noise occurring at night tends to be more disturbing than that occurring during the day. Community noise is often measured using the Day-Night Average Level (L_{dn}), which is the 24-hour average noise level with a 10-dBA penalty for noise occurring during nighttime hours (10:00 p.m. to 7:00 a.m.). Planners also use the Community Noise Equivalent Level (CNEL), which adds a 5-dBA penalty for noise occurring from 7:00 p.m. to 10:00 p.m. to the L_{dn} ; however, noise levels calculated with CNEL are generally just 0.5 dBA higher than L_{dn} .

Although sound is vibrational energy primarily moving through air, groundborne vibration is also considered. Vibrations transmitted through the ground by traffic and construction can be just as disturbing to communities as noise, causing walls and windows to shake and rattle and sometimes even generating an audible low-frequency rumbling. Vibration is typically measured in peak particle velocity (ppv) or vibration decibels (VdB), with typical background levels falling around 50 VdB⁶⁶. 100 VdB is the general threshold above which minor damage can occur in fragile buildings.

Regulatory Setting

The Santa Maria Municipal Code (SMMC) Chapter 5-5⁶⁷ includes Noise Regulations. Section 5-5.01 prohibits unnecessary, excessive, and annoying noises from all sources subject to its police power. Section 5-5.04 prohibits noise levels from exceeding the existing ambient noise level or the ambient base noise level as shown in Table 5, whichever is higher, as follows:

- By any amount for 30 cumulative minutes in an hour
- By 5 dba for 15 minutes in an hour
- By 10 dBA for 5 minutes in an hour
- By 20 dBA at anytime

If noise generated by outside construction activities within 500 feet of a residential zone exceeds the noise standards in Table 5, SMMC Section 5-5.09 requires that a permit be obtained from the Noise Control Officer to cover short-term operations.

Table 5: Ambient Base Noise Level

Zones	DURATION							
	Ambient Base		15 Minutes		5 Minutes		1 Minute	
	Day	Night	Day	Night	Day	Night	Day	Night
Residential/Noise-Sensitive Uses	55	45	60	50	65	55	70	60
Commercial	65	60	70	65	75	70	80	75
Industrial	75	70	80	75	85	80	90	85

Note: Units are dBA L_{eq} . Daytime hours are generally considered to be 7:00 a.m. to 10:00 p.m., and nighttime hours are generally considered to be 10:00 p.m. to 7:00 a.m.
Source: Santa Maria Municipal Code Section 5-5.05

Plans of Significance

General Plan Noise Element

California Government Code Section 65302(f) requires all General Plans to include a Noise Element that addresses noise related impacts in the community. The City of Santa Maria General Plan Noise Element, last amended in 2009,⁶⁸ identifies existing and future noise sources within and adjacent to the city, and establishes goals, objectives, and policies to minimize the exposure of residents and other sensitive receptors to excessive noise. Policies in the General Plan include noise standards (Table 6) and land use compatibility guidelines that are used during planning and when the City makes development decisions in order to reduce excessive noise to the furthest extent possible.

Table 6: City of Santa Maria Interior and Exterior Noise Standards

LAND USE CATEGORIES		STANDARD (dB CNEL)	
Categories	Uses	Interior	Exterior
Residential	Single Family, Duplex, Multiple Family, Mobile Home	45	60 ⁴
Commercial	Retail, Restaurant, Professional Offices	55	65 ^{1,2}
Industrial	Manufacturing, Utilities, Warehousing, Agriculture	65	70 ³
Noise-Sensitive Land Uses	Motel, Hospital, School, Nursing Home, Church, Library, and other	45	60
Open Space	Passive Outdoor Recreation	--	65

Notes:

1. The Commercial Exterior Noise Standard is a noise level of 65 dB CNEL or less, or which does not interfere with normal business activity.
2. Where commercial development proposes outside activities such as patio dining, outside play and picnic areas, the noise standards shall not apply to those outdoor areas.
3. The Industrial Exterior Noise Standard is a noise level of 70 dB CNEL or less or which does not interfere with normal business activity.
4. Exception to allow elevated noise levels in outdoor living areas. Outdoor living areas such as patios and balconies may be incorporated into multifamily development projects ("Duplex" and "Multiple Family", and mixed use projects which incorporate these uses) in areas which experience elevated noise levels. These noise levels may not exceed the "Normally Unacceptable" Community Noise Exposure levels (75dB and above) specified in Figure 2 of the "Noise Element Guidelines" (Appendix C of the California General Plan Guidelines). Furthermore, prospective buyers and future occupants of dwellings shall be provided the following notice:

This property is presently located in an urban area which periodically and regularly experiences elevated noise levels. Potential sources of this noise may be automobile traffic, railroad operations, flying aircraft, industrial/commercial uses and general human activity in an urban environment. You may wish to consider what noise level annoyances, if any, are associated with the property before you complete your purchase and/or rental agreements and determine whether they are acceptable to you.

Source: Santa Maria General Plan Noise Element, Amended April 15, 2009.

Santa Maria Airport Land Use Compatibility Plan (ALUCP)

The airport land use commission for Santa Barbara County adopted the 1993 Airport Land Use Plan, including the Santa Maria Airport ALUCP. The ALUCP serves as a tool for the Airport Land Use Commission to review land use plans and development proposals within Airport Influence Areas. The ALUCP also provides land use compatibility policies and criteria applicable to Santa Maria in preparation or amendments of the General Plan.

Existing Conditions

This section provides a review of existing noise-sensitive land uses and noise sources in Santa Maria. Summaries provided are based on readily available data from secondary sources (existing plans and environmental documents). Sound level measurements to verify the existing ambient noise environment were not completed for this report due to the COVID-19 pandemic, which has changed traffic levels, aircraft frequency, and day-to-day operations throughout the city. Noise measurements will be completed as part of the Environmental Impact Report later in the General Plan Update process.

Noise-Sensitive Land Uses

Certain land use types are especially sensitive to noise disturbance based on the inhabitants. The Noise Element of the Santa Maria General Plan defines noise sensitive land uses as residential (single and multi-family dwellings, mobile home parks, dormitories and similar uses); hospitals, nursing homes, convalescent hospitals and other facilities for long-term medical care; and public or private educational facilities, libraries, churches. Note that the uses listed as noise-sensitive in If noise generated by outside construction activities within 500 feet of a residential zone exceeds the noise standards in Table 5, SMMC Section 5-5.09 requires that a permit be obtained from the Noise Control Officer to cover short-term operations.

Table 5 also include motels, and ostensibly hotels. These locations are also referred to as sensitive noise receptors and have more stringent noise exposure standards than other land uses (for example, manufacturing and agriculture). Table 7 shows the noise exposure guidelines for noise-sensitive land uses and Figure 12 shows the location of noise-sensitive locations in Santa Maria.

Table 7: Maximum Noise Exposure for Noise-Sensitive Uses

Level (dBA)		Duration in An Hour
Day (7am to 10pm)	Night (10pm to 7am)	
55	45	30 minutes
60	50	15 minutes
65	55	5 minutes
70	60	1 minute
75	65	Maximum

A noise violation is determined to exist when the noise level exceeds the ambient noise level or base noise level as follows:

1. By any amount 30 minutes for any given hour, measure cumulatively;
2. By 5 dBA, 15 minutes for any given hour
3. By 10 dBA, 5 minutes for any given hour;
4. By 20 dBA at anytime
5. Where zoning districts interface, the ambient noise base level for the most restrictive zones shall prevail.

Source: Santa Maria General Plan Noise Element, Amended April 15, 2009.

