



City of St. Helena
Special Joint City Council and Planning
Commission Meeting
Tuesday, September 27, 2022 @ 4:00 PM
Vintage Hall Board Room - Second Floor
465 Main Street, St. Helena

PLEASE NOTE: Any person who wishes to speak regarding an item on the agenda or make a comment under the "Oral Communication" portion of the agenda may do so, but please observe the time limit of four minutes.

Simultaneous Spanish interpretation services during meetings can be scheduled upon request. To ensure interpreters are available, requests must be made at least 72 hours in advance by calling the Office of the City Clerk at (707) 968-2640 or emailing cityclerk@cityofsthelelena.org.

The schedule of upcoming meetings and published meeting agendas can be found on the City of St. Helena website at <https://sthelelena.civicweb.net/portal/>.

Servicios de interpretación en español durante la reunión pueden ser solicitados por el público. Para asegurar que los intérpretes estén disponibles, los servicios tienen que ser solicitados al menos 72 horas antes de la reunión llamando a la oficina de la Secretaria de la Ciudad al (707) 968-2640 o por correo electrónico a cityclerk@cityofsthelelena.org.

El horario de las reuniones publicadas y próximas puede ser localizado en el sitio de web de la Ciudad en <https://sthelelena.civicweb.net/portal/>.

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1. CALL TO ORDER
2. PLEDGE OF ALLEGIANCE
3. ADOPTION OF THE AGENDA
4. ROLL CALL
Mayor: Geoff Ellsworth, Vice Mayor: Paul Dohring, City Council Members: Anna Chouteau, Eric Hall and Lester Hardy

Chair: John Ponte, Vice-Chair: Autumn Anderson, Commissioners: Rosaura Segura, Marika Rothfeld and Chris Warner

5. PUBLIC FORUM:
Under California law, public comments at special meetings are limited to subjects on the agenda only. Therefore public comment will take place during consideration of the item. Each person's comments shall be limited to 4 minutes.

6. NEW BUSINESS

- 6.1. The purpose of this meeting is to receive public comment on the public review draft Public Health, Safety, and Noise Element Update and for the Planning Commission and City Council to provide direction on revisions and additions.

5 - 119

CEQA Determination: Exempt

Prepared By: Aaron Hecock, Senior Planner

Recommendation:

No formal action is required. Staff recommends that the Planning Commission and City Council receive public comment and provide comments to staff on recommended revisions and additions.

[Staff Report - Pdf](#)

7. ADJOURNMENT

The next Regular City Council meeting is scheduled for September 27, 2022, at 6:00 p.m.

This agenda was posted at City Hall, 1572 Railroad Avenue, and at Vintage Hall, 465 Main Street, St. Helena, California on September 21, 2022.



Cindy Tzafopoulos, City Clerk

In Compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please call the City Clerk's Office (707) 967-2792. Notification 72 hours prior to the meeting as required by Section 202 of the Americans with Disabilities Act will enable the City to make reasonable arrangements to ensure accessibility to this meeting

CHALLENGING DECISIONS OF CITY ENTITIES

The time limit within which to commence any lawsuit or legal challenge to any quasi-adjudicative decision made by the City of St. Helena is governed by Section 1094.6 of the Code of Civil Procedure, unless a shorter limitation period is specified by any other provision, including without limitation Government Code section 65009 applicable to many land use and zoning decisions, Government Code section 66499.37 applicable to the Subdivision Map Act, and Public Resources Code section 21167 applicable to the California Environmental Quality Act (CEQA). Under Section 1094.6, any lawsuit or legal challenge to any quasi-adjudicative decision made by the City must be filed no later than the 90th day following the date on which such decision becomes final. Any lawsuit or legal challenge, which is not filed within that 90-day period, will be barred. Government Code section 65009 and 66499.37, and Public Resources Code section 21167, impose shorter limitations periods and requirements, including timely service in addition to filing.

If a person wishes to challenge the above actions in court, they may be limited to raising only those issues they or someone else raised at the meeting described in this notice, or in written correspondence delivered to the City of St. Helena, at or prior to the meeting. In addition, judicial challenge may be limited or barred where the interested party has not sought and exhausted all available administrative remedies.

SUPPLEMENTAL MATERIAL RECEIVED AFTER THE POSTING OF THE AGENDA

Any supplemental writings or documents distributed to a majority of the City Council regarding any item on this Agenda, after the posting of the Agenda, will be available for public review in the City Clerk's Office located at 1480 Main Street, St. Helena, California, during normal business hours. In addition, such writings or documents will be made available on the City's web site at <https://sthelena.civicweb.net> and will be available for public review at the respective meeting.



Report to the City Council
Special Joint City Council and Planning
Commission Meeting - 27 Sep 2022

Agenda Section: NEW BUSINESS

Subject: The purpose of this meeting is to receive public comment on the public review draft Public Health, Safety, and Noise Element Update and for the Planning Commission and City Council to provide direction on revisions and additions.

**CEQA Exempt
Determination:**

Prepared By: Aaron Hecock, Senior Planner

Reviewed By: Maya DeRosa, Planning & Building Director

Approved By: Anil Comelo, City Manager

BACKGROUND

California State law requires that local governments prepare and adopt a General Plan, which is a blueprint for meeting the community's long-term vision for the future. The Public Health, Safety and Noise Element (known as the Safety Element) is one of the nine State-mandated elements of the General Plan. While the City's Public Health, Safety, and Noise Element was revised and adopted in June 2019 as part of a comprehensive update to the City's General Plan, recent State of California legislation requires that Safety Elements be reviewed and updated as necessary alongside the 2023 – 2031 Housing Element update. Recent state legislation that requires changes to a Safety Element when a municipality undergoes an update to their Housing Element includes the following:

1. Senate Bill 99 (2019). Residential Emergency Evacuation Routes. Senate Bill 99 requires all cities and counties, upon the next revision of the housing element on or after January 1, 2020, to update the safety element to include information identifying residential developments in any hazard area that do not have at least two emergency evacuation routes.
2. Senate Bill 1241 (2012). State Responsibility Areas and Very High Fire Severity Zones. This bill requires review and update of the safety element, upon the next

revision of the housing element on or after January 1, 2014, to address the risk of fire in state responsibility areas and very high fire hazard severity zones.

3. Senate Bill 1035 (2018). New Information on Flood, Fire, or Climate Hazards. Senate Bill 1035 requires cities and counties to update their safety element during a housing element or local hazard mitigation plan update cycle, but not less than once every eight years, if new information on flood hazards, fire hazards, or climate adaptation or resilience is available that was not available during the previous revision of the safety element.
4. Senate Bill 379 (2015). Climate Change Adaptation. Senate Bill 379 requires all cities and counties to include climate adaptation and resiliency strategies in the safety elements of their general plans beginning January 1, 2017. The bill requires the safety element update to include a set of goals, policies, objectives, and implementation measures based on a vulnerability assessment.

DISCUSSION

The Safety Element presents a framework for minimizing risks posed by environmental and human-caused hazards that may impact St. Helena residents' health and welfare. The Safety Element aims to protect St. Helena residents, workers, and visitors from negative exposure to flooding, fires, hazardous materials, air pollution, geologic and seismic hazards, disaster response, and climate change hazards. The attached update does not constitute a new document, it is a required update to the existing Chapter 9 of the City's General Plan. An underlined/strikethrough version of the document has been attached to this report which shows additions to the document underlined and deletions in ~~strikethrough~~ so that the reader can easily identify what was added and what was removed from the adopted version of the document. As detailed in the attached updated document, the Public Health, Safety, and Noise Element includes the following sections:

- 9.2 Public Health, Safety, and Noise in St. Helena. Summarizes key issues related to the public health and safety of St. Helena residents, workers, and visitors (p. 9-3).
- 9.3 Key Findings. Identifies key findings based on an existing conditions analysis (p. 9-32).
- 9.4 Goals. Defines overarching goals to guide policies and implementing actions (p. 9-36).
- 9.5 Policies and Implementing Actions. Identifies policies and implementing actions to minimize hazards and risks to life and property (p. 9-37).

In alignment with the recently adopted state legislation noted above, this update of the City's Public Health, Safety, and Noise Element does the following:

- Includes information and a figure identifying residential developments in any hazard area that do not have at least two emergency evacuation routes;
- Identifies policies and implementing actions that minimize evacuation challenges for vulnerable residential development;
- Identifies evacuation routes and evacuation locations;
- Updates information on flood hazard and fire hazards;

- Identifies measures and policies, consistent with state legislation, that proactively mitigate wildfire risk by addressing areas within the wildland urban interface in and surrounding the City;
- In conformance with CAL FIRE's recommendations includes up-to-date wildfire maps, historical information, and information on current wildfire mitigation efforts;
- Includes a Climate Change Hazards and Vulnerability Assessment Appendix that details projected climate change impacts on the City's vulnerable community members;
- Includes climate adaptation and resiliency strategies targeted at vulnerable populations, built assets, services, and natural and managed resources in the City.

As a result of this new analysis, new programs have been added to the Safety Element to comply with State law and ensure that local policies align with State goals to address climate hazards and hazard mitigation planning. These programs are reflected in the updated Public Health, Safety, and Noise Element found in attached to this report. The following are examples of the types of programs found in the update:

Wildfire

- PS4.L Develop and disseminate education and outreach materials to landlords, businesses, and residents regarding retrofits and home-hardening measures that align with recommendations from CAL FIRE's Wildfire Home Retrofit Guide.
- PS4.I Coordinate with Napa County Communities Firewise Foundation, the St. Helena Fire Safe Council, and neighboring jurisdictions to implement wildfire mitigation projects proposed in the Napa County Community Wildfire Protection Plan

Disaster Planning

- PS6.J Develop and maintain evacuation options for vulnerable populations such as young children, older adults, outdoor workers, individuals that are linguistically isolated, visitors, and individuals with access and functional needs.
- PS6.L Designate and publish in Zonehaven safety zones and/or shelter-in-place locations as potential places of refuge when evacuation routes or evacuation shelters are inaccessible.

Climate Change Hazards

- PS7.G Coordinate with PG&E and Napa County Office of Emergency Services to establish backup power and emergency grid shutdown protocols that protect the City's vulnerable populations.
- PS7.J Develop and disseminate guidelines and outreach materials on tree and plants species that are drought-tolerant and wildfire resistant to city residents and businesses.

As noted above, Senate Bill 1035 requires St. Helena and all California cities and counties to update their Safety Element with new information on flood hazards, fire hazard, and climate adaptation and resilience in conjunction with the Housing Element update cycle. In accordance with California Government Code Section 65302(g), St. Helena is required

to complete a Climate Change Vulnerability Assessment in conjunction with the update to its Safety Element. The Climate Change Vulnerability Assessment is attached to this report and is a new Appendix (Appendix B) to the General Plan (Appendix A is the City's Historic Resources Master List).

The 30-day Public Review and Comment Period for the Public Health, Safety, and Noise Element Update is from September 9, 2022 through October 10, 2022.

FISCAL IMPACT

Mintier Harnish's contract in the amount of \$228,024 to prepare the Housing and Safety Element Updates was approved by the City Council on January 26, 2021. Approximately 74% of the budget has been spent to date (\$168,193) with an anticipated completion date of April 2023.

RECOMMENDED ACTION

No formal action is required. Staff recommends that the Planning Commission and City Council receive public comment and provide comments to staff on recommended revisions and additions.

ATTACHMENTS

[Public Review Draft Chapter 9](#)

[St.Helena Climate and Vulnerability Assessment Appendix B](#)

[Public Review Draft tracked changes](#)

[Presentation Sept. 27, 2022](#)



chapter nine
public health, safety,
and noise

9 public health, safety, and noise



The Public Health, Safety and Noise element identifies goals, policies, and implementing actions to minimize risks to life and property associated with natural hazards.

- 1 introduction
- 2 land use and growth management
- 3 economic sustainability
- 4 public facilities and services
- 5 circulation
- 6 historic resources
- 7 community design
- 8 open space and conservation
- 9 public health, safety, and noise**
- 10 climate change
- 11 housing
- 12 parks and recreation
- 13 arts, culture, and entertainment

9.1 Purpose of the Element

The Public Health, Safety, and Noise Element presents a framework for minimizing risks posed by environmental and human-caused hazards that may impact St. Helena residents' health and welfare. The Public Health, Safety, and Noise Element aims to protect St. Helena residents, workers, and visitors from negative exposure to flooding, fires, hazardous materials, air pollution, geologic, seismic, and climate change hazards.

The Public Health, Safety, and Noise Element includes the following sections.

- **9.2 Public Health, Safety, and Noise in St. Helena.** Summarizes key issues related to the public health and safety of St. Helena residents, workers, and visitors (p. 9-3).
- **9.3 Key Findings.** Identifies key findings based on an existing conditions analysis (p. 9-32).
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9.2 Public Health, Safety, and Noise in St. Helena

St. Helena is surrounded by natural beauty, hillsides, vineyards, and waterways. While these natural features are great assets for the community, they can present risks due to flood, fire, geologic, seismic and climate change. In addition, human-caused risks, such as hazardous materials, air pollution, and unhealthy noise levels can also pose risks to community health and safety. Effective planning to prepare for and mitigate the adverse effects of these natural and human-caused risks can help ensure that St. Helena maintains a high level of safety for its residents, workers, and visitors. Following is a discussion of the steps St. Helena takes to prepare for these risks, the potential impacts the various risks could have on St. Helena and ways for the City to minimize or prepare for these potential impacts.

PUBLIC SAFETY SERVICES

Identification of public safety services in the Public Health, Safety, and Noise Element is important because these services are critical to the property and life savings effort required during an emergency and must be identified to comply with Government Code 65302. The Napa County Fire Department and the City of St. Helena Fire Department provide fire and emergency services for St. Helena. The City is served by the following fire stations that have the capability to respond to medical emergencies, rescues, structural fire, and wildfire: Napa County Station #26, located at 3535 Saint Helena Highway in Calistoga, the Napa County Station #12, located at 7401 Solano Ave in Yountville, the Napa County Volunteer Station #15, located at 1989 Highway 29 in Rutherford, the Napa County Volunteer Station #21, located at 680 Sanitarium Road, and the St. Helena Fire Station, located at 1480 Main St in St. Helena. Additional public safety services are provided by the St. Helena Police Department. The St. Helena Police Department is located at 1480 Main Street in St. Helena.

EMERGENCY PREPAREDNESS

The State of California requires all municipal governments to prepare and plan for potential emergencies including natural and human caused events. St. Helena seeks to ensure the safety of its residents, services, infrastructure, businesses, and buildings during an emergency scenario.

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Emergency preparedness efforts in St. Helena include:

- Implementation of risk reductions measures identified in the Napa County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP).
- Implementation of emergency operation protocols as included in Napa County Emergency Operations Plan.
- Continued coordination of evacuation management planning through Zonehaven, in conjunction with the Napa County Sheriff Department, Napa County Office of Emergency Services, CAL FIRE, and neighboring jurisdictions.
- Education and training of residents on emergency response management and preparedness as part of the Napa Valley Community Emergency Response (CERT) program.
- Upgrades to structures and infrastructure to comply with building and fire codes.
- Maintaining a cooling center at the St Helena Library (1492 Library Lane) during extreme heat events.

The City is actively engaged in local and regional emergency planning efforts. St. Helena is a participating jurisdiction of the Napa County MJHMP, which includes a hazard mitigation assessment and mitigation actions for Napa County and participating jurisdictions. Additionally, the City is involved in the development and regular updates to the Napa County Operational Area Emergency Operations Plan, which describes emergency operation planning processes and protocols for Napa County jurisdictions. These efforts combine with an actively engaged and educated public to support emergency preparedness for the City.

CRITICAL FACILITIES

Critical facilities are structures and institutions necessary for a community to respond to and recover from emergencies. Identification of them is important because critical facilities must continue to operate during and following a disaster to reduce the severity of impacts and accelerate recovery. They are essential to the health and welfare of residents and are relied upon to recover following hazard events. Such facilities have been identified in the Napa County MJHMP and several are located in St. Helena or in close proximity to the City. They include police stations, fire stations, hospitals, elder care facilities, schools, regional emergency services, critical water facilities, and governmental buildings.