Air Traffic Noise

The Santa Maria Public Airport, located in the southern portion of the city, is a major source of noise in the area. The airport has two runways and provides facilities for commuter airlines, as well as flight instruction, aircraft rental and repair, and refueling services. The Airport Area of Influence⁶⁹ is divided into three areas of major concern, with Hazard Zone III including noise policies. Within this zone, land uses will be influenced by aircraft noise. The Hazard Zone III boundary was determined using the California Airport Noise Standard of the 65 dB CNEL contour. Noise-sensitive uses, including residential development, schools, and hospitals, are generally prohibited in this zone. Airport noise contours are shown in Figure 13. As shown in Figure 13, the 65-70 CNEL (Hazard Zone III) noise contour is located within airport property, but the 60-65 CNEL noise contour extends past the airport property and overlaps with residential uses southeast of the airport.

Vehicle Traffic Noise

Traffic noise from motor vehicles driving along roadways can be disruptive because it often creates a sustained noise level, even if the noise generated by a single vehicle does not seem significant. The level of noise can depend on the type of vehicle and its engine, speed of traffic, pavement type and texture, and distance from the roadway.

In Santa Maria, roadway noise is one of the major sources of noise. Major travel corridors, including U.S. 101, Broadway (S.R. 135), and Main Street (S.R. 166) generate substantial noise in areas of Santa Maria. Other major roadways that generate substantial noise in the city include Broadway (S.R. 135), Miller Street, Blosser Road, Skyway Drive, Donovan Road, Main Street (S.R. 166), Stowell Road, and Betteravia Road. Noise sensitive residential uses are located along and near these major arterial roadways.

Rail Traffic Noise

Railway operations generate a localized source of noise along the railway corridor. However, noise from rail operations, for both goods and passengers, is primarily regulated by the Federal Railroad Administration (FRA), which sets and enforces safety standards that include noise emissions for cabs, bells, and horns.

The privately-owned Santa Maria Valley Railroad has served the Santa Maria Valley's rail transportation needs since 1911. The railroad system consists of 14 miles of main line track interchanging with the Union Pacific Railroad in Guadalupe to serve Santa Maria and Santa Maria Valley. Transload facilities are located at the Betteravia Industrial Park in Betteravia. The Santa Maria Valley Railroad has numerous sidings and spurs for future growth and capacity.

Amtrak utilizes Southern Pacific Railroad's coastal north-south line but does not directly serve the City of Santa Maria – residents must instead travel north to San Luis Obispo or south to Santa Barbara or Lompoc to access a rail stop directly, or residents can travel west to Guadalupe to access the Amtrak Pacific Surfliner. There are also two railways that traverse the city, one from east to west along Jones Street and Stowell Road, and one from north to south, parallel to Depot Street. The privately-owned Santa Maria Valley Railroad operates infrequent freight trains on portions of these railways in close proximity to residential uses, but these trains are restricted to a speed of 10 miles per hour through the city. The Amtrak bus service includes a stop in Santa Maria at 205 S. Nicholson Avenue.

Stationary Noise

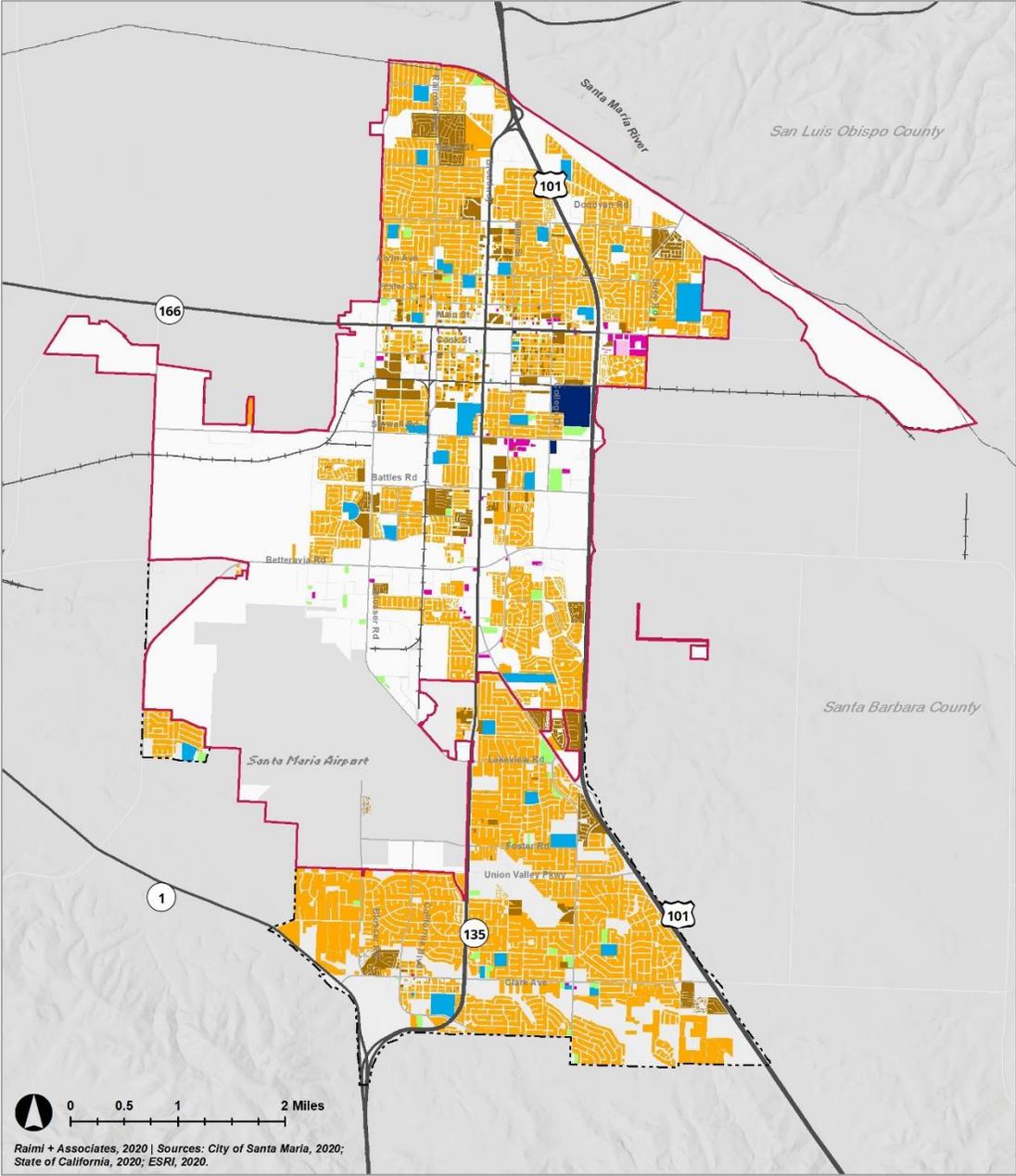
In comparison to the mobile noise sources described above, stationary noise sources contribute to the ambient noise environment only in their immediate vicinity. Examples include heating, ventilation, and air conditioning (HVAC) systems, loading docks, machinery, and commercial activity associated with restaurants, bars, outdoor dining, and parking garages and lots. Stationary noise can be generated by any land use, although industrial and commercial activities typically generate the highest noise levels.

Residences and schools typically generate lower noise levels and the sources are often intermittent. Residential noise sources include landscaping, maintenance activities, and HVAC systems, and may raise concerns when new mixed-use developments are proposed. Schools can generate enough noise through outdoor activities on both weekdays and weekends to elevate ambient noise levels.

Commercial manufacturing, industrial plants, and agriculture operations generate stationary noise at their facilities. These operations are primarily located near the airport and in other areas away from noise-sensitive land uses, in order to achieve acceptable noise levels and maintain land use compatibility.

Construction activity can generate substantial short-term increases in noise levels in the vicinity. Each phase of demolition and construction has its own noise characteristics; some may generate substantial intermittent noise levels from high-impact activities like pile-driving, while others may generate high continuous noise levels, depending on type and number of equipment used. Noise levels from construction equipment (individual pieces) range from 76 to 101 dBA Leq at 50 feet, and nearby noise-sensitive receivers may find this disruptive.

Figure 12: Noise-Sensitive Land Uses/Receivers in Santa Maria



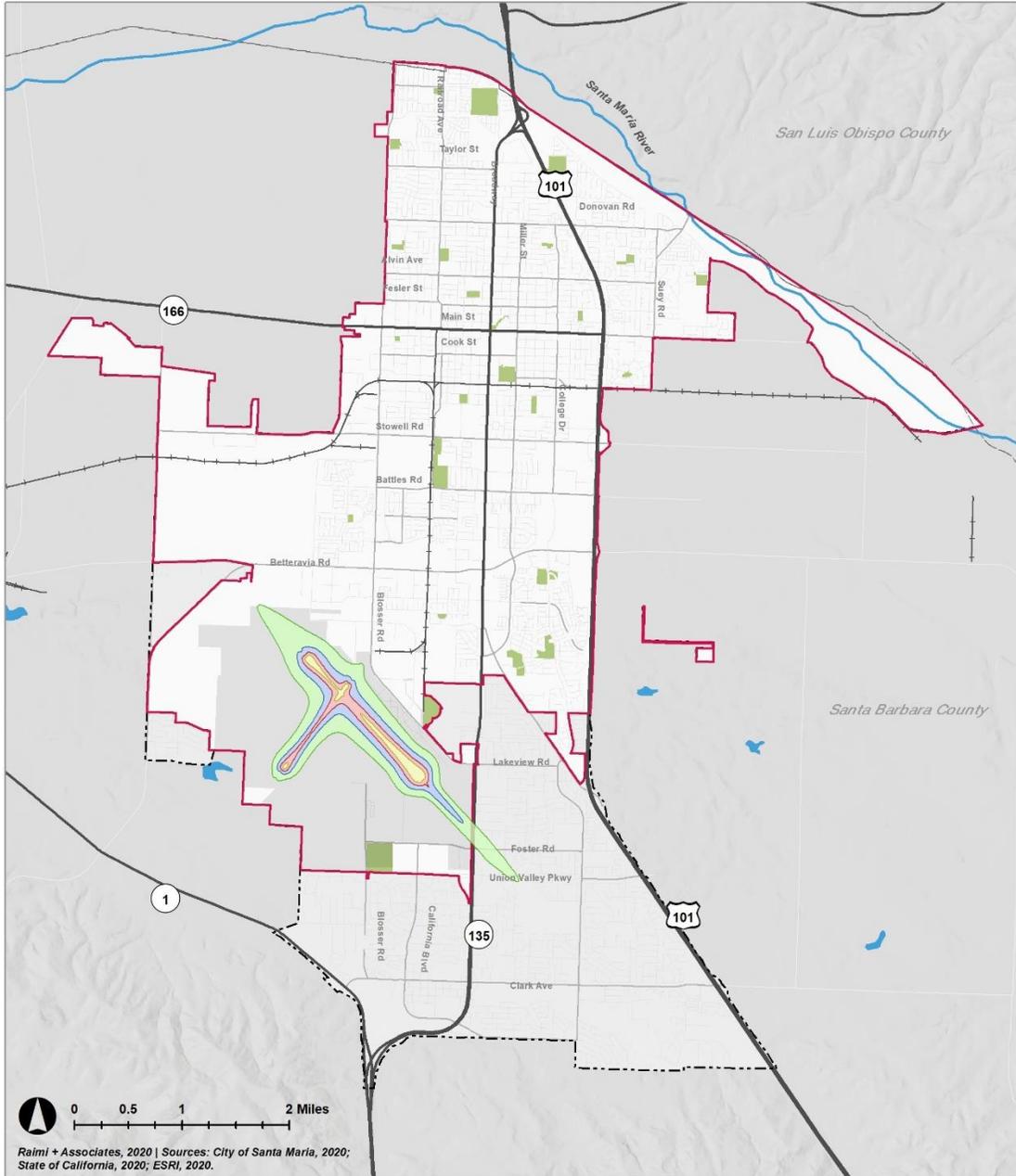
Raimi + Associates, 2020 | Sources: City of Santa Maria, 2020; State of California, 2020; ESRI, 2020.



- Santa Maria City Limits
- - - Sphere of Influence
- - - County Boundaries
- Railroads

- Sensitive Noise Receptors**
- Single Family Residential
 - Multi Family Residential
 - School
 - College/University
 - Hospital
 - Medical Office
 - Church

Figure 13: Airport Noise Contours



0 0.5 1 2 Miles
 Raimi + Associates, 2020 | Sources: City of Santa Maria, 2020; State of California, 2020; ESRI, 2020.



- Santa Maria City Limits
 - Sphere of Influence
 - County Boundaries
 - Parks
 - Water
 - Railroads
- Airport Existing Noise Contours – Community Noise Equivalent Level (CNEL)**
- 60-65 CNEL
 - 65-70 CNEL (Hazard III Zone)
 - 70-75 CNEL
 - 75+ CNEL

Other Sources of Noise

Amplified noise is sound magnified in volume by amplification devices such as radios, televisions, loudspeakers, stereos, megaphones, and public address systems. This type of noise is usually associated with social gatherings in residential areas and large events held in public spaces (schools, parks, restaurants, beaches, music/event venues). Although these events tend to occur more frequently in summer months, amplified noise from school speakers, drive-through restaurant speakers, and daily recreational activities can contribute to ambient noise levels throughout the year. Amplified noise levels can range from approximately 65 dBA L_{max} at 30 feet for drive-through restaurant speakers to approximately 90 to 100 dBA at outdoor festivals.^{70,71}

The Santa Barbara County fairgrounds is located near the center of the city and operates year-round to hold both public and private events beyond the fair itself. The amplified sound produced at these events can be a temporary source of amplified noise near noise sensitive land uses (e.g. school and residences). Other land uses like car washes or industrial areas that use loud equipment, such as air blowers, pumps and shredders, are also a localized source of noise in the city.

Vibration

Existing Vibration Levels

Typical vibration sources in Santa Maria include construction activities, railroad operations, heavy manufacturing. Areas near the airport may also experience air and ground-borne vibration. The City of Santa Maria has not adopted standards to limit vibration in the city.

Vibration-Sensitive Land Uses

Vibration-sensitive land uses are similar to noise-sensitive land uses and include residences and institutions such as schools, churches, and hospitals. However, vibration-sensitive receivers also include buildings where vibrations may interfere with vibration-sensitive equipment that is affected by vibration levels that may be well below those associated with human annoyance (e.g., recording studios or medical facilities with sensitive equipment).

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Utilities, Facilities, and Public Services

This section summarizes the utilities, public facilities, and public services in Santa Maria. Water, stormwater, and solid waste are not covered in this section, but can instead be found in the Infrastructure Existing Conditions Report.

Key Findings

- **Fiber Optic Internet Access.** Currently less than one percent of consumers in Santa Maria have access to fiber optic internet service. With greater demand on internet service due to increased access to technology and with more widespread demand from more people working from home due, in part, to the effects of the COVID-19 pandemic. The City is currently implementing new agreements to bring high speed internet to City services, which would also improve community access. The City may wish to consider a policy in the General Plan Update, possibly in the Health and Environmental Justice and/or Public Facilities and Services elements, to continue to build on work being done to improve its internet and utility services as users demand more access.
- **Transition to Community Choice Aggregation.** The City will begin to be serviced by Central Coast Community Energy in January 2021. During this transition period, the City may wish to consider developing an approach to outreach and education for residents as they see changes to their energy bills.

Context

Purpose of Section

The following summarizes the context surrounding public utilities, facilities, and services in Santa Maria. This includes descriptions of relevant State regulations, local hazard and emergency response plans, and capital improvement projects.