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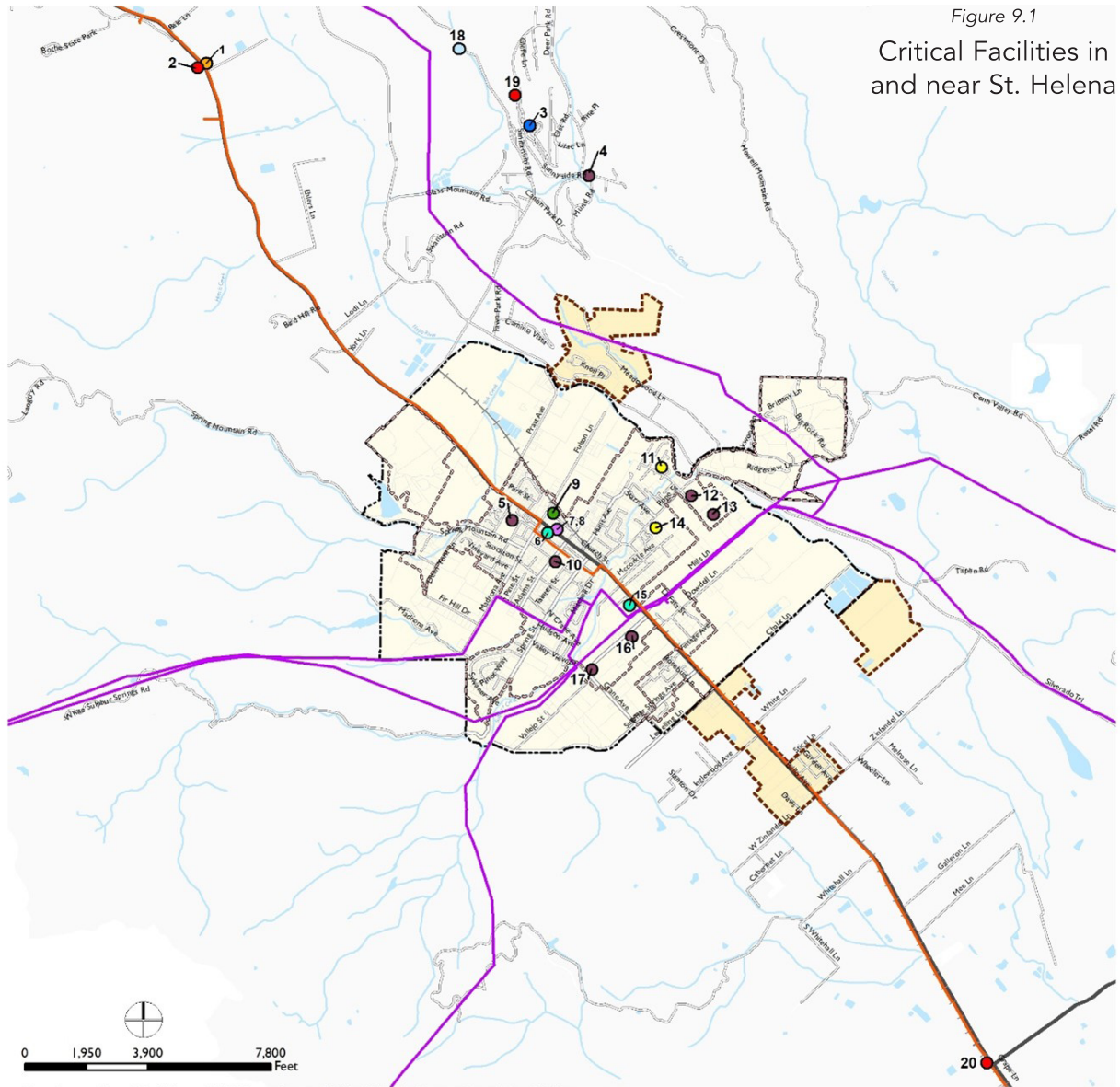
Additionally, facilities such as natural gas pipelines and the transportation system are identified as critical infrastructure, which enable buildings, residences, and the transport of good and services to remain functional. These critical facilities are identified in Figure 9.1.

EMERGENCY EVACUATION & ISOLATED ST. HELENA NEIGHBORHOODS

Evacuation routes are used to move residents out of impacted areas before or during a disaster or hazard event. St. Helena's major evacuation routes include State Route 29 and the Silverado Trail, which lies east of and directly parallel to State Route 29. In addition to identification of these major routes, St. Helena is required by Government Code Section 65302 (g)(5) (as amended by Senate Bill 99) to update the Public Health, Safety, and Noise Element to include information identifying residential developments in any hazard area identified in the safety element that do not have at least two emergency evacuation access roads. Identifying residential developments without access to two emergency evacuation access roads allows the City to identify opportunities to improve evacuation capacity and connectivity for vulnerable neighborhoods. Figure 9.2 identifies residential neighborhoods that have a single access road for entry and exit (i.e., roads that connect to a collector or arterial road by only a single route).

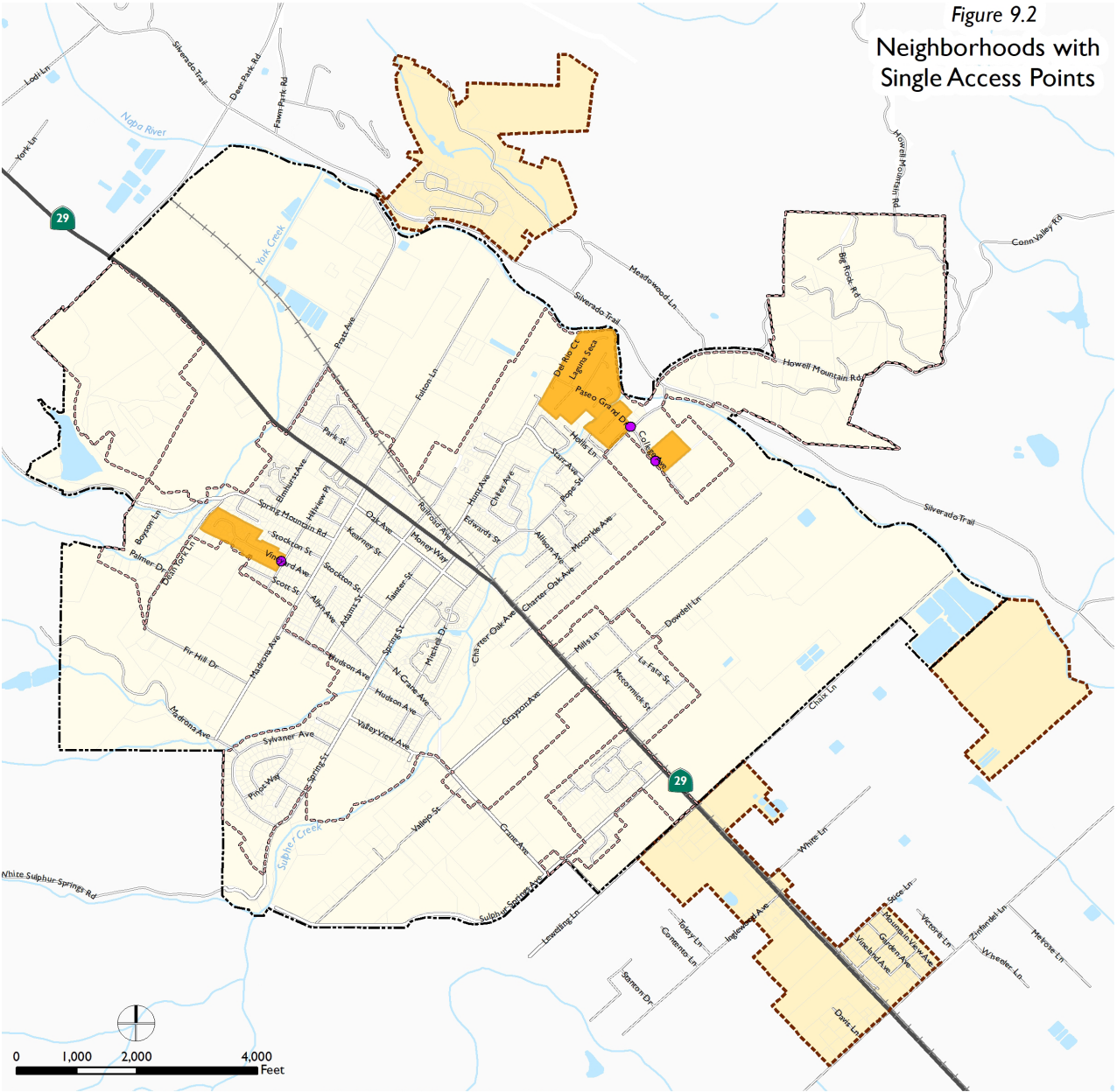
There are currently three neighborhoods in the City that have been identified as having only a single access road. These neighborhoods are most vulnerable during evacuation scenarios and pose significant logistical challenges. As a result, policy and implementing actions have been developed to minimize these challenges for these specific neighborhoods.

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Data Source: City of St. Helena, 2018; Napa County, 2018; California Energy Commission 2020.

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- Single Entry/Exit Residential Neighborhood
- Single Entry and Exit Access Point
- Railroads
- Water Features
- Urban Limit Line
- Study Areas
- City of St. Helena

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Low-lying portions of Napa Valley are prone to flooding.

FLOODING

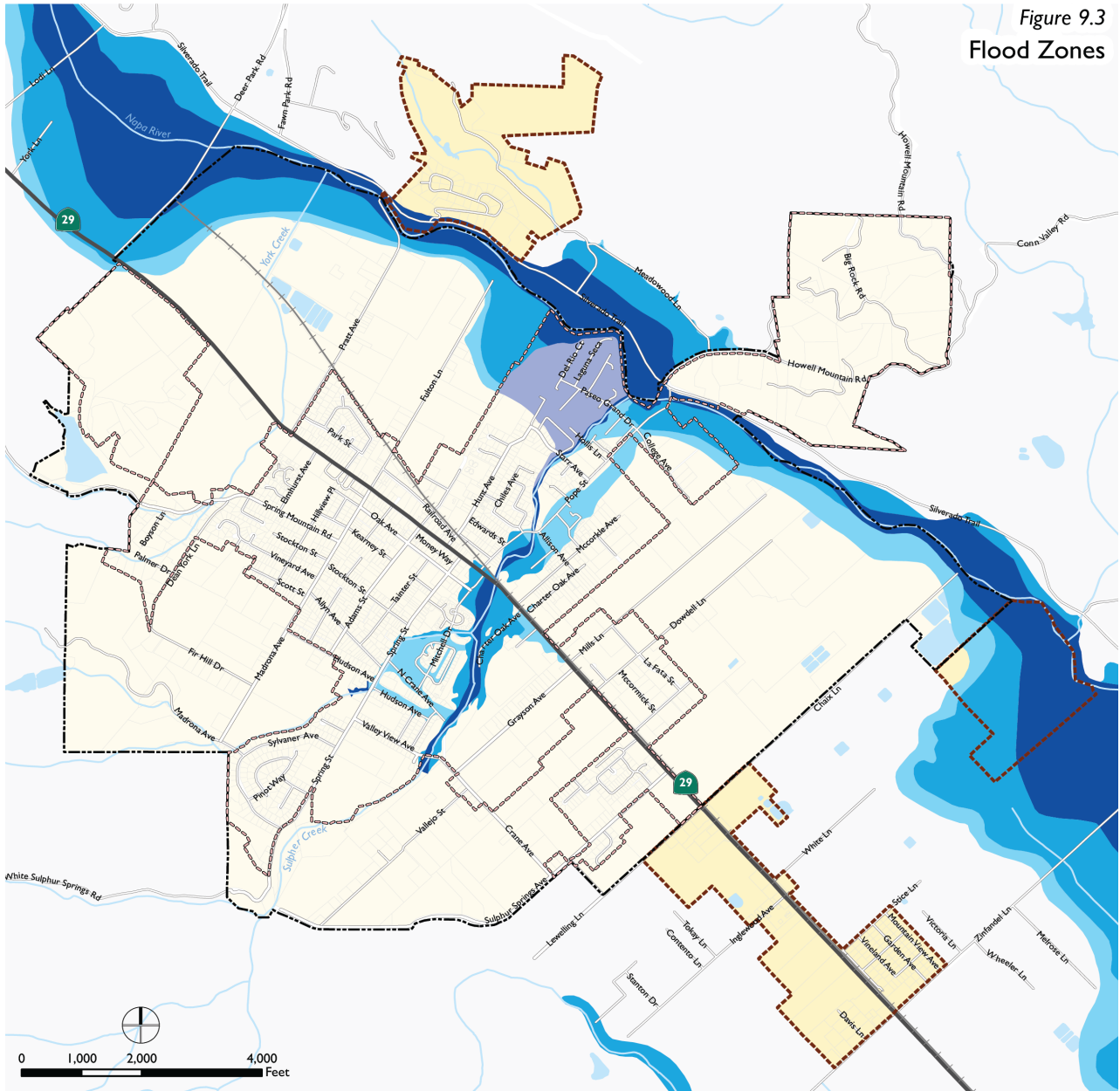
The Napa River and some of its tributaries are prone to flooding, which poses a risk for people and structures in adjacent parts of the Napa Valley. The Napa River flows are largely influenced by precipitation. The peak flows generally occur in January, February, and March. Some of the worst flooding in the immediate area of St. Helena has occurred in December and April, especially in and around the Vineyard Valley Mobile Home Park, which is near the confluence of Sulphur Creek and the Napa River. The area experienced significant flooding in 1986, 1995, 1997, and 2005 with extensive property loss.

Flood hazards also exist in the York Creek and Sulphur Creek Watersheds in St. Helena. During the 2005 New Year's Eve storm event, flooding from York Creek significantly impacted residential and industrial properties, including buildings located on the properties of Beringer Winery and the Culinary Institute. The Beringer water treatment plant flooded and ponds overflowed into the creek. In addition, the creek flooded vineyards on both sides of its corridor, downstream of State Route 29 to the Napa River.

Flood hazards in the Sulphur Creek watershed are due primarily to channel bed aggradation in the lower reach where gravel mining was historically conducted. Sulphur Creek continues to supply and deposit substantial amounts of sediment in this reach. Consequently, the increased volume of sediment currently stored in the channel decreases the volume available for floodwater, potentially causing an increased flood hazard locally and within the City of St. Helena. Further study needs to be done of the Sulphur Creek area in order to prevent future flooding and to protect habitat for steelhead and salmon.

Recently, the City collaborated with the Napa County Board of Supervisors and the Napa County Flood Control District to study the Napa River's hydraulics between Deer Park Road and Pope Street. The resulting study identified the need for an extension of the 100-year floodplain beyond the areas previously identified by the Federal Emergency Management Agency (FEMA). Figure 9.3 identifies areas that fall within the City's 100-year (one percent) and 500-year (0.2 percent) floodplain; as identified by the Federal Emergency Management Agency (FEMA) in 2018. Figure 9.4 includes areas in and around St. Helena that would be inundated in the case of dam failure.

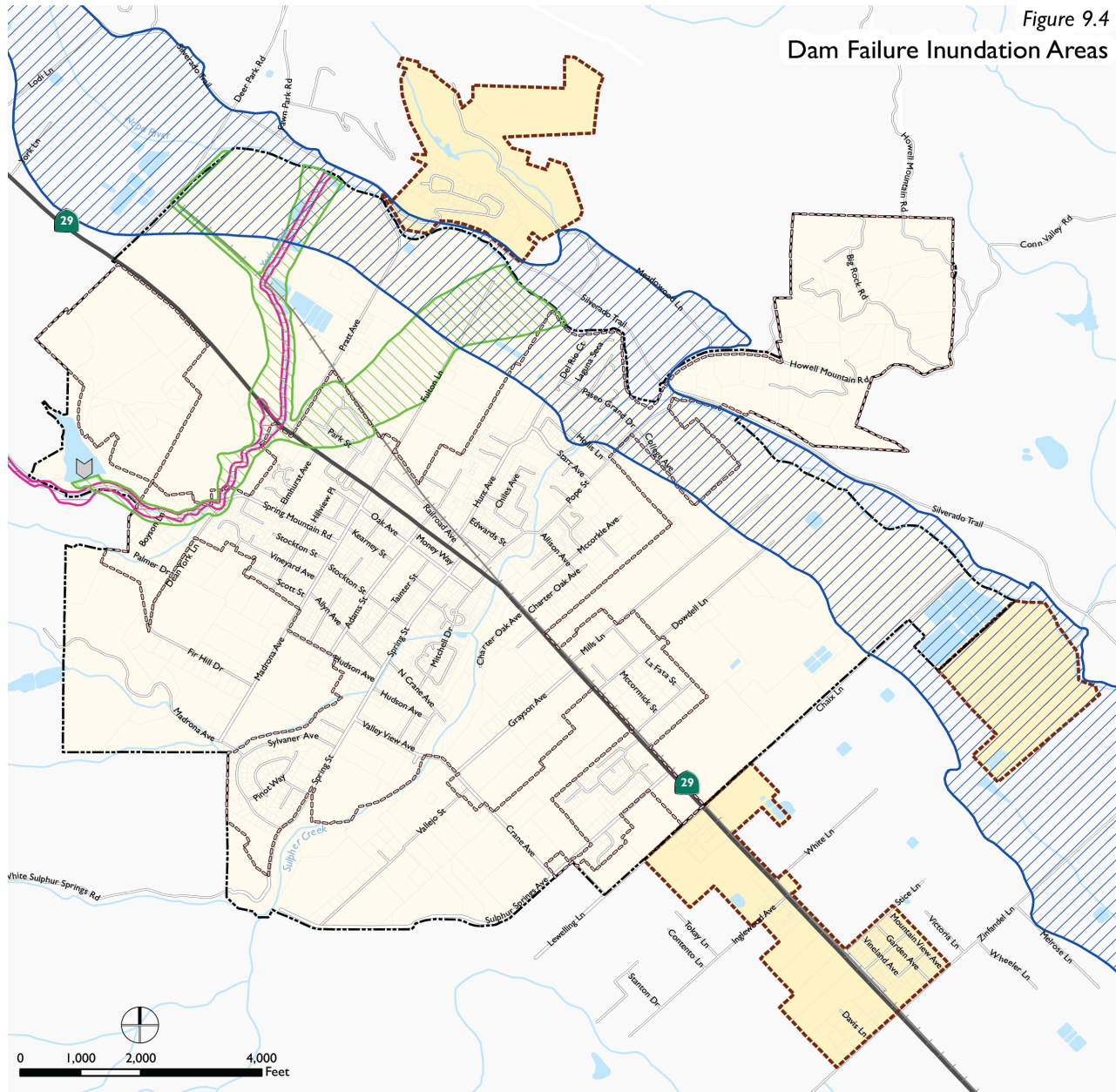
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Data Source: City of St. Helena, 2018; Napa County, 2018; FEMA, 2018; Dyett & Bhatia, 2018

- | | |
|---|--|
| Floodway | Railroads |
| 100-Year Flood Zone (1% Annual Chance Flood Hazard) | Water Features |
| 500-Year Flood Zone (0.2% Annual Chance Flood Hazard) | Urban Limit Line |
| Reduced Risk Areas due to Levee | Study Areas |
| | City of St. Helena |

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Data Source: City of St. Helena, 2018; Napa County, 2018; Dyett & Bhatia, 2018

- | | |
|-----------------------------|--------------------|
| St. Helena Lower Dam | Railroads |
| Dam Inundation Areas | Water Features |
| Bell Canyon Dam | Urban Limit Line |
| St. Helena Lower Dam | Study Areas |
| St. Helena Upper Dam | City of St. Helena |

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COMPREHENSIVE FLOOD CONTROL AND RIVER RESTORATION

In 2011, the City completed a Comprehensive Flood Control and River Restoration Project north of the Pope Street bridge and on the west side of the Napa River. The purpose of this project was to protect residential property in the floodplain from the 100-year storm events and restoring the Napa River and its surrounding habitat. The project is designed to reduce flood risk to protect approximately 470 homes, including the Vineyard Valley Mobile Home Park and the Hunt's Grove Apartment Complex, that were located in a FEMA-designated flood zone prior to completion of the project. The project site was about 36 acres. The project planning began in 2000, with actual construction starting in May 2009. Phase I of the project consisted of construction of a levee, along with a storm drain bypass and other related infrastructure improvements. Phase II, the final phase of the project, included construction of a floodwall that is roughly eight feet high where it is anchored to the levee. The floodwall gradually reduces in height as it continues south along the Napa River to the confluence of the river and Sulphur Creek. It then turns to the west and continues along Sulphur Creek, terminating at Paseo Grand Avenue. The wall is about three and a half feet high at its terminus. The total project cost was about \$32 million, with the cost of construction at about \$9.1 million.