Regulatory Setting

Senate Bill 978

Beginning January 1, 2020, SB 978 requires local law enforcement agencies and Commission of Peace Officer Standards and Training to post on their websites all current standards, policies, practices, operating procedures, and education and training materials that would otherwise be available to the public through a California Public Records Act (CPRA) request. The Legislature declared that making this information available online and easily accessible to the public helps educate the public about law enforcement policies, practices, and procedures, and is intended to increase communication and community trust while saving on costs and labor associated with responding to individual CPRA requests for this information.

Ordinance No. 2020-04

On June 2nd, 2020, the Santa Maria City Council passed a new ordinance establishing rules of conduct for public parks, plazas, and facilities within the city.⁷² The goal of the ordinance was to establish a mechanism for regulating the use of public facilities to protect people's health, safety, and welfare, and

respond to complaints about undesirable conditions at some park facilities. The ordinance includes 16 new rules for public facilities and penalties for violation.

Plans of Significance

City of Santa Maria General Plan Resources Management Element

The City of Santa Maria General Plan 1996 Resources Management Element, written in 1996 and last amended in 2001, outlines various goals, policies, objectives, and programs related to the protection of public facilities and services. The Resources Management Element articulates general conditions for fire protection, police protection, library services, water facilities and services, and drainage facilities in the city.

Santa Maria Hazard Mitigation Plan

The City's Hazard Mitigation Plan was updated in 2017 and is an annex to the Santa Barbara County Operational Area Hazard Mitigation Plan.⁷³ The purpose of a Local Hazard Mitigation Plan (LHMP) is to identify hazards, review and assess past disaster occurrences, estimate the probability of future occurrences and set goals to mitigate potential risks to reduce or eliminate long-term risk to people and property from natural and man-made hazards. The Santa Maria Hazard Mitigation Plan creates decision tools for management, promotes compliance with both State and Federal program requirements, and enhances local policies for hazard mitigation capability. It covers a wide array of local hazards, including weather extremes, water shortages, agricultural pests, and other natural and manmade hazards.

Integrated Regional Multi-Hazard Emergency Response Plan

The Integrated Regional Multi-Hazard Emergency Response Plan was adopted in 2016 and developed by the Santa Maria Fire Department.⁷⁴ The plan covers Santa Maria and the city of Guadalupe. The goal of the plan is to clearly delineate the procedures and policies applicable to responding to a major emergency event and the plan was designed to be applicable to all emergency incidents. Direction for the coordinated response of public services in both cities, including the Santa Maria Police Department and Fire Department, is included within the plan based on different types of emergency incidents.

Community Risk Assessment: Standards of Cover

The Santa Maria Fire Department's Community Risk Assessment: Standards of Cover was released in November 2019. It outlines facilities that create more of an emergency risk than others in the city, due to factors such as being high-occupancy or providing care to vulnerable populations.⁷⁵ These facilities may require more emergency response resources in the event of an emergency incident. The report lists 102 critical facilities within Santa Maria, including the Santa Maria-Bonita School District, Santa Maria Joint Union High School District, and the Marian Regional Medical Center, which is Santa Maria's primary medical facility and second-largest employer at more than 1,900 employees.

Leisure Needs Assessment and Action Plan

The Santa Maria Recreation and Parks Department completed an update of its Leisure Needs Assessment and Action Plan in December 2019. The purpose of the plan was to identify unmet needs in the Recreation and Parks system and develop realistic and implementable recommendations from the community on how to improve the recreational facilities in the future. To gather community feedback, a community survey was sent out to over 3,830 randomly selected households in Santa Maria. Key issues that were identified in the plan included safety at park facilities, engagement of Hispanic and Latino communities, and better community education regarding recreational programs and services.

Existing Conditions

Utilities

Energy

Electricity and natural gas are the primary sources of energy for residents, businesses, and public facilities, such as schools and medical facilities. Pacific Gas and Electric (PG&E) currently provides electricity services to the City of Santa Maria. PG&E is an investor-owned utility and provides service to approximately 16 million people throughout a 70,000 square mile service area in Northern and Central California.⁷⁶ Unexpected outages in the PG&E service area occur on occasion.⁷⁷ To reduce strain on the electricity grid, PG&E offers time-of-use billing which encourages customers to reduce use during high consumption times by offering lower electricity rates when energy demand is lowest. Natural gas services in Santa Maria are provided by Southern California Gas Company (SCG). SCG is also an investor-owned utility and provided approximately 41 percent of all natural gas used in the state in 2017.⁷⁸ SCG offers various rebates and incentives for both residential and commercial customers, including for energy efficiency upgrades, solar water heaters, and low-income assistance programs. Both energy suppliers construct and maintain their own energy conveyance infrastructure.

In January 2021, the city will begin receiving electricity service through Monterey Bay Community Power (MBCP), soon to be renamed Central Coast Community Energy.⁷⁹ MBCP is a Community Choice Energy (CCE) agency and will provide access to carbon-free electricity for Santa Maria while retaining PG&E's traditional role of delivering power and maintaining electric infrastructure. MBCP is governed by a board of directors made up of officials from participating cities and counties, giving the City more local control of how its electricity is being generated and purchased. The switch to MBCP will provide customers in Santa Maria with energy that relies on a higher percentage of renewable sources of electricity. MBCP also has programs that offer annual rebates for customers and funding for local renewable energy projects. Unincorporated Santa Barbara County and nearby cities, such as Guadalupe, will also begin to receive service from MBCP in 2021.

Telecommunications

Telecommunications services in Santa Maria are provided by private vendors and agencies. About 95 percent of consumers in Santa Maria have access to mobile broadband service and 79 percent have access to digital subscriber line (DSL) internet, or Voice Over Internet Providers. Traditional landline phone service is also available. Less than one percent of consumers in Santa Maria have access to fiber optic service.⁸⁰

There are 16 internet providers in Santa Maria, six of which offer residential service. There are also six Federal Communications Commission (FCC) registered cell towers in the Santa Maria area, and 223 FCC registered antenna towers.⁸¹ Mobile internet is provided by AT&T, T-Mobile, Verizon, and Sprint. Publicly funded internet access is available at all branches of the Santa Maria Public Library system and computers are equipped with Microsoft Office (Word, Excel, Access, and PowerPoint).⁸²

The City is in the process of establishing a fiber network to connect City departments, to provide better access to City services and information, and to provide wireless access to residents while visiting City sites. Phase 1 of the fiber project is expected to be operational by the end of the year with additional

segments to be added in future capital projects. The fiber network will provide the technical foundation for fulfilling the City's Smart City – Safe City initiatives.

Public Services

Public services are those services provided by the City government to residents of Santa Maria. This section addresses the public services needed to support and protect the community of Santa Maria, including police, fire protection, and emergency response services. Police and fire service levels depend largely on staffing, facilities, and equipment. Several measures can be used in assessing staffing level adequacy, such as the ratio of fire fighters or police officers per 1,000 population and response times. Public safety services need to be regularly evaluated to ensure that present and expected future local needs are being met.

Police

The Santa Maria Police Department provides all public safety and law enforcement services to the city's residents.⁸³ Professional police services include maintaining civil order, preventive patrol, investigations, traffic control and enforcement, criminalistics, crime prevention, drug enforcement, and abuse prevention. The department houses the public safety dispatch center for police and fire, which receives all emergency 9-1-1 and non-emergency calls for services and ensures that appropriate resources are dispatched on a timely basis. The Police Department strives to protect and serve all those who live, work, and/or visit Santa Maria, and takes leadership in forming collaborative community efforts to find long-term solutions for reducing crime.

In 2019, the Santa Maria Police Department made 5,717 arrests, an 8.2 percent increase when compared to 2018. There were 122 reported police uses of force and 39 citizen complaints.⁸⁴ Data on average response times was not available, and generally vary based on the location of response vehicles at the time that calls are placed.

Fire

The Santa Maria Fire Department provides “all-risk” emergency services, as well as public education programs, fire prevention, and life safety measures to the city's residents.⁸⁵ These services support the Fire Department's mission of effectively preserving lives and protecting property. The department provides Emergency Services, which include pre-hospital emergency medical services, response to structural, vehicular and vegetation fires, hazardous materials response, water rescue, trench rescue, public assistance and other emergencies. The department also administers a hazardous materials business plan program in cooperation with Santa Barbara County.

There are currently five frontline fire engines and one ladder truck in service for the Santa Maria Fire Department. In addition, the department has an aircraft rescue and firefighting (ARFF) vehicle at the airport station, an urban search and rescue vehicle, three reserve engines, and a Type-III brush engine. For purposes of responding to structure fires, there are four engines and a truck available, leaving one engine free to cover the city. The fire department is currently budgeted for a total of 63 suppression personnel, with a ratio of 0.59 firefighters per 1,000 residents. Daily minimum staffing is 20 department personnel, including the ARFF Specialist and a Battalion Chief.

In 2019, the Santa Maria fire department responded to 9,668 calls, which was a decrease of 0.5 percent from 2018.⁸⁶ Calls for fires accounted for about 2.5 percent and calls for hazardous conditions

accounted for about 3.4 percent of all calls. The largest number of calls was for Emergency Medical Services, which accounted for 59 percent of calls and service/good intent calls, which accounted for another 30.8 percent. The average response time of the Santa Maria Fire Department in 2019 was 4:06 minutes for all calls, and 5:32 minutes when considering only calls for structure fires.

Emergency Response

Emergency preparedness and responses are primarily the responsibility of the Santa Maria Fire Department and Police Department, which both respond to emergencies on a case-by-case basis. The Fire Department maintains emergency personnel and equipment, coordinates the City's Disaster Preparedness Program, and ensures the readiness of the City's Emergency Management Team. The Santa Maria Police Department supports emergency rescue operations, develops emergency response plans for evacuations, and participates as part of the City's Emergency Management Team. A Disaster Planning Group was established in fiscal year 2016-2017 and meets monthly with the goal of operationalizing the various hazard planning processes to ensure that plans are integrated into the City's other policies and procedures. The Fire Department's Community Risk Assessment: Standards of Cover outlines facilities in the community that create more of an emergency risk than others in the city, due to factors such as being high-occupancy or providing care to vulnerable populations.⁸⁷

Emergency communication centers and the associated transmitting and receiving equipment are essential facilities for emergency response. Santa Maria Police Department's Communications Center dispatches the Santa Maria Fire Department. This communication center is equipped with a computer-aided dispatch system and has the primary responsibility to receive and process 9-1-1 calls for service and to coordinate the response of emergency equipment and personnel. The communication center staffs 22 employees: four senior telecommunicators, 16 telecommunicators, one call-taker, and a Santa Maria Police Sergeant supervises the telecommunicators. The center is responsible for receiving 9-1-1, non-emergency, and other administrative calls.

Appendix A – Criteria Pollutants

Ozone

Ozone is a colorless gas with a strong odor that forms when ultraviolet (UV) rays react with organic gases and nitrogen oxides (NOx). These precursors are generally attributable to emissions from vehicles, industrial plants, fossil fuel combustion and consumer products (such as pesticides, coatings, printing inks, adhesives, cleaning agents, and personal care products⁸⁸). Ozone-forming reactions are promoted by warmer conditions, so peaks are most common during summer months. O₃ is considered a regional pollutant. Individuals exercising outdoors, children, and people with preexisting lung disease such as asthma and chronic pulmonary lung disease are considered to be the most susceptible sub-groups for ozone effects. Short-term exposures (lasting for a few hours) can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Elevated ozone levels are associated with increased school absences, daily hospital admissions rate, mortality, and risk for asthma.

Carbon monoxide

Carbon Monoxide is a colorless, odorless gas that can cause numerous health problems, including dizziness, fatigue, confusion, and headaches. The major source of CO is incomplete combustion of petroleum fuels by vehicles and power plants, but it can also be produced by wood stoves and fireplaces. Since CO dissipates rather quickly into the atmosphere, violations of State CO standards tend to occur at localized “hotspots,” such as intersections with heavy peak-hour traffic. CO interferes with oxygen transport in the blood, so individuals most at risk include patients with diseases involving heat and blood vessels, fetuses, and patients with chronic hypoxemia (oxygen deficiency). Animal studies indicate that adverse birth outcomes may be associated with chronic exposure to CO.

Nitrogen dioxide

Nitrogen dioxide is produced by fuel combustion, primarily from motor vehicles and industrial boilers and furnaces. The health effects of NO₂ exposure may include chronic pulmonary fibrosis and bronchitis in children. NO₂ can also create a reddish brown tint in the air and reduce visibility. NO₂ can contribute to the formation of fine particulate matter and acid rain. Healthy individuals experience respiratory issues after short-term exposure to NO₂, and individuals with asthma or chronic pulmonary disease are even more susceptible to decrease in lung function. Acute respiratory illness has been associated with long-term NO₂ exposure.

Sulfur dioxide

Sulfur dioxide is a pungent and irritating gas formed mostly by the combustion of sulfur-containing fossil fuels, as well as by chemical plants, sulfur recovery plants, and metal processing facilities. SO₂ can irritate the upper respiratory tract, and at certain concentrations can damage lung tissue. In humid conditions, SO₂ can react to produce sulfate particulates, which can inhibit visibility. Sulfur oxides can dissolve marble, eat away at iron and steel, and cause plant leaves to yellow. Individuals with existing respiratory susceptibility, such as asthma, are most at risk for SO₂ exposure. At high levels of exposure, NO₂ can

cause lung edema (fluid accumulation), lung tissue damage, and sloughing of cells lining the respiratory tract.

Lead

Lead (Pb) is a metal found naturally in the environment, but also in certain manufactured products. Historically, Pb emissions have been mobile and industrial sources, but regulatory efforts to remove lead from gasoline have led to substantial declines in atmospheric lead concentrations since the 1980s. Consequently, the primary source of lead emissions is now metal processing. The highest lead levels in the air are generally found near lead smelters, and other stationary sources include lead-acid battery manufacturers, waste incinerators, and utilities. Fetuses, infants, and children are most susceptible to adverse effects of lead exposure, including adverse neurological development. In adults, increased lead levels are associated with increased blood pressure. Lead poisoning can cause anemia lethargy, seizures, and even death.

Particulate matter

Particulate matter suspended in the air is primarily dust particles, nitrates, and sulfates generated by fuel combustion, chemical reactions in the atmosphere, and wind erosion of soil and unpaved roads. The health effects of PM depend on the size of the particles. Fine particles (<2.5 microns) are more likely to penetrate deep into the lungs and cause serious damage, particularly for children, the elderly, and those with existing respiratory problems. The particulate matter can interfere with the body's mechanisms for clearing the respiratory tract, or carry toxic substances into the lungs, where they will be absorbed.