To balance the removal of land from the floodplain, the area known as "lower terrace B" was cut down significantly and widened to accommodate the large flood flows. In Phase II, this terrace was cut down to the level of the Napa River and is designed to carry significant amounts of flood water, should it become necessary.

The second half of this \$9.1 million project is the continuation of the flood wall around Vineyard Valley and habitat restoration in the "upper terrace B." The habitat restoration was a critical element of the overall plan and included the installation 40,000 plantings and anchoring fallen trees into the terrace. This project also included maintenance conducted according to a maintenance plan, irrigation, and development of a pedestrian interpretive trail.

St. Helena has developed an Operations and Maintenance Manual for the Comprehensive Flood Control and River Restoration Project, which describes the extent of the project and outlines operation and maintenance activities that the City and Napa County Flood Control District will work together to manage. The

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manual describes project features, routine monitoring and maintenance activities, pump station operation, emergency operations, surveillance, personnel training, utility coordination and design.

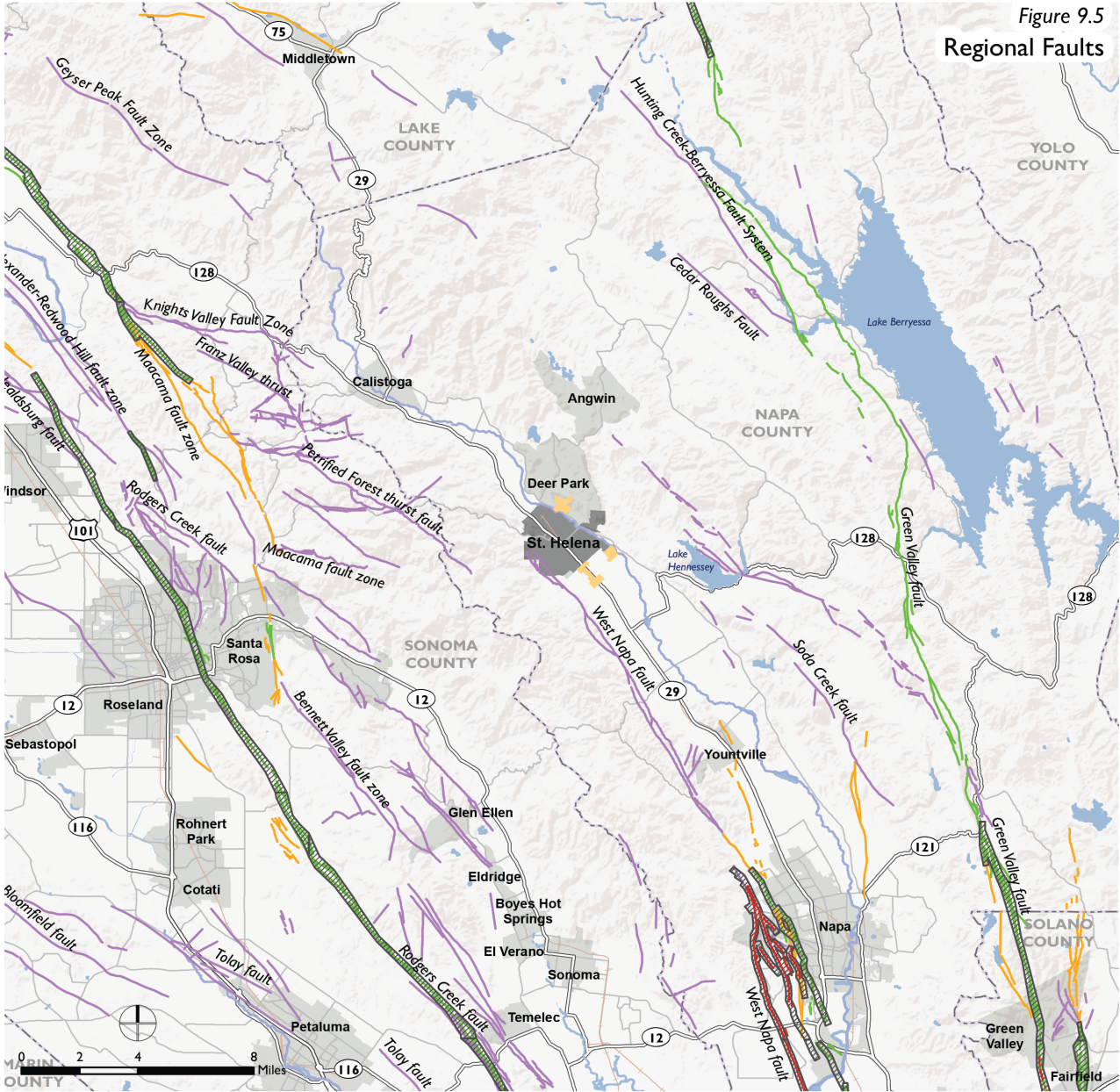
GEOLOGIC AND SEISMIC HAZARDS

Although St. Helena is located in a seismically active region, there are no known active faults located in the city (see *Figure 9.5*). Faults are commonly considered to be active or likely to have another earthquake sometime in the future, if they have moved one or more times in the past 10,000 years. The California Geological Survey, the primary source of geologic information used for decision-making by California's government agencies, designates Alquist-Priolo Earthquake Fault Zones around the surface traces of active faults in the state and provides maps for use in planning and controlling new or renewed construction so as to minimize associated risks. According to the most recent maps the nearest active faults to St. Helena are the West Napa Fault, located 14 miles to the south, and the Rodgers Creek Fault, located 13 miles to the west. Additionally, a number of unnamed, relatively small, older faults are located at the base of the Sonoma and Vaca mountains along the margins of the Napa Valley; however, based on available information, displacement of these faults occurred more than 10,000 years ago and as such these faults are not considered active.

Overall, the fault rupture hazard for the city is considered to be low, and the primary geologic hazards of concern are those that could result from excessive shaking effects stemming from earthquakes elsewhere in the region. For instance, a large earthquake event in the area could result in liquefaction in the city's low-lying areas (see *Figure 9.6*), and landslides and debris flow in areas with sloped, hilly terrain (see *Figure 9.7*). Development in the city's upland areas has often required the removal of trees and vegetation, leaving some hillsides susceptible to erosion and landslides during heavy rains. Actions available to the City to protect areas of the community at greatest risk and minimize the risks of injury and property damage include restricting development in the hillside areas and requiring prompt re-vegetation on slopes prone to instability. The use of best management practices during construction can also limit erosion and the risk of landslides. Employing earthquake engineering strategies in the design of buildings and structures, such as installation of earthquake drains or use of low mobility grouting and dynamic compaction during construction, can limit risks associated with liquefaction.

In August 2014, a 6.0 earthquake struck the Napa Valley, with the epicenter of the quake approximately 6 miles southwest of the City of Napa. While damage from the quake was substantial in Napa, particularly in Napa's downtown area, St. Helena experienced very little to no measurable damage.

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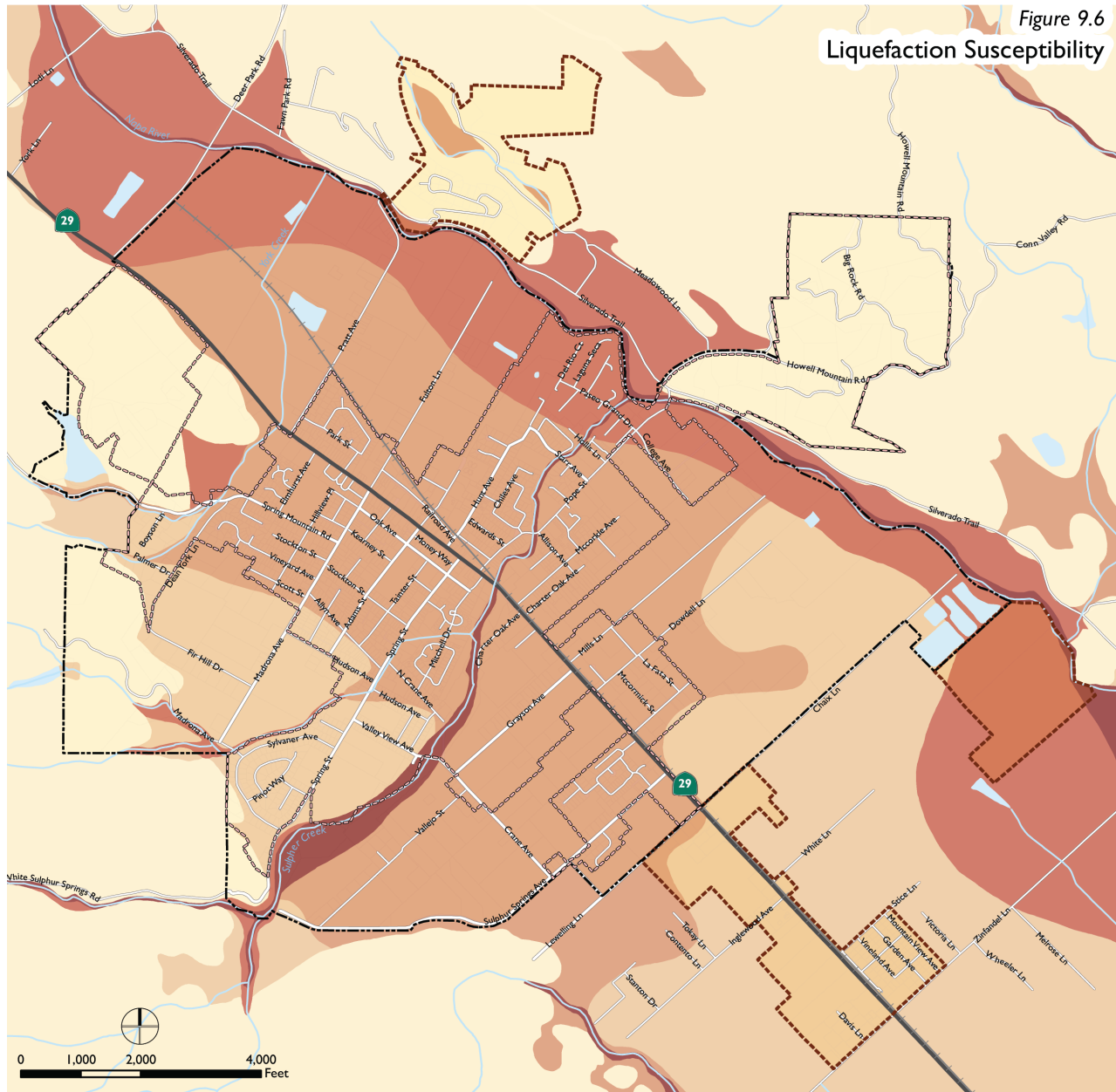
Data Source: City of St. Helena, 2018; Napa County, 2018; USGS and CGS, Quaternary Fault and Fold Database for the U.S., 2006; Dyett & Bhatia, 2018

Geologic Features

- Historic (<150 years)
- Latest Quaternary (<15,000 years)
- Late Quaternary (<130,000 years)
- Undifferentiated Quaternary (<1.6 million years)
- Alquist Priolo Fault Zones

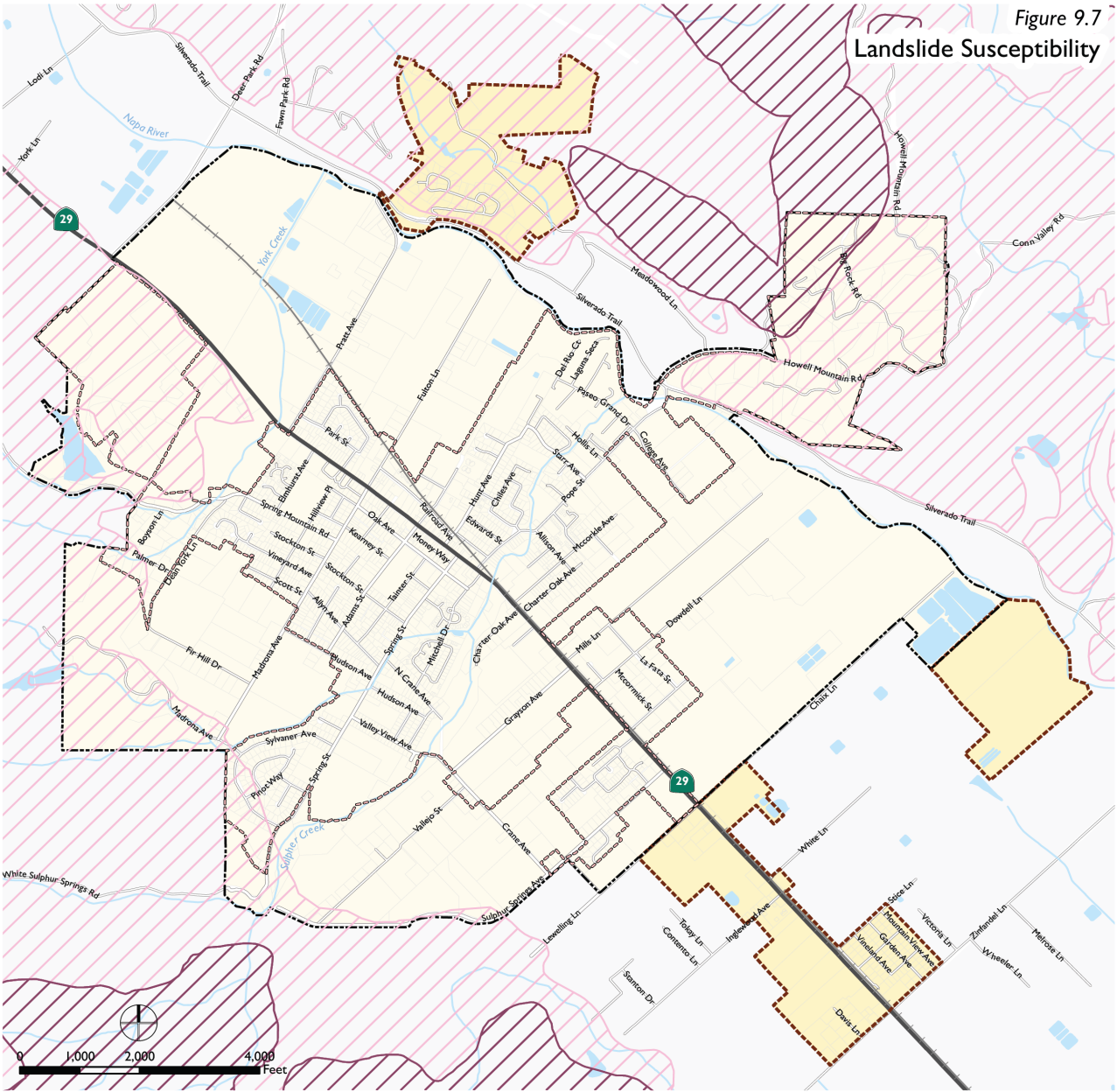
- County Boundary
- Waterbodies
- City of St. Helena
- Study Areas
- Urban Areas
- Freeway/Major Highway
- Major/Minor Roads
- Railroads

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Data Source: City of St. Helena, 2018; Napa County, 2018; Dyett & Bhatia, 2018

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Data Source: USGS, provided by Association of Bay Area Governments (ABAG) Resilience Program; 1997, City of St. Helena, 2018; Napa County, 2018; Dyett & Bhatia, 2018

Existing Landslide Distribution

- Mostly Landslide
- Few Landslides

- Railroads
- Water Features
- Urban Limit Line
- Study Areas
- City of St. Helena

Mostly Landslides - Consists of mapped landslides, intervening areas typically narrower than 1500 feet, and narrow borders around landslides; defined by drawing envelopes around groups of mapped landslides.

Few Landslides - contains few, if any, large mapped landslides, but locally contains scattered small landslides and questionably identified larger landslides; defined by drawing envelopes around areas free of mapped landslides.

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Air pollution from auto exhaust and dust, can pose health hazards among sensitive populations.



AIR POLLUTION AND HAZARDOUS MATERIALS

Mitigating the public health and safety risks caused by air pollution and hazardous materials will inevitably require changing human behavior. Air pollution resulting from auto exhaust, tobacco smoke, and fugitive dust creates unhealthy air conditions for residents and can pose a particular threat to sensitive populations, such as children and older adults. Implementing measures to reduce auto trips, tobacco smoke exposure, and construction-related fugitive dust can help St. Helena reduce residents' contact with air pollution. Compact development patterns, facilities to encourage walking and biking, and incentives to reduce automobile trips are just a handful of ways that St. Helena can help improve local air quality.

The Bay Area Air Quality Management District (BAAQMD) is the public agency responsible for regulating stationary sources of air pollution in Napa County and the San Francisco Bay Area. BAAQMD monitors air quality in the nine-county Bay Area and reports annually on pollutant concentrations for comparison to State and federal health-based ambient air quality standards. Data indicates that in the Bay Area, as throughout the state, the transportation sector and mobile sources of emissions are the most significant sources of air pollution. Senate Bill (SB) 375, approved by the Governor on September 30, 2008, seeks to reduce greenhouse gas emissions—and, consequently, other pollutants—from mobile sources by

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integrating land use and transportation planning at the regional level. *(For a more detailed discussion of SB 375 and related opportunities see the Climate Change Element.)*

Hazardous materials used by local businesses are often transported on the City's roadways and found present in smaller quantities in private homes in the form of solvents, cleaning fluids, and other substances. Implementing policies to improve the safe use, transport, and disposal of these materials can be instrumental in avoiding environmental contamination and human health impacts.

NOISE

Noise is a sound which is unhealthy or unwanted. It can be a human-caused public health hazard which includes excessive, intrusive, or objectionable noises that disrupt daily life. Noise has been tied to physiological effects ranging from hearing loss, high blood pressure, and sleep disturbance, to communication interference and general interruption and annoyance of normal daily activities. Definitions of acoustical terms used in this discussion are listed in Table 9.1.

Land uses have different levels of compatibility relative to noise, and the State of California mandates that general plans include noise level compatibility standards for the development of land as a function of a range of noise exposure values (see Table 9.2). Table 9-3 identifies interior noise standards.

The ambient noise environment throughout much of St. Helena is extremely quiet in comparison to typical urbanized settings, especially in the evenings and at nighttime. With the exception of Main Street (State Route 29) and major collector roadways, the noise environment can be characterized as being that of a quiet rural setting. Residential areas are generally shielded from traffic noise on highways, arterials, and collectors and register very low background sound levels.

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TABLE 9.1: Definition of Acoustical Terms

Term	Definition
Decibel, dB	A unit describing the amplitude of sound. Equal to 10 times the logarithm to the base 10 of the ratio of two like quantities.
Sound Pressure Level (SPL)	10 times the logarithm to the base 10 of the ratio between the square of the sound to the square of the reference sound pressure of 20 μ Pascals. Sound pressure level is the quantity that is directly measured by a sound level meter and expressed in dB.
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure is expressed in Hertz (Hz). Normal human hearing is between 20 Hz and 20,000 Hz.
A-Weighted Sound Level, dBA	The SPL in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes low frequency components of sound in a manner similar to the frequency response of the human ear and correlates well with subjective response to sound.
Noise	Unwanted or unhealthful sound.
Equivalent Noise Level, LAeq	The average A-weighted sound level during the measurement period. The A-weighted equivalent continuous sound level.
L _{Amax} , L _{Amin}	The maximum and minimum A-weighted sound level during the measurement period with the sound meter using fast-time-weighting.
LA01, LA10, LA50, LA90	The A-weighted sound levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Day/Night Level, L _{dn}	The average A-weighted sound level during a 24-hour day, obtained after the addition of 10 decibels to levels measured at night between 10:00 pm and 7:00 am.
Total Sound	The composite of sound from all sources near and far.
Ambient Sound	The sound level measured in the absence of an intrusive or extraneous noise.
Intrusive Noise	That noise from a source of specific origin which intrudes above the existing background sound level. The degree of intrusiveness of a sound depends upon its amplitude, duration, frequency, time of occurrence, and tonal or informational content as in contrast to the prevailing background sound level which exists in the absence of the intrusive noise.
Background Sound Level	The LA90 of the ambient sound. It represents the ever present lower sound level due to distant sources which are individually indistinguishable, and in the absence of the Intrusive or Extraneous Noise.
Extraneous Noise	Specific or distinguishable intermittent sound from nearby sources such as mechanical devices, leaf blowers, pumps, horns, sirens, barking, shouting, birds, wind and other similar individual sources, which don't normally exist on a continuous or regular basis.
Intermittent Noise	A noncontinuous sound consisting of a number of clearly distinguishable sound events of varying frequency and/or intensity.

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TABLE 9.2: Noise Land Use Compatibility Guidelines

Land Use Category	Completely Compatible ¹	Tentatively Compatible ²	Normally Incompatible ³	Completely Incompatible ⁴
Residential	< 55 dBA	55-60 dBA	60-75 dBA	> 75 dBA
Commercial/ Office	< 65 dBA	65-75 dBA	75-80 dBA	> 80 dBA
Industrial/ Agricultural	< 70 dBA	70-80 dBA	80-85 dBA	> 85 dBA
School, libraries, churches, hospitals	< 65 dBA	65-70 dBA	70-80 dBA	> 80 dBA
Playground, neighborhood park	< 67 dBA	67-70 dBA	70-75 dBA	> 75 dBA

a Expressed as Ldn or CNEL.
1. Completely Compatible – Specified land use is satisfactory, based on the assumption that any buildings involved are of normal conventional construction.
2. Tentatively Compatible – New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. Conventional construction, but with closed windows and fresh air supply systems of air conditioning will normally suffice.
3. Normally Incompatible – New construction and development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.
4. Clearly Incompatible – New construction or development should generally not be undertaken.

TABLE 9.3: Maximum Interior Noise Level Criteria of Intermittent Noise for Public Use Facilities

Land Use	Maximum Intermittent Noise Level L _{Amax}	Basis for Criterion
Concert Hall	25	Intrusion of noise may spoil artistic effect
Theater	30	Intrusion of noise may spoil artistic effect
School Auditorium	35	Minimize intrusion into artistic performance
School Classroom	55	Speech communication-20 ft.-raised voice
School Laboratory	60	Speech communication-6 ft.-normal voice
Church/Sanctuaries	45	Speech communication-50 ft.-raised voice
Library	55	Speech communication-3 ft.-normal voice

Source: Adapted from Table 2 in "Night Insulation Problems in Buildings," Paul S. Veneklasen & Associates, 1973; Noise Element of the Napa County General Plan, 1982.

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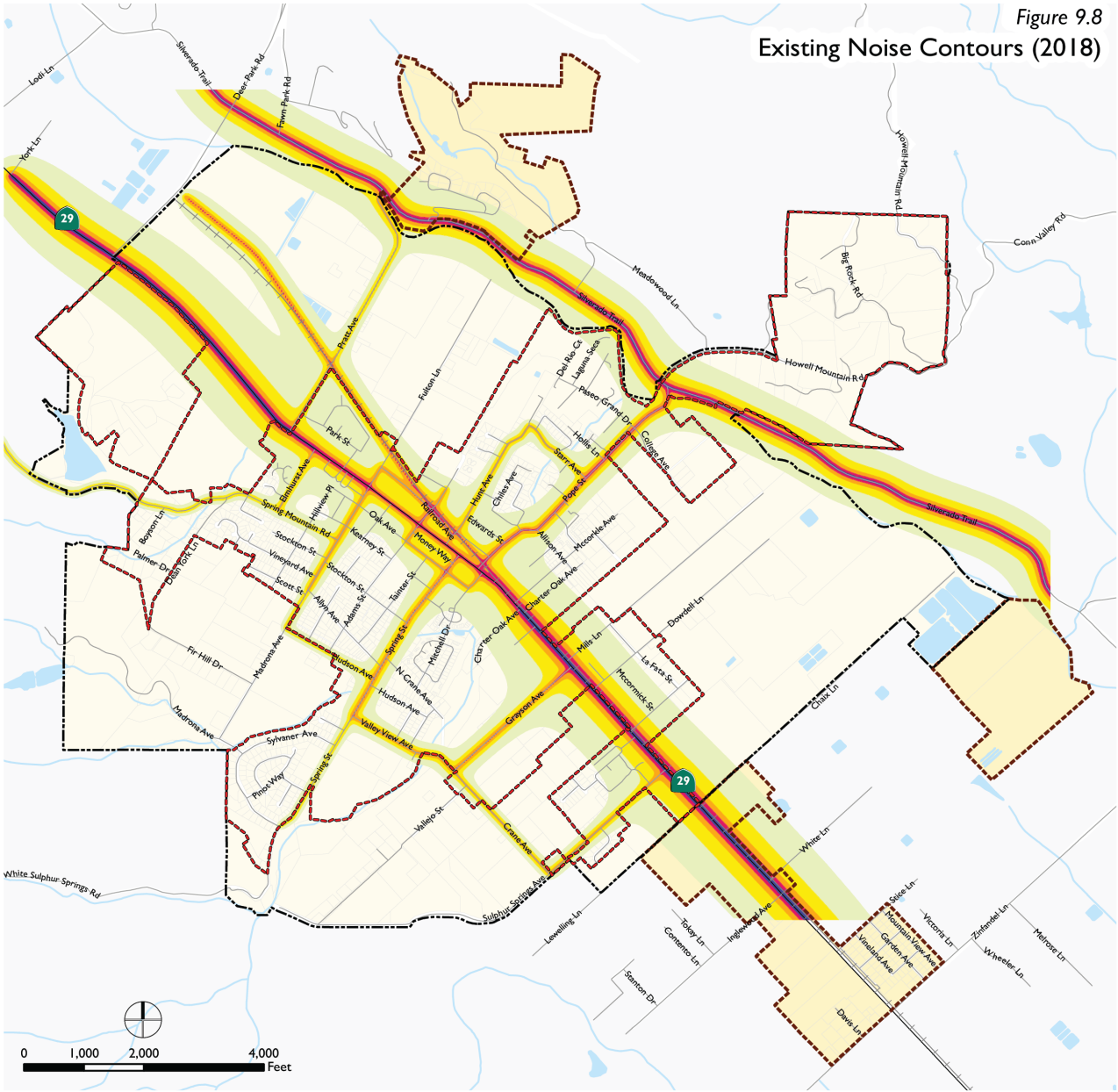
Human-caused public health hazards include excessive, intrusive or objectionable ambient noises that disrupt daily life.

Sleep disturbance and the annoyance of sound not only depend on the absolute sound level of a noise source but are related to the magnitude of the noise above that of background sound levels. This means that in particularly quiet rural environments, the control of extraneous, intrusive, and annoying noise sources is important to maintaining the public health and a quality living sound environment expected by the community. Typically, a change in noise levels of less than 3 dBA is not discernable to the general population. Increases in average noise levels from 3 to 5 dBA are clearly discernable to most people and increases in average noise levels of more than 5 dBA are common considered to constitute a significant environmental impact in many California communities.

Vehicular traffic on Highway 29 and collector streets is the primary source of noise in the community. Other non-stationary sources which are intermittent and generally inconsequential to the noise environment include flyover commercial aircraft at high altitudes, and small general aviation and helicopter flyovers. The Wine Train travels to St. Helena each day and emits a loud horn at crossings, along with the low frequency rumble of the diesel engines. Typical stationary noise sources in St. Helena include agricultural and industrial activities. Agricultural activities result in noise from wind machines, tractors, and sulphur blowers which are employed in the spring in the early hours of the morning. The St. Helena Fire Department has sirens at two locations which sound on average twenty times annually, with approximately half of them occurring during nighttime hours. Noise contours as of 2018 are seen in Figure 9.8.

Noise concerns in St. Helena are principally linked to land use compatibility. Concerns relate to adverse noise effects from new commercial development on surrounding noise-sensitive uses such as residences and schools, and also to adverse noise effects from agricultural activities within the city limit. Right-to-farm provisions necessitate accommodating agricultural uses while also seeking to minimize conflicts. To address these concerns and to promote a compatible noise environment throughout the city, Table 9.4 establishes limits on intrusive noise and regulates the amount of noise a specific sound source can emit relative to the typically low residential background sound levels. This standard is specific to residential areas within St. Helena. Additionally, by generally promoting good neighbor practices and facilitating open communication between agricultural, commercial, and residential uses the City can help to foster a healthy noise environment. Noise contours projected for 2040 as a result of the General Plan are shown in Figure 9.9.

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Data Source: Charles M. Salter Associates, Inc, 2018; City of St. Helena, 2018; Napa County, 2018; Dyett & Bhatia, 2018

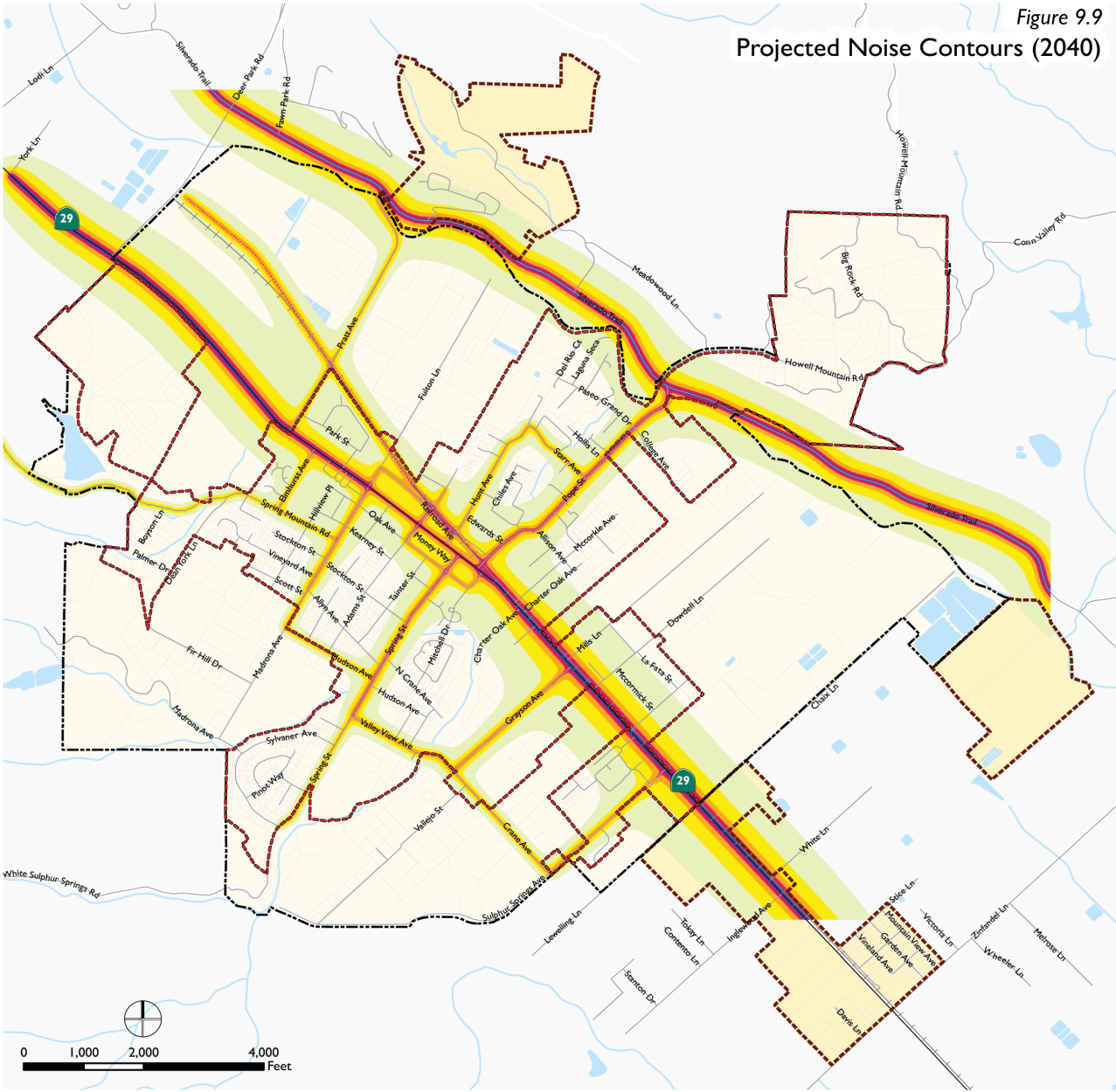
- DNL 55 - 60 dB
- DNL 60 - 65 dB
- DNL 65 - 70 dB
- DNL 70 - 75 dB
- DNL 75 - 80 dB
- Urban Limit Line
- Study Areas
- City of St. Helena

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TABLE 9.4: Standard and Adjustments for Determining Noise Impact of Intrusive Noise for Residential Receptors

STANDARD The LAeq of an intrusive noise shall not exceed the following values: • 7 am – 7 pm (daytime) 45 dBA • 7 pm – 10 pm (evening) 40 dBA • 10 pm – 7 am (nighttime) 35 dBA Or shall not exceed LA90 + 5 dBA whichever is greater. The background sound level LA90 must be measured for a minimum of 10 minutes in the absence of the intrusive noise at the appropriate time of noise impact. The maximum noise level LMax of any intrusive noise shall not exceed the LAeq limits by more than 10 dBA. The limits for intrusive noise are to be corrected as indicated below. These noise limits apply to the nearest residential property line or at the nearest affected location on the receiver's property.		
CORRECTIONS FOR INTRUSIVE NOISE		
Type of Correction	Circumstances of Correction	Correction ^a
Seasonal	Summer or year round operation	0 dBA
	December through March only	+ 5 dBA
Tone or Impulse	No tonal or impulse character	0 dBA
Characteristics	Tonal character ^b present in noise	- 5 dBA
	Impulsive ^c , repetitious or modulating ^d signal	- 5 dBA ^e
<i>Notes:</i> <i>a</i> Correction to be applied to the Standard's limits for intrusive noise. <i>b</i> Tonality exists when the 1/3 octave noise level of the tone is 5 dB greater than the average level of the two adjacent 1/3 octave frequency bands. <i>c</i> Transient sound having a peak level of short duration typically less than 100 msec. <i>d</i> Either in amplitude, frequency or duration including compressor "hammering" noise. <i>e</i> In addition to correction for tonality.		

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- DNL 55 - 60 dB
- DNL 60 - 65 dB
- DNL 65 - 70 dB
- DBL 70 - 75 dB
- DNL 75 - 80 dB
- Urban Limit Line
- Study Areas
- City of St. Helena

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St. Helena's fire and police departments respond to structural fires, wildfires and other disasters.



FIRE

Key human-caused public health and safety hazards affecting St. Helena include structural fires, vegetation fires, and other disasters that require advanced planning. Overall, in the urbanized portion of St. Helena within the city limit, the risk of vegetation fire is moderate to low; however, areas of the city in the hilly terrain along the western perimeter of the city and east of the Napa River are designated by the California Department of Forestry and Fire Protection (CAL FIRE) as moderate, high or very high fire hazard severity zones, according to CAL FIRE 2020 data (see Figure 9.10). St. Helena does not have any critical facilities, as seen in Figure 9.1, located within a fire hazard severity zone.