Appendix B – Ambient Air Quality Standards and Santa Barbara County Attainment Status

Pollutant	California Standards		National Standards	
	Concentration	Attainment Status	Concentration	Attainment Status
Ozone	0.070 ppm ¹ (8 hour ²)	A	0.070 ppm (8 hour)	U/A ³
	0.09 ppm (1 hour)	A		
Carbon Monoxide	9.0 ppm (8 hour)	A	9.0 ppm (8 hour)	A
	20.0 ppm (1 hour)	A	35.0 ppm (1 hour)	A
Nitrogen Dioxide	0.030 ppm (annual average)	A	53 ppb (annual average)	U/A
	0.18 ppm (1 hour)	A	100 ppb (1 hour)	U/A
Sulfur Dioxide	0.04 ppm (24 hour)	A	75 ppm (1 hour)	*4
	0.25 ppm (1 hour)	A		
Particulate Matter (PM10)	20 µg/m ³ (annual arithmetic mean)	N	150 µg/m ³ (24 hour)	A
	50 µg/m ³ (24 hour)	N		
Particulate Matter – Fine (PM2.5)	12 µg/m ³ (annual arithmetic mean)	U	120 µg/m ³ (annual arithmetic mean)	U/A
			35 µg/m ³ (24 hour)	U/A
Lead	1.4 µg/m ³ (30 day average)	A	1.5 µg/m ³ (calendar quarter)	A
			0.15 µg/m ³ (rolling 3-month average)	U
<p>Notes:</p> <ol style="list-style-type: none"> 1. Ppm = parts per million; ppb = parts per billion; µg/m³ = micrograms per cubic meter 2. Averaging time for pollutant measurement 3. A = Attainment; N = Nonattainment; U = Unclassified 4. * = EPA has not yet made final designations on attainment status <p>Sources: CARB, 2016; SBCAPCD, 2020.</p>				

Appendix C – Ambient Air Quality in Santa Maria

Pollutant	# of Days Above State Standard (Highest Measurement Recorded)		
	2016	2017	2018
Ozone (hourly maximum)	0 (0.062 ppm)	0 (0.068 ppm)	0 (0.052 ppm)
Nitrogen Dioxide (hourly maximum)	0 (36 ppb)	0 (44 ppb)	0 (40 ppb)
Particulate Matter (PM10) (24 hour average)	16 (78.6 µg/m ³)	22 (106.9 µg/m ³)	13 (61.9 µg/m ³)
Particulate Matter – Fine (PM2.5) (annual arithmetic mean)	*1 (19.4 µg/m ³)	0 (19.9 µg/m ³)	1 ² (40.4 µg/m ³)
Notes: 1. * indicates there was insufficient data available to determine the value. 2. Exceedance recorded for national standard; exceedances of State standard not indicated. Source: CARB, 2018.			

Appendix D - Typical Noise Levels

Common Outdoor Activities	Noise Level Range (dBA)	Common Indoor Activities
	110	Rock band
Jet flyover at 1,000 feet		
	100	
Gas lawnmower at 3 feet		
	90	
Diesel truck at 50 feet at 50 mph		
	80	
Noisy urban area, daytime		Food blender at 3 feet
Gas lawnmower at 100 feet	70	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	60	
		Large business office
Quiet urban daytime	50	Dishwasher in next room
Quiet urban nighttime	40	Theater, large conference room (background)
Quiet suburban nighttime		
	30	Library
		Bedroom at night, concert hall (background)
Quiet rural nighttime		
	20	
		Broadcast/recording studio
	10	
<p>Note: This table depicts the noise level of typical indoor and outdoor activities along a range of noise levels from 10 to 110 dBA. Note there are not many typical indoor activities with noise levels greater than 75 dBA because of the disturbance created by high noise levels in indoor spaces.</p> <p>Source: Caltrans, 2013.</p>		

References

- ¹ San Luis Obispo County Air Pollution Control District. South County Particulate Matter Studies & Related Documents. n.d. <https://www.slocleanair.org/air-quality/oceano-dunes-efforts/south-county-pm-study.php>
- ² Santa Barbara County Air Pollution Control District (SBCAPCD). Community Air Protection Projects. n.d. <https://www.ourair.org/2018-community-air-protection-projects/>
- ³ Santa Barbara County Air Pollution Control District (SBCAPCD). *2019 Ozone Plan*. December 2019. <https://www.ourair.org/wp-content/uploads/2019-12-19-Final-Plan.pdf>
- ⁴ Santa Barbara County Association of Governments. *Fast Forward 2040: Regional Transportation Plan and Sustainable Communities Strategy*. August 2017. http://www.sbcag.org/uploads/2/4/5/4/24540302/ff2040_final.pdf
- ⁵ Santa Barbara Association of Governments and Nelson\Nygaard Consulting Associates. *Santa Maria-San Luis Obispo Transportation Connectivity Study*. October 2017. http://www.sbcag.org/uploads/2/4/5/4/24540302/sm-slo_final_exec_summary.pdf
- ⁶ Fovell, Robert. *The Santa Ana Winds*. University of California, Los Angeles – Atmospheric and Oceanic Sciences. November 2002. <http://people.atmos.ucla.edu/fovell/ASoother/mm5/SantaAna/winds.html>
- ⁷ Santa Barbara County Air Pollution Control District. Meeting Air Quality Standards. <https://www.ourair.org/air-quality-standards/>
- ⁸ SBCAPCD. "Table 1-1: Santa Barbara County Exceedance Summary for 2018." *Annual Air Quality Report 2018*. 2018. <https://www.ourair.org/wp-content/uploads/2018-Annual-Air-Quality-ReportA.pdf>
- ⁹ Santa Maria Times Staff Report. "Phillips 66 to close refinery on Nipomo Mesa, phase out associated pipelines." *Santa Maria Times*. August 13, 2020. https://santamariatimes.com/news/san_luis_obispo_county_news/phillips-66-to-close-refinery-on-nipomo-mesa-phase-out-associated-pipelines/article_6b52217c-2a3b-5fe8-a68a-93ae8390b525.html#:~:text=The%20Phillips%2066%20Santa%20Maria,2024%2C%20a%20company%20spokesman%20said.
- ¹⁰ Wood, Len. "Santa Maria to begin large-scale restoration project in riverbed." *Santa Maria Times*. January 22, 2020. https://santamariatimes.com/news/local/santa-maria-to-begin-large-scale-restoration-project-in-riverbed/article_2c2eb93f-872f-5f5d-8212-1398c4f3de1d.html
- ¹¹ Santa Maria, City of. "Resources Management Element." City of Santa Maria General Plan. January 16, 2001. <https://www.cityofsantamaria.org/home/showdocument?id=598>
- ¹² CDFW. "California's Vernal Pools." 2013. <https://wildlife.ca.gov/Conservation/Plants/Vernal-Pools>
- ¹³ U.S. Fish and Wildlife. "National Wetlands Inventory." <https://www.fws.gov/wetlands/data/mapper.html>
- ¹⁴ Santa Maria, City of. "Urban Forestry Programs." <https://www.cityofsantamaria.org/city-government/departments/recreation-and-parks/environment/urban-forestry-programs>
- ¹⁵ Langridge, Ruth et al. "Central Coast Region Report". California's Fourth Climate Change Assessment. September 28, 2018. https://www.energy.ca.gov/sites/default/files/2019-11/Reg_Report-SUM-CCCA4-2018-006_CentralCoast_ADA.pdf
- ¹⁶ Santa Barbara County Association of Governments. "Fast Forward 2040". SBCAG. 2018. <http://www.sbcag.org/rtp.html>
- ¹⁷ Santa Barbara County Association of Governments. "Connected 2050". *Connected 2050*. 2020. <https://www.connected2050.org/>