As described in the Public Safety Services section, fire services are provided to residents by Napa County Fire Department and the City of St. Helena Fire Department. Fires occurring in the heavily-wooded hillside areas can be difficult for firefighting efforts due to slope, topography, and availability of fuels. Fire burns more intensely up slopes and securing a fire on steep terrain is challenging for firefighting efforts. to address due to traffic congestion on City streets, including particularly when emergency vehicles must travel on or across State Route 29, a two-lane highway, can provide limited ingress and egress for emergency vehicles that must gain access to the fire. Furthermore, traffic congestion can pose important major challenges to St. Helena's collaboration with neighboring municipalities and agencies seeking that seek to establish and implement

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regionally coordinated disaster planning for police, fire, and emergency medical services. The City can work with local, regional, and state agencies to address key traffic-related concerns on State Route 29 and County roads to ensure that adequate levels of fire protection are maintained, particularly on hillsides and in fire-prone areas, and to support regional collaboration for disaster preparedness.

In 2021, the Napa Communities Firewise Foundation led the development of the Napa County Community Wildfire Protection Plan in collaboration with Napa County agencies, PG&E, CAL FIRE and local jurisdictions. The Plan seeks to reduce wildfire risk in Napa County, including areas surrounding St. Helena, through a variety of proposed wildfire mitigation projects.

Napa County has experienced many historical fires in the past several decades. Historical fires in or adjacent to St. Helena since 1950 are summarized seen below in Table 9.5.

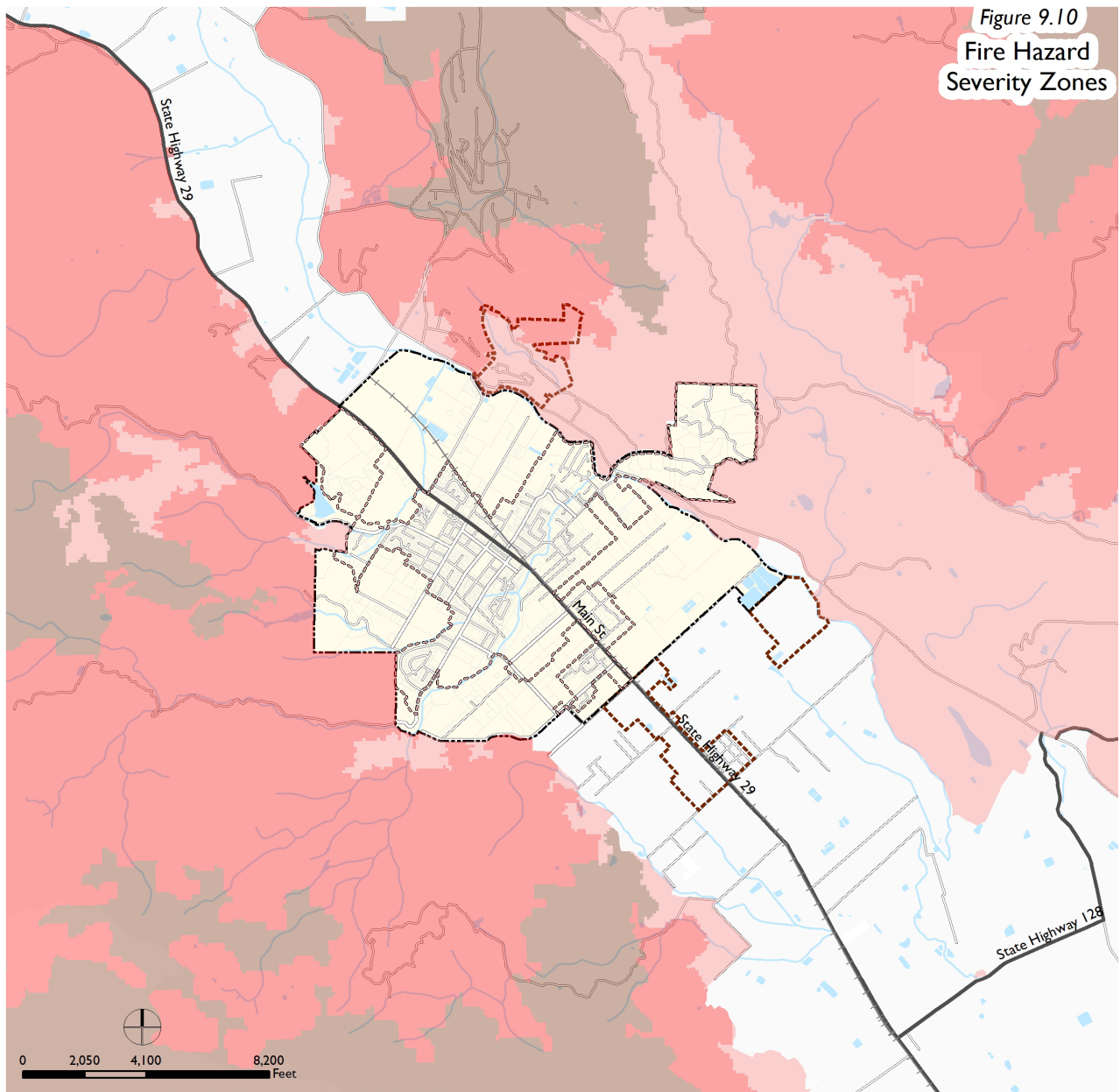
Peak water supply and water availability are crucial for fighting wildfires. Peak load water supply refers to the sum total of water required for fire flow, operational daily consumption, and emergency storages. With new developments, the City will need to increase its peak load water supply reserves. Policies PS4.G and PS4.H seek to address water supply demand concerns.

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TABLE 9.5: Historic Fires in or adjacent to St. Helena (1950–2021)

Name	Year	Acres Burned
Roadside #14	1964	231
Atlas Peak	1981	33606
Howell Mountain Fire	1983	2354
Silverado	2003	69
Deer	2008	233
Hillcrest	2016	17
Tubbs	2017	36702
Atlas	2017	51625
Nuns	2017	55798
Glass	2020	67484
LNU Lightning Hennessey	2020	305651
Spring	2021	1
Pope	2022	4
Source: CAL FIRE 2021		

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Fire Hazard Severity Zones

- Moderate
- High
- Very High

- Railroads
- Water Features
- Urban Limit Line
- Study Areas
- City of St. Helena

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CLIMATE CHANGE HAZARDS

The St. Helena Climate Vulnerability Assessment, found in Appendix B, includes an evaluation of how climate change may impact vulnerable community members as well as critical services, facilities and infrastructure in the City. Key findings from the assessment are summarized below.

Climate change is a global phenomenon that can impact local health, natural resources, infrastructure, emergency response, and many other aspects of society through changes in climate conditions. In St. Helena, climate conditions and associated natural hazards are expected to change in the following ways:

- **Increasing temperatures:** Average maximum temperatures in St. Helena are expected to rise between 3.3°F and 4.4°F by 2050, and between 4.2°F and 7.2°F by 2100.
- **Extreme heat:** Extreme heat days occur when the maximum temperature is above 100.4°F. The annual number of extreme heat days is projected to increase by as much as 31 days per year by 2100.
- **Increasing intensity of precipitation events and longer dry periods:** It is projected that by the end of the century the largest precipitation events in the Bay Area region will increase in volume (inches of rain per day) between 6% and 37%.
- **Wildfire:** There will be increased wildfire probability due to variable and decreasing precipitation and increasing temperatures.

Climate change will disproportionately impact certain populations in St. Helena. The following vulnerable populations have been identified in St. Helena:

- **Young Children:** St. Helena has one of the highest concentrations of children in Napa County (St. Helena General Plan 2019). Children are particularly at risk to climate hazards because they are dependent on others for care, are vulnerable to injury or sickness, and may not understand or are not capable of taking the measures needed to protect against or evacuate from climate hazards.
- **Older Adults:** Silverado Orchards Retirement Community and Vineyard Valley Mobile Home Park are two particularly vulnerable facilities in the City, as they are home to a substantial population of elderly individuals.

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- **Outdoor Workers:** Extreme heat and smoke events pose disproportionate health risks to the city's outdoor workers who are employed in viticulture, agriculture, construction, and other outdoor occupations
- **Individuals that are Linguistically Isolated:** Individuals that are linguistically isolated have no to limited English proficiency. Linguistically isolated households may not understand important safety, public health, or evacuation orders and communications when conducted exclusively in English during a hazard event, which may compromise the ability of residents to remain safe and healthy. They may not have access to resources available to help recover from climate related impacts if resources are only available in English.
- **Visitors:** St. Helena is surrounded by an expanse of vineyards and agricultural lands. The City is a popular tourist destination in Napa County. Visitors are at risk during climate hazard events as they may not receive adequate warning and may not have knowledge regarding access to emergency services.

All residents of St. Helena rely on various infrastructure and services such as water systems, electricity, natural gas, and roads. These systems and assets are vulnerable to the impacts of climate change, which puts the wellbeing of residents at risk. Those with pre-existing and chronic health conditions that rely on services and systems, are particularly vulnerable in situations where hazard events impact access to electricity, food, water supplies, healthcare, sanitary resources, transportation, and communication platforms. Impacts to St. Helena from climate change are wide ranging and expected to include the following:

- Extreme heat can cause heat-related illnesses such as heat stress, heat stroke, and dehydration and may exacerbation of existing respiratory and cardiovascular conditions. Those who do not have access to cooling, who have high outdoor exposure, and those who have health conditions or physiological conditions are particularly at risk. Extreme heat may trigger a power safety shutoff to decrease wildfire risk and/or manage high demand.
- Drought can impact the reliability of affordable water services for city residents which may cause individuals to become dehydrated and/or experience costs burdens associated with increased water rates. Prolonged droughts may limit the water supply for fire suppression efforts. Drought can also negatively impact wildlife dependent on local water resources. It can lead to declining quality and yield of vineyards located in St. Helena.

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- Wildfires can cause individuals to be injured from smoke inhalation or burns. People may also have their belongings or homes destroyed or damaged during a wildfire event. Residential and commercial buildings, critical facilities, and critical infrastructure can be damaged from a wildfire. Wildfires may move through open spaces, threatening local wildlife. In order to mitigate further risk, a power safety shutoff may be initiated during a wildfire which would impact electricity services in the city.
- Floods can cause individuals to be injured from high velocity or high-volume floodwaters. People may have their belongings or homes destroyed or damaged from floodwater inundation. Flooding can cause structural damage to residential and commercial buildings, critical facilities, and critical infrastructure. High volumes of floodwater may cause stormwater systems to get overwhelmed and impaired.

Implementation of policies and programs included in this Public Health, Safety, and Noise Element that improve the community's adaptive capacity, including addressing some of the underlying contributing factors, will reduce the negative impacts that climate change could have on vulnerable populations, critical services, facilities, and infrastructure.

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CONCEPTS, TRENDS AND IDEAS

Hazard Mitigation Planning



FEMA oversees hazard mitigation plans.

Hazard mitigation is defined by the Federal Emergency Management Agency (FEMA) as “sustained action taken to reduce or eliminate long-term risk to people and their property from hazards.” The goal of hazard mitigation is to ensure long-term resilience against natural and human-caused hazards.

Mitigation Plans form the foundation for a community’s long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction and repeated damage.

As a condition for receiving certain types of non-emergency disaster assistance, State, Tribal, and local governments are required to develop a hazard mitigation plan. The Napa County Multi-Jurisdictional Hazard Mitigation Plan was written in cooperation with the cities of St. Helena, Calistoga, American Canyon, Yountville, and local special districts, and was developed in

accordance with the Disaster Mitigation Act of 2000 (DMA 2000) and followed FEMA’s 2011 Local Hazard Mitigation Plan guidance. The Napa County MJHMP identified and profiled hazards, assessed facilities and populations at risk, and sets forth goals, mitigation strategies and mitigation action items for flooding, earthquakes, wildfire, severe weather, drought, climate change, slope failure, dam failure, agricultural disaster, and pandemic disease. Working together, local communities and jurisdictions in Napa County can reduce the long-term risks associated with natural and human-caused hazards. Consistent with that effort, the Public Health, Safety and Noise Element is St. Helena’s primary policy tool for ensuring local action and St. Helena’s involvement in implementing regional hazard mitigation strategies. For more information about the Napa County MJHMP, visit

<https://mitigatehazards.com/napa-county-mjhmp/documents/>.

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9.3 Key Findings

There are several challenges and opportunities facing St. Helena related to public health, safety, and noise. The following key findings are based upon comprehensive existing conditions analysis and community input.

Flooding

- Flooding in Napa County generally occurs within the low-lying Napa Valley floor. Between 1961 and 1997, flooding resulted in approximately \$540 million in property damages. St. Helena experienced major flood events in 1986, 1995, and 2005 that caused an estimated combined total of \$95.6 million in damages in the city. Most flooding occurred in the vicinity of Vineyard Valley from Fulton Lane to Pope Street.
- The flood history of York Creek suggests that the creek bed is not of adequate size to convey larger storm events. During the 2005 New Year's Eve storm event, flooding from York Creek significantly impacted residential and industrial properties. The Beringer water treatment plant flooded and ponds overflowed into the creek. In addition, the creek flooded vineyards on both sides of its corridor, downstream of State Route 29 to the Napa River.
- Until 2002, an aggregate mining operation, now discontinued, removed approximately 40,000 to 50,000 cubic yards of material from Sulphur Creek annually. Further study is needed to determine how aggregate buildup at Sulphur Creek may affect flooding issues in the area.
- Completed in June 2011, the City of St. Helena Comprehensive Flood Control and Environmental Restoration Project provides a minimum 100-year level of flood protection within the project and surrounding area of St. Helena. Design of the project was done on the basis of a Napa River Flood Model Study from Zinfandel Lane to Lodi Lane completed jointly by the City of St. Helena and the Napa County Flood Control and Water Conservation District with Measure A funding. The individual elements of the project include floodplain terracing, shoreline restoration, a new levee, floodwall and bank stabilization, and storm-water management features including a detention basin and pumping facility. The project protects hundreds of homes and is projected to save millions of dollars in flood insurance claims.
- Portions of St. Helena's residential, commercial and winery industrial areas are located within or near the 100-year floodplain. Requiring infrastructure

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and drainage plans to minimize risk in these areas, in compliance with State and federal requirements, at a minimum, can promote the safety of residents and businesses. Moreover, restricting new development within the FEMA-designated floodplain and prohibiting development in the floodway can minimize additional flood hazards and the need for further mitigation measures.

Seismic and Geologic Activity

- St. Helena is located in a seismically-active region, with seismic activity primarily related to movements in the San Andreas Fault Zone (SAFZ). Although there are a number of active faults in the region, there are no known active faults in St. Helena.
- Local earthquake hazard mapping suggests that a magnitude 7.9 or greater earthquake on the San Andreas Fault, or a 6.5 magnitude event on the West Napa Fault, could result in strong shaking in the city. As a result, St. Helena's susceptibility to liquefaction ranges from low in the upland areas west of downtown, to very high along the Napa River. United States Geological Survey (USGS) maps indicate that slope stability and landslide issues exist in St. Helena's upland areas, and a major earthquake event could result in significant debris flow. As noted previously, the recent August 2014 earthquake had a magnitude of 6.0, which resulted in no measurable soil liquefaction within the City of St. Helena.
- By limiting the type and scale of new development in hillside areas, or areas subject to liquefaction, the City can limit the potential for property damage and loss of life as a result of major seismic activity. In addition, complying with the Universal Building Code (UBC) and adopting other standards for building safety along with emergency response disaster planning will help minimize the impacts of seismic and geologic disasters.

Air Pollution and Hazardous Materials

- The greatest source of greenhouse gas emissions in the City of St. Helena is the Transportation sector, which comprises 59 percent of total emissions according to a 2018 inventory compiled for the General Plan update. The transportation sector is also the largest generator of air pollution emissions in the County, with mobile sources – automobiles and trucks – providing the greatest level of emissions. A 2007 Bay Area Air Quality Management District (BAAQMD) GHG inventory indicated that approximately 56 percent of GHG

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emissions in Napa County resulted from mobile source emissions. Mobile emissions are a significant source of other pollutants, as well, including carbon monoxide and particulate matter.

- The development of a Climate Change Element for the St. Helena General Plan is an important step forward in contributing to the effort to improve regional and local air quality. Napa County's Communitywide Climate Action Plan and the Climate Change Element provide a strategic policy framework to reduce greenhouse gas emissions and reduce air pollution derived from its multiple sources.
- CalEnviroScreen have shown that people living in agricultural areas of California have higher amounts of pesticides in their bodies than other people, which can result in adverse health outcomes. Based on data compiled by the Office of Environmental Health Hazard Assessment (OEHHA), census tracts in St. Helena are in the top quartile in terms of pounds of pesticide per square mile in the state for the years 2012-2014. The Napa County Agricultural Commissioner is responsible for ensuring the safe use of pesticides in all settings in the county. The County runs a Pesticide Use Enforcement program to educate pesticide users of their legal responsibilities and conduct inspections and investigations to ensure the safety of workers, the public, and the environment. Compliance and enforcement activities are complemented with extensive training and outreach to help growers and employees ensure safe handling and use of pesticides.

Noise

- The primary source of noise in the community stems from motor vehicle traffic and commercial activity, particularly in areas near major roads, such as State Route 29. Mitigating traffic noise can be difficult, particularly the noise generated along State Route 29 throughout the day and night. However, the City can adopt noise standards to address more infrequent noise sources, such as those related to off-hours delivery, and commercial loading and unloading.
- While there are few industrial noise sources in St. Helena, passing trains and aircraft generate intrusive noise periodically in the community.
- Agricultural operations generate noise on a seasonal basis; however, local right-to-farm policies limit the City's power to regulate noise impacts. Encouraging the regular communication of planned agricultural activities to

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surrounding residents can help address potential conflicts relating to noise compatibility. In addition, adopting noise compatibility standards for sensitive land uses can help to minimize the impacts of intrusive noise sources.