-
- ¹⁸ Department of Planning and Development, County of Santa Barbara. "Sea Level Rise and Coastal Hazards Vulnerability Assessment". *County of Santa Barbara*. 2017. <http://www.countyofsb.org/plndev/projects/coastalresiliency.sbc>.
- ¹⁹ Santa Barbara, County of. "Request for Proposal" *County of Santa Barbara Community Services Department Sustainability Division*. 2020. <https://www.countyofsb.org/csd/asset.c/320>.
- ²⁰ Department of Planning and Development, County of Santa Barbara. "Sea Level Rise and Coastal Hazards Vulnerability Assessment". *County of Santa Barbara*. 2017. <http://www.countyofsb.org/plndev/projects/coastalresiliency.sbc>.
- ²¹ IPCC. "Future Climate Changes, Risks and Impacts". *IPCC*. 2020. https://ar5-syr.ipcc.ch/topic_futurechanges.php.
- ²² California Energy Commission, University of California, Berkeley, "Cal-Adapt". 2020. <https://cal-adapt.org/>
- ²³ Langridge, Ruth et al. "Central Coast Region Report". *California's Fourth Climate Change Assessment*. September 28, 2018. https://www.energy.ca.gov/sites/default/files/2019-11/Reg_Report-SUM-CCCA-2018-006_CentralCoast_ADA.pdf.
- ²⁴ Swain, Danial L. "A Tale of Two California Droughts: Lessons Amid Record Warmth and Dryness in a Region of Complex Physical and Human Geography". *Geophysical Research Letters*. 2014.
- ²⁵ The Nature Conservancy. "Santa Barbara County". *Coastal Resilience*. 2018. <https://coastalresilience.org/project/santa-barbara-county/>.
- ²⁶ Governor's Office of Planning and Research. "State of California Tribal Consultation Guidelines Supplement to General Plan Guidelines." Governor's Office of Planning and Research. November 14 2005. https://opr.ca.gov/docs/011414_Updated_Guidelines_922.pdf.
- ²⁷ Santa Maria, City of. "H Historic Overlay District." *Santa Maria Municipal Code*. July 2020. <http://www.qcode.us/codes/santamaria/?view=desktop&topic=12>.
- ²⁸ Santa Maria Valley Historical Society. "A Brief History." N.d. <https://santamariahistory.com/index.html>
- ²⁹ Anderson, Logan. "Enos Park Designed to be a Gathering Place." *Santa Maria Times*. February 20, 2017. https://santamariatimes.com/news/local/govt-and-politics/enos-park-designed-to-be-a-gathering-place/article_e2680c02-98e4-517a-bc0f-f90055426445.html.
- ³⁰ Place, Laura. Retail Project Approved for Enos Historic House Set to Undergo." *Santa Maria Times*. August 23, 2020. https://santamariatimes.com/news/local/retail-project-approved-for-enos-ranch-west-historic-house-set-to-undergo-renovation/article_b353ee82-0e93-5f3a-8925-311e6580c0cc.html.
- ³¹ Santa Maria, City of. "Downtown Specific Plan." *Specific Plans*. Publisher. 2015. <https://www.cityofsantamaria.org/home/showdocument?id=14999>.
- ³² Santa Maria, City of. "Downtown Specific Plan." *Specific Plans*. Publisher. 2015. <https://www.cityofsantamaria.org/home/showdocument?id=14999>.
- ³³ Santa Maria, City of. "Downtown Specific Plan." *Specific Plans*. Publisher. 2015. <https://www.cityofsantamaria.org/home/showdocument?id=14999>.
- ³⁴ Santa Maria, City of. "City of Santa Maria Landmarks." Date unknown. <https://www.cityofsantamaria.org/home/showdocument?id=7449>.
- ³⁵ Santa Maria, City of. "City of Santa Maria Objects of Historical Merit. Date unknown. <https://www.cityofsantamaria.org/home/showdocument?id=7451>.
- ³⁶ Santa Maria, City of. "City of Santa Maria Zoning Map." January 2019. <https://www.cityofsantamaria.org/home/showdocument?id=10037>.

-
- ³⁷ Santa Maria Cemetery District. "Cemetery History." *Santa Maria Cemetery District*. Publisher. 2020. <http://www.santamariacemetery.com/about.html>.
- ³⁸ County of Santa Barbara. "Santa Barbara County 2017 Multi-Jurisdictional Hazard Mitigation Plan." 2017. <http://www.countyofsb.org/ceo/asset.c/3416>.
- ³⁹ Santa Maria, City of. "2017 City of Santa Maria Hazard Mitigation Plan – An Annex to the Santa Barbara County Operational Area Hazard Mitigation Plan." July 10 2017. <https://www.cityofsantamaria.org/home/showdocument?id=20735>.
- ⁴⁰ Santa Maria, City of. "2017 City of Santa Maria Hazard Mitigation Plan – An Annex to the Santa Barbara County Operational Area Hazard Mitigation Plan." July 10 2017. <https://www.cityofsantamaria.org/home/showdocument?id=20735>.
- ⁴¹ Santa Maria, City of. "2017 City of Santa Maria Hazard Mitigation Plan – An Annex to the Santa Barbara County Operational Area Hazard Mitigation Plan." July 10 2017. <https://www.cityofsantamaria.org/home/showdocument?id=20735>.
- ⁴² Namson and Davis. 1990. Late Cenozoic Fold and Thrust Belt of the Southern Coast Ranges and Santa Maria Basin, California: AAPG Bulletin, v. 74, p. 467-492.
- ⁴³ Santa Maria, City of. "2017 City of Santa Maria Hazard Mitigation Plan – An Annex to the Santa Barbara County Operational Area Hazard Mitigation Plan." July 10 2017. <https://www.cityofsantamaria.org/home/showdocument?id=20735>.
- ⁴⁴ Santa Maria, City of. "2017 City of Santa Maria Hazard Mitigation Plan – An Annex to the Santa Barbara County Operational Area Hazard Mitigation Plan." July 10 2017. <https://www.cityofsantamaria.org/home/showdocument?id=20735>.
- ⁴⁵ Santa Barbara County Airport Land Use Commission and Santa Barbara Association of Governments [SBCAG]. "Santa Barbara County Airport Land Use Plan," Publisher. 1993. <http://www.sbcag.org/airport-land-use-commission.html#documents>.
- ⁴⁶ Santa Maria, City of. "2017 City of Santa Maria Hazard Mitigation Plan – An Annex to the Santa Barbara County Operational Area Hazard Mitigation Plan." July 10 2017. <https://www.cityofsantamaria.org/home/showdocument?id=20735>.
- ⁴⁷ Department of Toxic Substances Control (DTSC). "EnviroStor." 2020. <https://www.envirostor.dtsc.ca.gov/public/map/?myaddress=Santa+Maria+CA>.
- ⁴⁸ State Water Resources Control Board (SRCB). "GeoTracker." 2020. <https://geotracker.waterboards.ca.gov/map/?CMD=runreport&myaddress=Santa+Maria+CA>.
- ⁴⁹ White, Karen. "A Closer Look at the Central Coast/s Oil Origins." Lompoc Record. October 22, 2001. https://lompocrecord.com/news/local/a-closer-look-at-the-central-coast-s-oil-origins/article_a10e86dc-ace5-5965-9dfe-a3ed380c771a.html.
- ⁵⁰ Ramos, Julian J. "Map shows oil, gas lines under SM." Santa Maria Times. December 28, 2010. https://santamariatimes.com/news/local/map-shows-oil-gas-lines-under-sm/article_3c6243ee-131c-11e0-ad27-001cc4c03286.html.
- ⁵¹ California Department of Conservation. Well Finder – Santa Maria, CA. <https://www.conservation.ca.gov/calgem/Pages/WellFinder.aspx>
- ⁵² Ramos, Julian J. "Map shows oil, gas lines under SM." Santa Maria Times. December 28, 2010. https://santamariatimes.com/news/local/map-shows-oil-gas-lines-under-sm/article_3c6243ee-131c-11e0-ad27-001cc4c03286.html.
-