Fire and Emergency Response

- St. Helena's full time fire department, supported by six full time and 19 part time firefighter staff member (hired in Fall 2021, provides fire protection services for wildland and structural fires within the city limits and in unincorporated areas of Napa County. Although service levels within the city are generally adequate, the heavily-wooded and frequently dry hillside areas could create significant challenges for firefighters.
- By limiting the type and scale of new development in hillside areas, and requiring sufficient road widths and turning radii to accommodate emergency response vehicles, the City can limit the potential for property damage and loss of life due to fires.
- Traffic congestion can adversely impact emergency response time in St. Helena, particularly when emergency vehicles must cross State Route 29. The City can work with emergency response providers to create solutions that address traffic-related emergency response challenges.
- The City of St. Helena Fire Department and Napa County Fire Department provide fire services to St. Helena.
- In Napa County, wildfires have grown in frequency and intensity over the past two decades. There have been several fires in or adjacent to St. Helena since 1950.
- Water availability and peak water supply are extremely important for fighting fires and preparing for disaster events. St. Helena can ensure adequate water availability by pursuing water supplies from additional sources.



Emergency response is an important part of protecting residents and businesses.

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topic area

1 AIR QUALITY

Climate Change Hazards

- Climate change is projected to increase the frequency and/or intensity of various natural hazards in the coming decades.
- St. Helena will experience increasing average maximum temperatures, increasing intensity of precipitation events, and longer dry periods.
- St. Helena is vulnerable to growing impacts from extreme heat and wildfire.
- As climate change occurs, communities and assets will be affected to varying degrees based on level of sensitivity to a particular hazard.
- The City's most vulnerable populations include young children, older adults, outdoor workers, individuals that are linguistically isolated, and visitors.
- Vulnerable critical services and infrastructure include water systems, natural gas, and roads.
- Extreme heat, drought, wildfire, and flooding will have impacts to critical facilities, services, and infrastructure that are vulnerable and located in hazard zones.
- Wildlife may suffer from loss of habitat and decreased availability of food and water sources due to increased severity and frequency of extreme heat, drought, wildfire, and floods.

9.4 Goals

The goals of the Public Health, Safety and Noise Element are:

Maintain High Levels of Public Health and Safety.

St. Helena is committed to maintaining high standards of public health and safety through anticipation of and preparation for potential natural and human-caused hazards.

Effectively Coordinate Responses to Emergencies and Natural Disasters.

St. Helena is dedicated to protecting residents, businesses, and the environment through efficient local emergency response efforts, public education, and effective coordination with regional, State, and federal agencies.

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topic area

1 AIR QUALITY



9.5 Policies and Implementing Actions

A range of policies and implementing actions are outlined below and organized into the following topic areas:

1. **Air Quality;**
2. **Noise;**
3. **Seismic and Geologic Hazards;**
4. **Fire and Hazardous Materials;**
5. **Flood Hazards;**
6. **Disaster Planning; and**
7. **Climate Change Hazards**

The following policies and actions mandate, encourage, or allow certain initiatives to be pursued throughout the duration of the General Plan. Together, they serve as strategic directions for City staff and partners, highlighting where time and resources should be focused.

Policies and actions are set to protect the community against flood hazards.

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topic area

1 AIR QUALITY

Policies

PS1.1 Achieve and maintain clean, healthy air for the residents of St. Helena to preserve environmental quality and community health.

PS1.2 Support regional efforts to achieve and maintain state ambient concentration standards to protect public health, reduce adverse industrial plant effects, and enhance the visual environment. In particular, provide local support for implementation of policies and measures set forth in the Napa County Congestion Management Program.

PS1.3 Encourage effective regulation of those sources of air pollution, both inside and outside of St. Helena, which affect air quality, by implementing as many of the recommendations of the Napa County Congestion Management Plan as is feasible.

PS1.4 Promote an optimized land use development pattern that minimizes cumulative air quality impacts from proposed developments.

Implementing Actions

PS1.A Minimize local adverse air quality impacts related to construction by requiring dust abatement procedures for local projects.

PS1.B Review project proposals for their potential to generate hazardous air pollutants.

PS1.C Develop guidelines for locating new sensitive uses, including residences, schools, and childcare facilities, away from air pollutant sources. The guidelines can include measures to mitigate air emissions from existing sources, as well as to design buildings to prevent exposure.

PS1.D Encourage and support regional efforts to use alternative modes of transportation.

PS1.E Consider a citywide network to help commuters arrange carpools, including online coordination capabilities and designated areas for parking and pick-up.



*Air quality can be improved
by implementing the
Napa County Congestion
Management Plan.*

9 public health, safety, and noise

topic area

1 AIR QUALITY

PS1.F Adopt the thresholds of significance contained in the Bay Area Air Quality Management District's (BAAQMD) Guidelines for Assessing the Impacts of Projects and Plans for determining the significance of project impacts under the California Environmental Quality Act.

PS1.G Continue to implement an ordinance to restrict exposure to environmental tobacco smoke in new and existing multi-unit dwellings, public events, and outdoor areas, such as parks and playgrounds.

PS1.H Adopt a voluntary, employer-based transportation demand management (TDM) program for St. Helena businesses in compliance with the BAAQMD's 2017 Clean Air Plan (CAP). Components of a TDM program should include measures to reduce the use of single-occupancy vehicles for work-related commuting, such as carpool/vanpool matching services and employer-sponsored transit passes.

PS1.I The potential for sources of odors that includes restaurants, auto body shops, or waste treatment facilities shall be considered when evaluating proposed residential projects and projects with sensitive recipients.

9 public health, safety, and noise

topic area 2 NOISE

Policies

PS2.1 Preserve the current low levels of noise in St. Helena to maintain the City's rural atmosphere.

PS2.2 Maintain a citywide environment that balances various City objectives while minimizing the impact of highway, railroad, and industrial noise. The City should manage both indoor and outdoor noise levels to protect health and safety. A combination of noise standards and existing noise levels should be used to determine impacts and mitigation measures.

PS2.3 Minimize potential noise impact conflicts between land uses by regulating incompatible land uses. Encourage noise-generating uses to reduce their impacts while promoting land use patterns that avoid conflicts. Employ compatibility guidelines, interior noise level criteria, the City's noise standards, and noise contour maps to determine the compatibility of land uses.

PS2.4 Require a reduction and/or control of the use of machinery, mechanical systems and other noise-making equipment and sources in and near residential areas where the noise impacts would be considered intrusive to adjacent residential property, unless consistent with the right-to-farm.

PS2.5 An increase in average noise levels of 5 dBA or greater is considered to be significant and to constitute a noise impact by the noise source in question for the purpose of environmental analyses.

9 public health, safety, and noise

topic area
2 NOISEImplementing Actions

PS2.A Consider the environmental impact of transportation-related noise and other noise sources in the review of any new projects and approval of subdivision plans and requests for changes in the zoning ordinance.

PS2.B Enforce the Land Use Compatibility Standards presented in the State of California's General Plan guidelines when siting new uses. These standards identify the acceptability of a project based on levels of noise exposure.

PS2.C Adopt and enforce Title 24 Standards for all types of new residential construction, including single family dwellings, duplexes, apartments, and dormitories.

- An interior maximum noise level of LAdn-45 dBA in all habitable rooms for all dwelling units;
- A maximum allowable interior noise level for bedrooms of an hourly LAeq-35 dBA;
- A maximum noise level of LAdn-60 dBA for residential exterior activity areas;
- If interior noise standards are met by requiring windows to be closed, cooling and outside air exchange must also be provided in the building's design.

PS2.D Require an acoustical study, prepared by a qualified acoustical consultant for:

- All proposed projects that are likely to be exposed to noise levels greater than the standards;
- All proposed projects that would generate noise where impacts on other uses would be greater than the standards;
- Any project exposed to outdoor noise at or above a day-night average sound level (Ldn) of 60 or for any noise source that could create such outdoor noise levels for adjacent uses; and
- Any project exposed to or that creates noise which may exceed the adopted City standards.



Noise can be mitigated by minimizing conflicts between land uses by regulating incompatible land uses.

9 public health, safety, and noise

topic area 2 NOISE

PS2.E Require new developments to implement noise mitigation measures when built in close proximity to noise sources, such as State Route 29 and the railroad tracks. These developments should consider the exterior and interior noise environment.

PS2.F Require construction operations to use noise suppression devices and techniques and limit noisy construction activities that can be heard at the property line to the least noise-sensitive times, as per the City's noise ordinance.

PS2.G Include appropriate noise attenuation techniques in the design of all new arterial streets. Such techniques could include the use of site planning, building orientation, buffer distances, quiet pavement surfaces, and the use of correctly-engineered acoustical barriers and berms where necessary. Adopt the noise standard for intrusive noise at residences given in Table 9.4.

PS2.H Amend the City's noise ordinance to regulate intrusive noise sources, such as the use of machinery and equipment, landscaping and property maintenance devices, animals, and idling buses or trucks in or near uses sensitive to noise.

PS2.I Incorporate right-to-farm legal provisions relative to noise in all newly-created deeds where agricultural activities may pose noise impacts in the future. Require similar language in deeds for properties similarly impacted by the Harold Smith & Son gravel plant operations.

9 public health, safety, and noise

topic area

3 SEISMIC AND GEOLOGIC HAZARDS**Policies**

PS3.1 Minimize risk of injury, loss of life and property damage from seismically-induced and other known geologic hazards.

PS3.2 Restrict the intensity of development and the level of landform alteration in the hillside areas in order to minimize the potential for slope failure.

PS3.3 The required soils and geologic reports for new development shall include geotechnical analysis for construction in areas with potential geological hazards and/or for purposes of environmental analysis. The analysis shall investigate all potential geo-hazard issues for the site where there is substantial evidence of a potential risk.

PS3.4 Geologic reports for new development shall describe hazards and include mitigation measures to reduce risks to acceptable levels. Where appropriate, an engineer's or geologist's certification shall be required stating that risks have been mitigated to an acceptable level.

Implementing Actions

PS3.A Require a soils and geologic report to be submitted for new construction prior to the issuance of grading and building permits and the submission of final maps.

PS3.B Prohibit any development—including any land alteration, grading for roads, and structural development—in areas of slope instability or other geologic concerns until mitigating measures are taken to limit potential damage to levels of acceptable risk.

PS3.C Require prompt re-vegetation of development areas on slopes prone to instability. Use native and drought-tolerant plant species for landscaping on slopes where excess watering might induce landslides and/or erosion.

PS3.D The City shall rely upon the most current and comprehensive geological hazard mapping available in the evaluation of potential seismic hazards associated with proposed new development.

PS3.E All development and construction proposals shall be reviewed by the City to ensure conformance to applicable building standards. Recommendations of the geotechnical analysis shall be implemented.

9 public health, safety, and noise

topic area

4 FIRE AND HAZARDOUS MATERIALS

Policies

PS4.1 Use the Zoning Code to define a transitional zone around industrial areas to protect the health and safety of residential neighborhoods.

PS4.2 Limit development in areas of High and Very High wildfire hazard as defined and mapped by the California Department of Forestry and Fire Prevention (CalFire) in order to prevent the loss of lives, injuries, and property damage due to wildfires.

PS4.3 Protect residents, employees, and visitors from wildfires.

PS4.4 Protect St. Helena residents from health and safety impacts related to the use, storage, manufacture, and transport of hazardous materials.

PS4.5 Discourage new uses that rely extensively on the use of hazardous materials.

PS4.6 Facilitate communication and education about fire safety, non-point source pollution, household hazardous waste disposal, and recycling opportunities.

PS4.7 Ensure that all streets and roads are adequate in terms of width, turning radius, and grade in order to facilitate access by City firefighting apparatus, and to provide alternative emergency routes of ingress and egress.



The transitional zone around industrial areas protects the health and safety of residential neighborhoods.

9 public health, safety, and noise

topic area

4 FIRE AND HAZARDOUS MATERIALS**Implementing Actions**

PS4.A Designate areas in St. Helena that are prone to fire hazards and make this information available to the community.

PS4.B Continue to require implementation of best practices in fire resistance for all new and remodeled structures in fire-prone areas, including fire fuel removal, creation of defensible space for firefighters, construction with fire-resistant building materials, and installation of automatic sprinkler systems. Study the need to designate a Wildland-Urban Interface Fire Area within St. Helena to provide protection in additional areas.

PS4.C Require all structures in high wildfire hazard areas to maintain a clearance of flammable vegetation away from structures and to use fire-resistant ground covers. The minimum clearance distance should be 100 feet in the Wildland-Urban Interface areas.

PS4.D Require all new development to meet the minimum fire flow rates specified by the City's Fire Code.

PS4.E Require all new development plans to be approved by the Fire Department prior to the issuance of building permits, grading permits, or final map approval.

PS4.F Develop a program to inform and educate the community about potential risks, resources, and roles and responsibilities for addressing fire safety in St. Helena. Inform residents of homes adjacent to public lands of their responsibility to provide fire breaks adjacent to their homes.

PS4.G Investigate additional water supply sources to ensure the provision of adequate water availability to meet future peak fire, emergency, and domestic demands.

PS4.H Permit new development only within areas that have adequate water pressure.

9 public health, safety and noise

topic area

4 FIRE AND HAZARDOUS MATERIALS

PS4.I Coordinate with the Napa County Communities Firewise Foundation, the St. Helena Fire Safe Council, and neighboring jurisdictions to implement wildfire mitigation projects proposed in the Napa County Community Wildfire Protection Plan.

PS4.J Consider incorporating wildfire risk reduction measures, including load clearing and brush management into plans, operations and maintenance procedures for public access roads, parks, trails, open space, critical infrastructure, and critical roads.

PS4.K Provide educational materials to encourage businesses and residents to adopt drought tolerant and fire-resistant landscaping practices.

PS4.L Develop and disseminate education and outreach materials to landlords, businesses, and residents regarding retrofits and home-hardening measures that align with recommendations from CAL FIRE's Wildfire Home Retrofit Guide. Identify funding resources to support home retrofit and hardening projects.

PS4.M Partner with the St. Helena Fire Safe Council, the Napa Communities Firewise Foundation, and CAL FIRE to conduct educational workshops for landowners on defensible space, vegetation management, and home-hardening techniques based upon the most up-to-date science and State management guidelines to reduce wildfire hazards.

PS4.N Update standards in the zoning code to be consistent with the most recent SRA Fire Safe Regulations: title 14, CCR, division 1.5, chapter 7, subchapter 2, articles 1-5 (commencing with section 1270) (SRA Fire Safe Regulations) and title 14, CCR, division 1.5, chapter 7, subchapter 3, article 3 (commencing with section 1299.01) (Fire Hazard Reduction Around Buildings and Structures Regulations).

PS4.O Minimize risks to existing development in areas at highest risk to wildfire by identifying existing non-conforming development and revise to meet contemporary fire safe standards. Address road standards and vegetative hazard, and require all development to meet or exceed CCR, division 1.5, chapter 7, subchapter 2, articles 1-5 requirements (SRA Fire Safe Regulations).

PS4.P Coordinate with CAL FIRE and Napa County Fire Department to incorporate best practices around wildfire risk reduction and vegetation management into maintenance planning of parks and open spaces.

9 public health, safety and noise

topic area

4 FIRE AND HAZARDOUS MATERIALS

PS4.Q Coordinate with CAL FIRE, Napa County Firewise Foundation, and Napa County Fire Department to identify funding sources and develop incentives to assist landowners in dead tree removal.

PS4.R Require fire protection plans for new development in areas of the City that are located adjacent to CAL FIRE hazard severity zones.

PS4.S Review all new development proposals for their potential to introduce the production, use, storage, and/or transport of hazardous materials, and require reasonable controls on such materials.

PS4.T Develop a Hazardous Materials Response Plan that includes guidelines, protocols, and strategies to respond to a local hazardous materials spill.

PS4.U Continue to require compliance with federal, State, and local regulations for the safe production, transport, handling, use, and disposal of hazardous materials that may cause air, water, or soil contamination. Require buffers for operations which handle substantial amounts of hazardous materials. When siting new facilities or expanding existing facilities, require buffer zones between hazardous materials facilities and residential uses, parkland, trails, and open space facilities.

PS4.V Develop and launch a citywide education campaign to encourage the use of green products in order to reduce non-point source pollution. Target efforts towards the reduction of household chemical use and hazardous waste disposal.

PS4.W Require environmental assessments during the planning for development in areas previously used for agricultural, commercial, or industrial uses. Remediation of identified contamination that may result in health risks to construction workers and future owners and users shall be required prior to approval of construction, demolition, and grading permits for development.

PS5.X Work with the Napa County Agricultural Commissioner and other responsible agencies to identify and enforce mechanisms to control residual pesticides and pesticide runoff to prevent significant risk to water quality, vegetation, wildlife, and humans.

9 public health, safety, and noise

topic area

4 FIRE AND HAZARDOUS MATERIALS

PS4.Y Develop a program to inform and educate the community about potential risks, resources, and roles and responsibilities for addressing fire safety in St. Helena. Inform residents of homes adjacent to public lands of their responsibility to provide fire breaks adjacent to their homes.

PS4.Z Review all new development proposals for their potential to introduce the production, use, storage and/or transport of hazardous materials, and require reasonable controls on such materials.

PS4.AA Develop a Hazardous Materials Response Plan that includes guidelines, protocols, and strategies to respond to a local hazardous materials spill.

PS4.AB Strengthen regulations for the safe production, transport, handling, use and disposal of hazardous materials that may cause air, water, or soil contamination. Require buffers for operations which handle substantial amounts of hazardous materials. When siting new facilities or expanding existing facilities, require buffer zones between hazardous materials facilities and residential uses, parkland, trails, and open space facilities.

PS4.AC Develop and launch a citywide education campaign to encourage the use of green products in order to reduce non-point source pollution. Target efforts towards the reduction of household chemical use and hazardous waste disposal.

9 public health, safety, and noise

topic area

5 FLOOD HAZARDS

Policies

PS5.1 Minimize the risk to people, property and the environment caused by flooding hazards. Site new development to minimize potential damage from a 100-year flood. Consider changes in precipitation associated with climate change in the design of new development to avoid potential flood damages. Continue to require that any new development is constructed to FEMA standards. Prohibit the siting of uses within Flood Hazard Areas inconsistent with FEMA standards that could result in health and safety hazards, including those due to the release of chemicals or other substances as a result of inundation or erosion. Ensure that any new flood protection projects comply with federal and State standards.

PS5.2 Ensure that new development or existing lots of record within the 100-year floodplain are properly graded, sited, and constructed to mitigate flood effects and do not cause increases or expansion of the flood area that increase flood risk.

PS5.3 Within the 100-year floodplain, encourage open space uses, such as parks or natural areas.

PS5.4 Ensure that construction of flood barriers does not adversely affect natural floodplains, stream channels and natural barriers that help accommodate or channel flood waters.

PS5.5 Prohibit new development within areas designated as Floodway in the current FEMA Flood Insurance Study (FIS) and Flood Insurance Rate Map (FIRM). *(Also see the Public Facilities and Services Element, Topic Area 3)*

PS5.6 Coordinate with the Napa County Flood Control and Water Conservation District and other responsible agencies to maintain protocols and funding for the regular inspection and maintenance of flood control facilities in the city, including levees, floodwalls, floodplain terracing, stormwater detention ponds, and pumping facilities.

PS5.7 Require that development within Special Flood Hazard Areas prepare and implement infrastructure and drainage plans compliant with State and federal requirements in order to minimize risk in these areas.

9 public health, safety, and noise

topic area

5 FLOOD HAZARDS

PS5.8 Locate, when feasible, new essential public facilities outside of Special Flood Hazard Areas, including hospitals and health care facilities, emergency shelters, fire stations, emergency command centers, and emergency communications facilities. *(Also see the Public Facilities and Services Element, Topic Area 3)*

Implementing Actions

PS5.A Coordinate with the Napa County Flood Control District to ensure that stream channels are routinely cleared of vegetation and debris which could impede stormwater flows, while protecting riparian habitat.

PS5.B Require developers with land adjacent to the Napa River to construct or contribute a fair share toward the construction of necessary flood control improvements.

PS5.C Strengthen and enforce regulations that prohibit the dumping of litter, fill, and waste materials into creeks and waterways. Educate the public about flooding and health hazards associated with these activities.

PS5.D Require that best design practices are implemented for sewer and water lines in areas subject to flooding or are sited to avoid contamination and flooding when pipelines break.

PS5.E Prohibit the introduction of urban development in FEMA-designated Floodway zones.

PS5.F Review Municipal Code Chapter 15.52, Flood Damage Prevention, to ensure that regulations reflect best practices. Periodically update the City's flood hazard regulations in accordance with FEMA/NFIP regulations.

PS5.G Implement the requirements of FEMA relating to construction in Special Flood Hazard Areas as illustrated on Flood Insurance Rate Maps.

PS5.H Implement low impact development practices for new development and redevelopment projects to reduce stormwater peak flow rates and volumes from smaller, more frequently occurring storm events.



Coordination with the County Flood Control District will ensure that stream channels are routinely cleared of vegetation and debris.

9 public health, safety, and noise

topic area

6 DISASTER PLANNING**Policies**

PS6.1 Ensure that City emergency procedures are adequate in the event of potential natural or man-made disasters and that applicable operations and maintenance manuals are followed.

PS6.2 Ensure the swift and safe evacuation of residents, employees, and visitors in the event of a disaster event or other emergency.

PS6.3 Alleviate evacuation challenges associated with single access residential neighborhoods.

Implementing Actions

PS6.A Maintain and periodically update the City's Emergency Response Plan.

PS6.B Conduct periodic emergency response exercises to test the effectiveness of City emergency response procedures.

PS6.C Continue to collaborate with regional agencies and neighboring jurisdictions to develop and implement a regional emergency coordination plan and agreement for police, fire, and emergency medical services.

PS6.D Maintain emergency roadways and improve them as necessary and appropriate to ensure ongoing serviceability.

PS6.E Maintain reliable communication pathways with the public to ensure a safe and streamlined evacuation.

PS6.F Engage with the Napa County Transportation Authority, Caltrans, California Highway Patrol, adjacent cities, and Napa County to identify regional evacuation solutions that address major evacuation routes.

PS6.G Conduct outreach with residents in single access road neighborhoods to enforce home hardening and defensive space standards and conduct emergency preparedness and response trainings.

PS6.H Coordinate with Napa County Sheriff Department, Caltrans, Napa County Emergency Response Team (CERT), St. Helena Fire Safe Council, homeowner associations, and neighborhoods to facilitate the use of Zonehaven for evacuation coordination.

PS6.I Develop and employ evacuation alternatives and/or alternative emergency access routes in neighborhoods that have single ingress/egress.

9 public health, safety, and noise

topic area

6 DISASTER PLANNING

PS6.J Develop and maintain evacuation options for vulnerable populations such as young children, older adults, outdoor workers, individuals that are linguistically isolated, visitors, and individuals with access and functional needs.

PS6.K Designate and publicize evacuation routes and evacuation shelters through Zonehaven.

PS6.L Designate and publish in Zonehaven safety zones and/or shelter-in-place locations as potential places of refuge when evacuation routes or evacuation shelter are inaccessible.

PS6.M Assist local and small businesses in planning for business continuity and emergency preparedness.

PS6.N Prioritize the City's essential facilities when conducting post-disaster building evaluations.

9 public health, safety, and noise

topic area

7 CLIMATE CHANGE HAZARDS**Policies**

PS7.1 Protect the City's vulnerable population from the impacts of climate change.

PS7.2 Support greater resilience, redundancy, and reliability of local and regional infrastructure and services.

PS7.3 Protect and restore climate-vulnerable ecosystems, natural resources, and managed resources.

PS7.4 Increase local economic resilience and business continuity.

Implementing Actions

PS7.A Conduct an assessment on the effectiveness of current City cooling center operations to evaluate current amenities and resources available to ensure the needs of vulnerable populations are met during extreme climate events, such as high heat days and bad air quality days. Ensure the City's cooling center has adequate backup power sources and battery storage to mitigate service disruptions.

PS7.B Update the St. Helena building code to require weatherization and consideration of extreme heat for new developments.

PS7.C Explore opportunities to provide funding assistance to households and populations that are in greatest need of weatherization to address extreme heat, extreme storm, and air quality concerns.

PS7.D Consider climate change impacts and vulnerabilities during the infrastructure planning process. Identify projects as part of capital improvement programs that consider climate adaptation priorities.

PS7.E Invest in renewable back-up power sources and storage options to increase energy resilience at critical facilities during extreme heat events, wildfires, extreme precipitation events, or other scenarios that may trigger a power safety shutoff or outage.

PS7.F Expand the use of drought-tolerant green infrastructure, including street trees, and landscaped areas, as part of cooling strategies in public and private spaces.

9 public health, safety, and noise

topic area

7 CLIMATE CHANGE HAZARDS

PS7.G Coordinate with PG&E and Napa County Office of Emergency Services to establish backup power and emergency grid shutdown protocols that protect the City's vulnerable populations.

PS7.H Evaluate critical facilities to assess the feasibility of retrofitting to increase long-term resilience to climate change hazards including extreme heat, extreme precipitation events, and wildfire.

PS7.I Partner with St. Helena Chamber of Commerce and Visit Napa Valley to pilot and implement a local business resilience initiative to build small business resilience capacity by increasing the awareness of and preparedness for business continuity risks in the face of climate change. Provide resources to help local business manage risk and enhance resilience, and conduct outreach campaigns to engage business, governmental, and community leaders to preparedness for economic resilience.

PS7.J Develop and disseminate guidelines and outreach materials on tree and plants species that are drought-tolerant and wildfire resistant to city residents and businesses.

PS7.K Partner with local researchers (such as, California State University-Sonoma) to develop localized viticulture climate adaptation strategies that address impacts of extreme heat, drought, wildfire, and extreme precipitation events to vineyards in and around the city.

PS7.L In recognition of the increase in severity and frequency of floods and wildfires, essential public facilities should be sited in areas that are least prone to hazard impacts, when possible.

PS7.M Partner with the St. Helena Chamber of Commerce and St. Helena Welcome Center to develop emergency public health and evacuation communication strategies for visitors and tourists.



Safety Element Update

Climate Change Hazards and Vulnerability Assessment

prepared by

City of St. Helena

Office of the City Clerk

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City of St. Helena
Safety Element Update

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1 Introduction

Climate change is driven by the human contribution of certain gases like carbon dioxide and methane into the atmosphere. These gases, commonly known as greenhouse gases or GHGs, absorb and re-emit heat that has been discharged from the Earth's surface. This works to trap heat near the earth's surface, increasing the natural greenhouse effect. Greenhouse gases from human activities have been collecting in the atmosphere since the 1800's and are warming the climate more and more every year. This rise in average temperatures across the globe affects precipitation patterns, temperature, and ocean water levels. The Intergovernmental Panel on Climate Change (IPCC) has concluded that global climate change will impart adverse effects on the Earth's natural systems, resources, and populations.

St. Helena is, and will continue to be, affected by the impacts of climate change in the form of increased extreme heat days, increased average temperature, stronger storms, more severe floods, deeper droughts, and more frequent and larger wildfires. Specific impacts on the community of St. Helena will vary based on social, economic, and physical characteristics. This report assesses the projected impacts climate change will have on St. Helena.

2 Approach

Senate Bill 1035 (2018) requires St. Helena and all California cities and counties to update their safety element with new information on flood hazards, fire hazard, and climate adaptation and resilience in conjunction with the housing element or local hazard mitigation plan update cycle, which occur every 8 years and 5 years, respectively. In accordance with California Government Code Section 65302(g) (as updated by SB 379), St. Helena is required to complete a Climate Change Vulnerability Assessment in conjunction with the update to its safety element. The update to the safety element must consist of the following components:

1. A vulnerability assessment that identifies the risks climate change poses to the local jurisdiction and the geographic areas at risk from climate change.
2. Set of adaptation and resilience goals, policies, and objectives based on the information specified in the vulnerability assessment.
3. Set of feasible implementation measures designed to carry out the goals, policies, and objectives identified in the adaptation objectives.

The IPCC, a United Nations subgroup responsible with global advancement and communication of climate change understandings, has established several scenarios used to describe possible future GHG emissions and associated warming. Two of these are commonly used to compare possible futures and have been selected for this assessment.

- The Representative Concentration Pathway (RCP) 4.5 represents a “medium emissions” 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.
- The RCP 8.5 represents a “high emissions” scenario in which emissions continue to rise throughout the 21st century (Intergovernmental Panel on Climate Change [IPCC] 2021).

This assessment relies on Cal-Adapt, an interactive online tool that is aligned with the IPCCs emissions scenarios, to present localized climate change projections and impacts. The tool was developed and is maintained by the University of California Berkeley with oversight from the California Energy Commission (CEC). These climate projections provide an understanding of possible future conditions for temperature, precipitation, and wildfire in St. Helena. California’s Fourth Climate Change Assessment San Francisco Bay Area Regional Report, released by the State in 2018, and the 2020 Napa County Multi-Jurisdictional Hazard Mitigation Plan are also used to determine projected climate impacts in St. Helena and Napa County. These projections will allow St. Helena to prioritize policies and actions that increase resilience and the ability for the community to adapt and prepare for the effects of climate change.

3 Climate Hazards

3.1 Temperature

Observations over the past century indicate that temperature has increased across the San Francisco Bay Area region, which includes Napa County. According to California's Fourth Climate Change Assessment San Francisco Bay Area Regional Report the region's average annual maximum temperature has increased by 1.7 degrees Fahrenheit from 1950-2005 (CEC 2019). As a result of these findings, warming is expected to increase in St. Helena in the coming decades as evidenced under the two GHG emission scenarios:

- Under RCP 4.5, future model-average temperature values are projected to increase by 3.3°F by mid-century (2040-2069) and 4.2°F by end of century (2070-2100) (CEC 2021). The average hottest day of the year is expected to increase by 3.9-6.4°F by the end of the century, depending on location in the San Francisco Bay Area Region (CEC 2019).
- Under RCP 8.5, future model-average temperature values are projected to increase by 4.4°F by mid-century and 7.2°F by end of century (CEC 2021). The average hottest day of the year is projected to increase by 6.3-10°F by the end of the century, depending on location in the San Francisco Bay Area Region (CEC 2019).

Additionally, the intensity and frequency of extreme heat days is expected to increase. In St. Helena an extreme heat day is when the maximum temperature exceeds 100.4°F. Historically, between 1961-1990, the city experienced four extreme heat days per year on average.

- Under RCP 4.5, by the end of the century, extreme heat days are expected to increase to 17 days per year.
- Under RCP 8.5, extreme heat days are expected to increase to 31 days per year (CEC 2021).

Changes in average maximum temperature and extreme heat days are presented in Figure 1 and Figure 2, respectively. In both figures, the purple lines show high emissions scenario (RCP 8.5), the blue line shows the medium emissions scenario (RCP 4.5), the grey lines show the current trend (observed). The shaded areas indicate the range for the emissions scenario to account for uncertainty in future projections and variability between climate models. For example, the blue shaded areas represent the range of data for the medium emissions scenario (RCP 4.5) (CEC 2021).

City of St. Helena
Safety Element Update

Figure 1 Annual Average Maximum Temperature

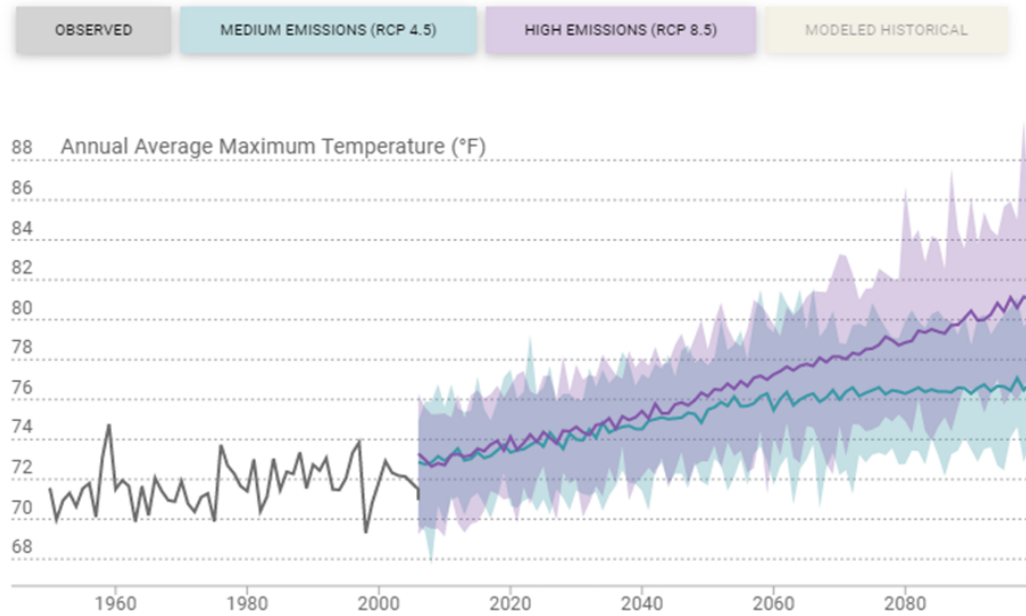
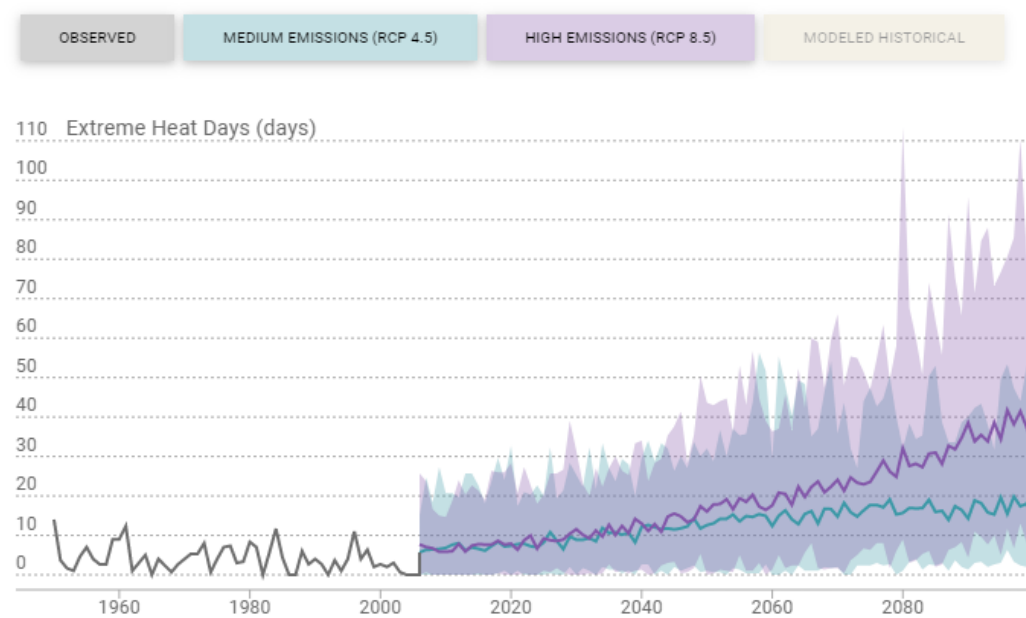


Figure 2 Extreme Heat Days

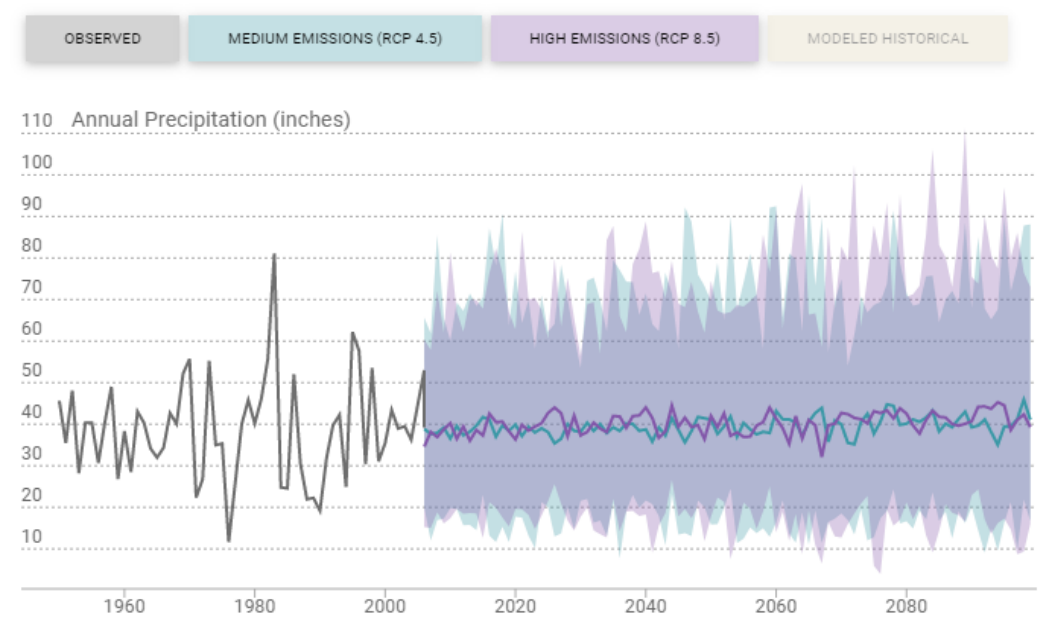


3.2 Precipitation

Historically, precipitation over the San Francisco Bay Area region is highly variable from year to year. In this region, and in most of California, large, discrete storms generate a significant portion of the region’s total precipitation. Generally, model projections suggest that potential changes in average precipitation in the coming decades will be trivial in comparison to the region’s historic natural variability (see Figure 3). However, both wet and dry periods are expected to become more extreme and frequent, leading to overall increased variability in the region and in California. Climate models project that by the end of the century the largest precipitation events in the Bay Area region will increase in volume (inches of rain per day) between 6% to 21% under RCP 4.5 and 37% under RCP 8.5 (CEC 2019). Increased heavy precipitation events can pose particular risk to St. Helena’s low-lying residential areas near the Napa River, which are prone to flooding (Napa County Multi-jurisdictional Hazard Mitigation Plan [MJHMP] 2020).