-
- ⁵³ Ramos, Julian J. "Map shows oil, gas lines under SM." Santa Maria Times. December 28, 2010. https://santamariatimes.com/news/local/map-shows-oil-gas-lines-under-sm/article_3c6243ee-131c-11e0-ad27-001cc4c03286.html.
- ⁵⁴ Santa Maria, City of. "2017 City of Santa Maria Hazard Mitigation Plan – An Annex to the Santa Barbara County Operational Area Hazard Mitigation Plan." July 10 2017. <https://www.cityofsantamaria.org/home/showdocument?id=20735>.
- ⁵⁵ California Water Boards. "Porter-Cologne Water Quality Control Act." January 2019. https://www.waterboards.ca.gov/laws_regulations/docs/portercologne.pdf.
- ⁵⁶ Public Works Department Water Resources Division Water Agency. "Santa Maria River Valley Groundwater Basin Boundary Modification Request." <https://www.countyofsb.org/uploadedFiles/pwd/Content/Water/WaterAgency/Groundwater%20Basin%20Modification%20Request%20Report.pdf>.
- ⁵⁷ Regional Water Quality Control Board, Central Coast Region; State Water Resources Control Board; California Environmental Protection Agency. "Water Quality Control Plan for the Central Coastal Basin." June 2019. https://www.waterboards.ca.gov/centralcoast/publications_forms/publications/basin_plan/docs/2019_basin_plan_r3_complete_webaccess.pdf.
- ⁵⁸ Santa Maria, City of. "Santa Maria Valley Watershed Characterization for Hydromodification Management Within the City of Santa Maria." Publisher. September 7, 2010. <https://www.cityofsantamaria.org/home/showdocument?id=682>.
- ⁵⁹ Santa Maria, City of. "Santa Maria Valley Watershed Characterization for Hydromodification Management Within the City of Santa Maria." Publisher. September 7, 2010. <https://www.cityofsantamaria.org/home/showdocument?id=682>.
- ⁶⁰ Central Coast Regional Water Quality Control Board (RWQCB). June 2019. Water Quality Control Plan for the Central Coast Basin. https://www.waterboards.ca.gov/centralcoast/publications_forms/publications/basin_plan/.
- ⁶¹ Santa Maria, City of. "City of Santa Maria 2015 Urban Water Management Plan." May 2016. <https://www.cityofsantamaria.org/home/showdocument?id=15109>.
- ⁶² Luhdorff & Scalmanini Consulting Engineers. 2019 Annual Report of Hydrogeologic Conditions, Water Requirements, Supplies, and Disposition. April 2020. <https://www.cityofsantamaria.org/home/showdocument?id=27220>
- ⁶³ County of Santa Barbara. "Conservation Element" *County of Santa Barbara Comprehensive Plan*. Adopted 1979. Amended August 2010. <https://cosantabarbara.app.box.com/s/t6t55tyoczghf6gx2kypz7wkao0464z>.
- ⁶⁴ Santa Maria, City of. "Santa Maria Valley Watershed Characterization for Hydromodification Management Within the City of Santa Maria." Publisher. September 7, 2010. <https://www.cityofsantamaria.org/home/showdocument?id=682>.
- ⁶⁵ California Department of Transportation (Caltrans). "Technical Noise Supplement to the Traffic Noise Analysis Protocol." September 2013. <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf>
- ⁶⁶ Federal Transit Administration (FTA). "Transit Noise and Vibration Impact Assessment Manual." September 2018. https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf

-
- ⁶⁷ Santa Maria Municipal Code. *Title 5 – Health and Sanitation. Chapter 5-5 Noise Regulations*. http://www.qcode.us/codes/santamaria/?view=desktop&topic=5-5_5
- ⁶⁸ Santa Maria, City of. *Noise Element of the Santa Maria General Plan*. April 2009. <https://www.cityofsantamaria.org/home/showdocument?id=596>
- ⁶⁹ Santa Maria, City of. *Safety Element of the Santa Maria General Plan*. November 1995. <https://www.cityofsantamaria.org/home/showdocument?id=612>
- ⁷⁰ Illingworth & Rodkin, Inc. *Wal-Mart Expansion, Williamson Ranch Plaza (Antioch, California) Environmental Noise Assessment*. 2009.
- ⁷¹ de Roode, Lisette. "Hearing Protection at Festivals and Concerts." *Alpine Hearing Protection*. May 2, 2017. <https://www.alpinehearingprotection.com/music/hearing-protection-festivals-concerts/>
- ⁷² Place, Laura. "Santa Maria Adopts Complaint-Based Regulations for Public Parks, Plazas, Transit". *Santa Maria Times*. June 9, 2020. https://santamariatimes.com/news/local/santa-maria-adopts-complaint-based-regulations-for-public-parks-plazas-transit/article_82623b11-7461-58a2-9a0f-22ee075cbdfc.html.
- ⁷³ City of Santa Maria. "Annex to Santa Barbara County 2017 Multi-Hazard Mitigation Plan". *City of Santa Maria*. 2017. <https://www.cityofsantamaria.org/home/showdocument?id=20735>.
- ⁷⁴ Santa Maria Fire Department. "Integrated Regional Multi-Hazard Emergency Response Plan for the Cities of Santa Maria and Guadalupe". *City of Santa Maria*. 2016. <https://www.cityofsantamaria.org/home/showdocument?id=15099>.
- ⁷⁵ *Community Risk Assessment: Standards of Cover*. City of Santa Maria Fire Department. November 2019. <https://www.cityofsantamaria.org/home/showdocument?id=27128>.
- ⁷⁶ Pacific Gas and Electric. "Company Profile". *Pacific Gas and Electric*. 2020. https://www.pge.com/en_US/about-pge/company-information/profile/profile.page.
- ⁷⁷ Herndon, Kathrene. *Nearly 14,000 PG&E Customers Without Power in Santa Maria Area, Santa Ynez Valley*. KSBY News. August 15, 2020. <https://www.ksby.com/news/local-news/more-than-8k-pg-e-customers-without-power-in-santa-ynez-valley>.
- ⁷⁸ *Gas Consumption by Entity*. California Energy Center. 2017. <http://ecdms.energy.ca.gov/gasbyutil.aspx>.
- ⁷⁹ Monterey Bay Community Power. "About Us". *Monterey Bay Community Power*. 2020. <https://www.mbcommunitypower.org/about-us/>.
- ⁸⁰ Wirefly. "Internet Providers in Santa Maria, CA." *Wirefly*. 2020. <https://www.wirefly.com/compare-internet-providers/california/santa-maria>.
- ⁸¹ City-Data. "FCC Registered Cell Phone and Antenna Towers in Santa Maria, CA". *City-Data*. 2020. <http://www.city-data.com/towers/cell-Santa-Maria-California.html#:~:text=Full%20list%20of%202023%20FCC%20Registered%20Antenna%20Towers%20in%20Santa%20Maria%2C%20CA>.
- ⁸² City of Santa Maria. "Computers, Internet, and Printing". *City of Santa Maria*. 2020. <https://www.cityofsantamaria.org/city-government/departments/library/using-the-library/computers-internet-and-printing>.
- ⁸³ City of Santa Maria. "Police Services". *City of Santa Maria*. 2020. <https://www.cityofsantamaria.org/city-government/departments/police-services>.
- ⁸⁴ Santa Maria Police Department. "Public Interest Statistics (2017-2019)". *City of Santa Maria*. 2020. <https://www.cityofsantamaria.org/home/showdocument?id=14823>.
- ⁸⁵ City of Santa Maria. "Fire Services". *City of Santa Maria*. 2020. <https://www.cityofsantamaria.org/city-government/departments/fire-services>.
-

⁸⁶ Santa Maria Fire Department. Emergency Response Statistics (2009-2019)". *City of Santa Maria*. 2020. <https://www.cityofsantamaria.org/home/showdocument?id=454>.

⁸⁷ Santa Maria Fire Department. "Community Risk Assessment: Standards of Cover". *Santa Maria Fire Department*. November 2019. <https://www.cityofsantamaria.org/home/showdocument?id=27128>.

⁸⁸ McDonald, Brian, et al. "Volatile chemical products emerging as largest petrochemical source of urban organic emissions." *Science*. February 2018;359(6377):760-764. doi:10.1126/science.aaq0524