Climate projections suggest that with overall temperatures increasing through the century, irrespective of whether average precipitation increases or decreases, there will likely be longer and more extreme droughts in the state. Changes in precipitation are shown in Figure 3. The purple line shows the high emissions scenario (RCP 8.5), the blue line shows the medium emissions scenario (RCP 4.5), the grey line shows the current trend (observed). The shaded areas indicate the range for the emissions scenario. For example, the blue shaded areas represent the range of data for the medium emissions scenario (RCP 4.5) (CEC 2021).

Figure 3 Figure Annual Precipitation



3.3 Wildfire

Climate change is projected to exacerbate wildfire risk by creating hotter and dryer landscapes, notably, due to increased variability in precipitation. In the San Francisco Bay Area Region, wildfire risk is influenced by a multitude of compounding factors that include its mostly warm and dry Mediterranean-type climate, continuing expansion of the wildland urban interface, drought events, periodic episodes of offshore Diablo winds, historical fire suppression, human activities, topographical factors, and the type and spatial distribution of vegetation (CEC 2019).

Napa County's unique topography is marked by a narrow valley with surrounding and intermixed hilly, wooded landscapes that are at high risks to wildfires, according to the Napa County Multi-Jurisdictional Hazard Mitigation Plan. St. Helena lies in the center of Napa Valley and is surrounded on the east and west by CAL FIRE designated State Responsibility Area (SRA) and Local Responsibility Area (LRA) very high fire hazard severity zones. SRAs are lands in which CAL FIRE has financial and legal responsibility for wildfire protection and where CAL FIRE administers fire hazard classification and building standard regulations. LRAs are lands in cities, unincorporated areas with low wildfire risk, cultivated agricultural area, lands that not do not meet the criteria for SRA or Federal Responsibility Areas (FRA), and fire-prone lands that are owned by a federal agency.

Many cities in Napa Valley, including St. Helena, have areas that are within the Wildland Urban Interface (WUI). Land and developments in the WUI are susceptible to property damage as a result of wildfire events. Wildfires pose a significant threat to St. Helena's vineyards and winery properties. California's 6th largest wildfire on record, the Lake Napa Unit (LNU) Lightning Complex, scorched Napa County along with five other surrounding counties in August 2020. Residents in St. Helena and the surrounding area were evacuated as fires drew nearer and air quality levels rose to unhealthy levels. In this event, dry vegetation, decreases in precipitation, and high temperatures were contributing factors in the rate of wildfire spread and the total acreage burned.

Findings from modeling studies suggest that overall, there will be increased fire probability in the Bay Area, due to variable and decreasing precipitation and increasing temperatures. However, over time, urban areas may see reduced fire risk as high-density human development increases and vegetation land decreases.

Wildfire often generates secondary hazards that can greatly impact public health and community safety. For example, wildfires can trigger smoke events that can travel long distances and negatively impacts public health in the region. Wildfire smoke can cause health impacts, from mild eye burning to irritated air ways, heat stroke and even cardiac issues. Wildfire smoke disproportionately impacts children, elderly, people with chronic diseases, pregnant people, and outdoor workers (Napa County MJHMP 2020).

4 Vulnerable Populations

While all people in a community will experience climate change, some may be more affected than others. For example, older adults and young children may be more at-risk to heat illness during an extreme heat event. Sensitivity to climate hazards can be influenced by several factors, including: differences in individual health, age, and ability; institutional bias or exclusion from political and decision-making power; inequities in infrastructure and access to health care, economic opportunity, education and other services; and inequities in environmental and living conditions. Vulnerabilities within a community can inhibit that community's adaptive capacity or their ability to cope with climate change impacts. Development and implementation of programs and projects that improve the community's adaptive capacity, including addressing some of the underlying contributing factors will reduce the negative impacts that climate change could have on vulnerable populations.

Climate change will disproportionately impact certain populations in St. Helena. The following vulnerable populations have been identified in St. Helena based on the Healthy Places Index mapping tool:

- **Young Children.** St. Helena has one of the highest concentrations of children in Napa County (St. Helena General Plan 2019). Children are particularly at risk to climate hazards because they are dependent on others for care, are vulnerable to injury or sickness, and may not understand or are not capable of taking the measures needed to protect against or evacuate from climate hazards.
- **Older Adults.** Silverado Orchards Retirement Community and Vineyard Valley Mobile Home Park are two particularly vulnerable facilities in the city, as they are home to a substantial population of elderly individuals.
- **Outdoor Workers.** Extreme heat and smoke events pose disproportionate health risks to the city's outdoor workers who are employed in viticulture, agriculture, construction, and other outdoor occupations
- **Individuals that are Linguistically Isolated.** Individuals that are linguistically isolated have no to limited English proficiency. Linguistically isolated households may not understand important safety, public health, or evacuation orders and communications when conducted exclusively in English during a hazard event, which may compromise the ability of residents to remain safe and healthy.
- **Visitors.** St. Helena is surrounded by an expanse of vineyards and agricultural lands. The city is a popular tourist destination in Napa County. Visitors are at risk during climate hazard events as they may not receive warning and may not have knowledge regarding access to emergency services.

All residents of St. Helena rely on various infrastructure and services such as water systems, electricity, natural gas, and roads. These systems and assets are vulnerable to the impacts of climate change, which puts the wellbeing of residents at risk. Those with pre-existing and chronic health conditions that rely on services and systems, are particularly vulnerable in situations where hazard events impact access to electricity, food, water supplies, healthcare, sanitary resources, transportation, and communication platforms. To help reduce negative impacts on vulnerable

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populations and increase adaptive capacity, it is vital that strategies and policies are implemented to ensure continuity of systems and services in the event of climate hazard events.

5 Conclusion

The Climate Change Vulnerability Assessment provides a brief summary of the climate conditions projected to occur in St. Helena and the populations most vulnerable to climate change impacts. Although climate change is one of the more pressing challenges that St. Helena faces, it presents an opportunity to address the overarching City of St. Helena General Plan goal to address both the needs of current and future generations. The assessment provides a foundation for the City to begin to understand vulnerabilities to climate change in the community and to take actions that serve to increase community resilience.

The update to the Public Health, Safety, and Noise Element will include goals, policies and programs that will better prepare the community for the effects of climate change, based on the information provided in this Climate Change Vulnerability Assessment and best practice. The City's General Plan (2019) and Napa County's Multi-Jurisdictional Hazard Mitigation Plan (2020) include policies and mitigation actions that address climate change related to drought, wildfire, and flood risk. As discussed in this assessment, additional consideration is needed to prepare for extreme heat and increased temperatures as well as the unique needs of vulnerable populations. The updated Public Health, Safety, and Noise Element will include new policies to increase resilience for vulnerable populations. There may also be opportunities to augment the existing policies relating to drought, wildfire, and flood risk to better increase resilience.

6 References

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9 Public Health, Safety, and Noise

9.1 Purpose of the Element

The Public Health, Safety, and Noise Element presents a framework for minimizing risks posed by environmental and human-caused hazards that may impact St. Helena residents' health and welfare. The Public Health, Safety, and Noise Element aims to protect St. Helena residents, workers, and visitors from negative exposure to flooding, fires, hazardous materials, air pollution, geologic and seismic hazards, disaster response, and climate change hazards.

The Public Health, Safety, and Noise Element includes the following sections.

- **9.2 Public Health, Safety, and Noise in St. Helena.** Summarizes key issues related to the public health and safety of St. Helena residents, workers, and visitors (p. 9-1).
- **9.3 Key Findings.** Identifies key findings based on an existing conditions analysis (p. 9-14).
- **9.4 Goals.** Defines overarching goals to guide policies and implementing actions (p. 9-17).
- **9.5 Policies and Implementing Actions.** Identifies policies and implementing actions to minimize hazards and risks to life and property (p. 9-17).

9.2 Public Health, Safety, and Noise in St. Helena

St. Helena is surrounded by natural beauty, hillsides, vineyards, and waterways. While these natural features are great assets for the community, they can present risks due to flood, fire, geologic, seismic and climate change. In addition, human-caused risks, such as hazardous materials, air pollution, and unhealthy noise levels can also pose risks to community health and safety. Effective planning to prepare for and mitigate the adverse effects of these natural and human-caused risks can help ensure that St. Helena maintains a high level of safety for its residents, workers, and visitors. Following is a discussion of the steps St. Helena takes to prepare for these risks, the potential impacts the various risks could have on St. Helena and ways for the City to minimize or prepare for these potential impacts.

Public Safety Services

Identification of public safety services in the Public Health, Safety, and Noise Element is important because these services are critical to the property and life savings effort required during an emergency and must be identified to comply with Government Code 65302. The Napa County Fire Department and the City of St. Helena Fire Department provide fire and emergency services for St. Helena. The City is served by the following fire stations that have the capability to respond to medical emergencies, rescues, structural fire, and wildfire: Napa County Station #26, located at 3535 Saint Helena Highway in Calistoga, the Napa County Station #12, located at 7401 Solano Ave in Yountville, the Napa County Volunteer Station #15, located at 1989 Highway 29 in Rutherford, the Napa County Volunteer Station #21, located at 680 Sanitarium Road, and the St. Helena Fire Station, located at 1480 Main St in St. Helena. Additional public safety services are provided by the St. Helena Police Department. The St. Helena Police Department is located at 1480 Main Street in St. Helena.

Emergency Preparedness

The State of California requires all municipal governments to prepare and plan for potential emergencies including natural and human caused events. St. Helena seeks to ensure the safety of its residents, services, infrastructure, businesses, and buildings during an emergency scenario.

Emergency preparedness efforts in St. Helena include:

- Implementation of risk reductions measures identified in the Napa County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP).
- Implementation of emergency operation protocols as included in Napa County Emergency Operations Plan.
- Continued coordination of evacuation management planning through Zonehaven, in conjunction with the Napa County Sheriff Department, Napa County Office of Emergency Services, CAL FIRE, and neighboring jurisdictions.
- Education and training of residents on emergency response management and preparedness as part of the Napa Valley Community Emergency Response (CERT) program.
- Upgrades to structures and infrastructure to comply with building and fire codes.
- Maintaining a cooling center at the St Helena Library (1492 Library Lane) during extreme heat events.

The City is actively engaged in local and regional emergency planning efforts. St. Helena is a participating jurisdiction of the Napa County MJHMP, which includes a hazard mitigation assessment and mitigation actions for Napa County and participating jurisdictions. Additionally, the City is involved in the development and regular updates to the Napa County Operational Area Emergency Operations Plan, which describes emergency operation planning processes and protocols for Napa County jurisdictions. These efforts combine with an actively engaged and educated public to support emergency preparedness for the City.

Critical Facilities

Critical facilities are structures and institutions necessary for a community to respond to and recover from emergencies. Identification of them is important because critical facilities must continue to operate during and following a disaster to reduce the severity of impacts and accelerate recovery. They are essential to the health and welfare of residents and are relied upon to recover following hazard events. Such facilities have been identified in the Napa County MJHMP and several are located in St. Helena or in close proximity to the City. They include police stations, fire stations, hospitals, elder care facilities, schools, regional emergency services, critical water facilities, and governmental buildings. Additionally, facilities such as natural gas pipelines and the transportation system are identified as critical infrastructure, which enable buildings, residences, and the transport of good and services to remain functional. These critical facilities are identified in Figure 9.1 below.

Emergency Evacuation & Isolated St. Helena Neighborhoods

Evacuation routes are used to move residents out of impacted areas before or during a disaster or hazard event. St. Helena's major evacuation routes include State Route 29 and the Silverado Trail, which lies east of and directly parallel to State Route 29. In addition to identification of these major routes, St. Helena is required by Government Code Section 65302 (g)(5) (as amended by

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Senate Bill 99) to update the Public Health, Safety, and Noise Element to include information identifying residential developments in any hazard area identified in the safety element that do not have at least two emergency evacuation access roads. Identifying residential developments without access to two emergency evacuation access roads allows the City to identify opportunities to improve evacuation capacity and connectivity for vulnerable neighborhoods. Figure 9.2 identifies residential neighborhoods that have a single access road for entry and exit (i.e., roads that connect to a collector or arterial road by only a single route).

There are currently three neighborhoods in the City that have been identified as having only a single access road. These neighborhoods are most vulnerable during evacuation scenarios and pose significant logistical challenges. As a result, policy and implementing actions have been developed to minimize these challenges for these specific neighborhoods.

Figure 9.1 Critical Facilities in and near St. Helena

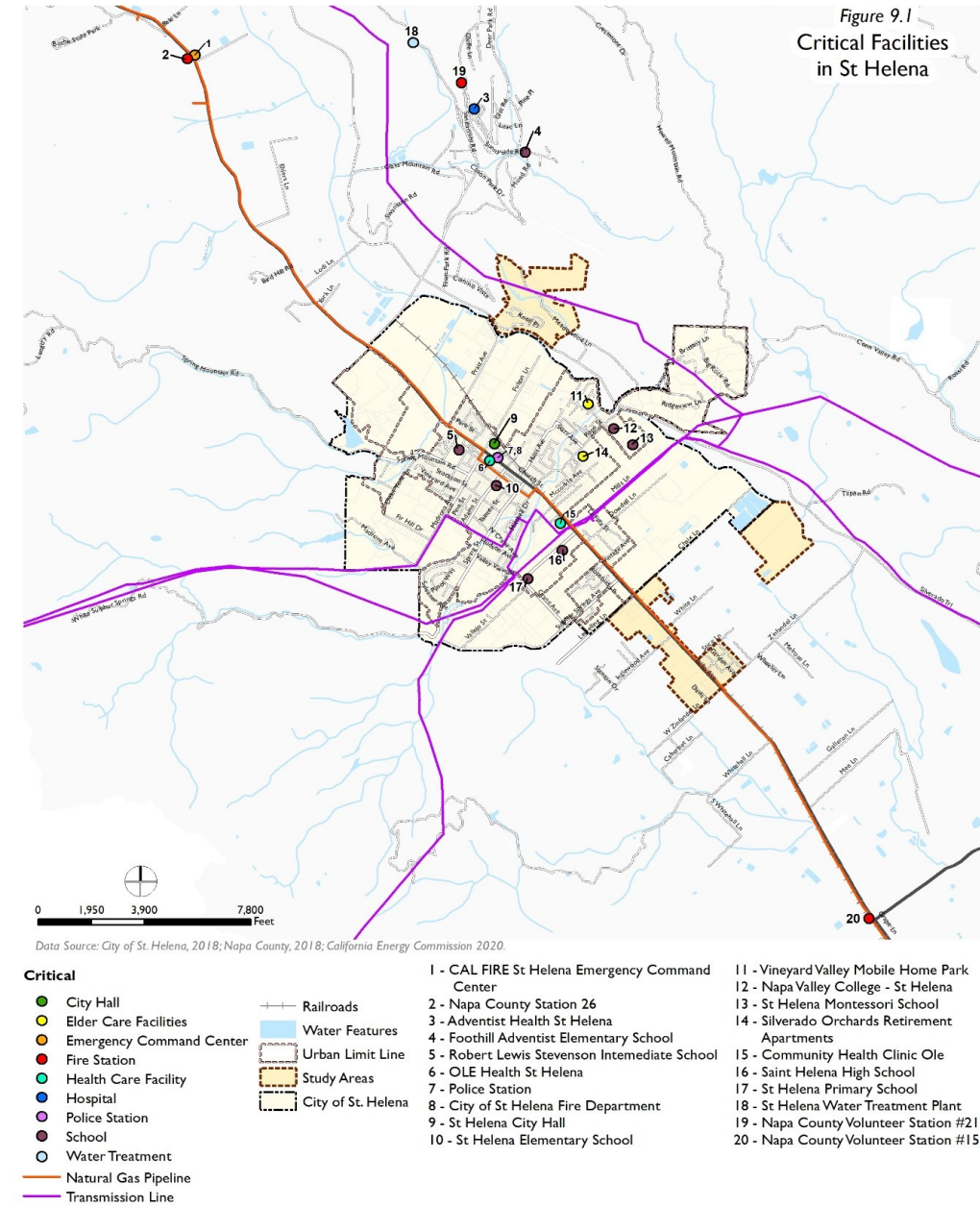
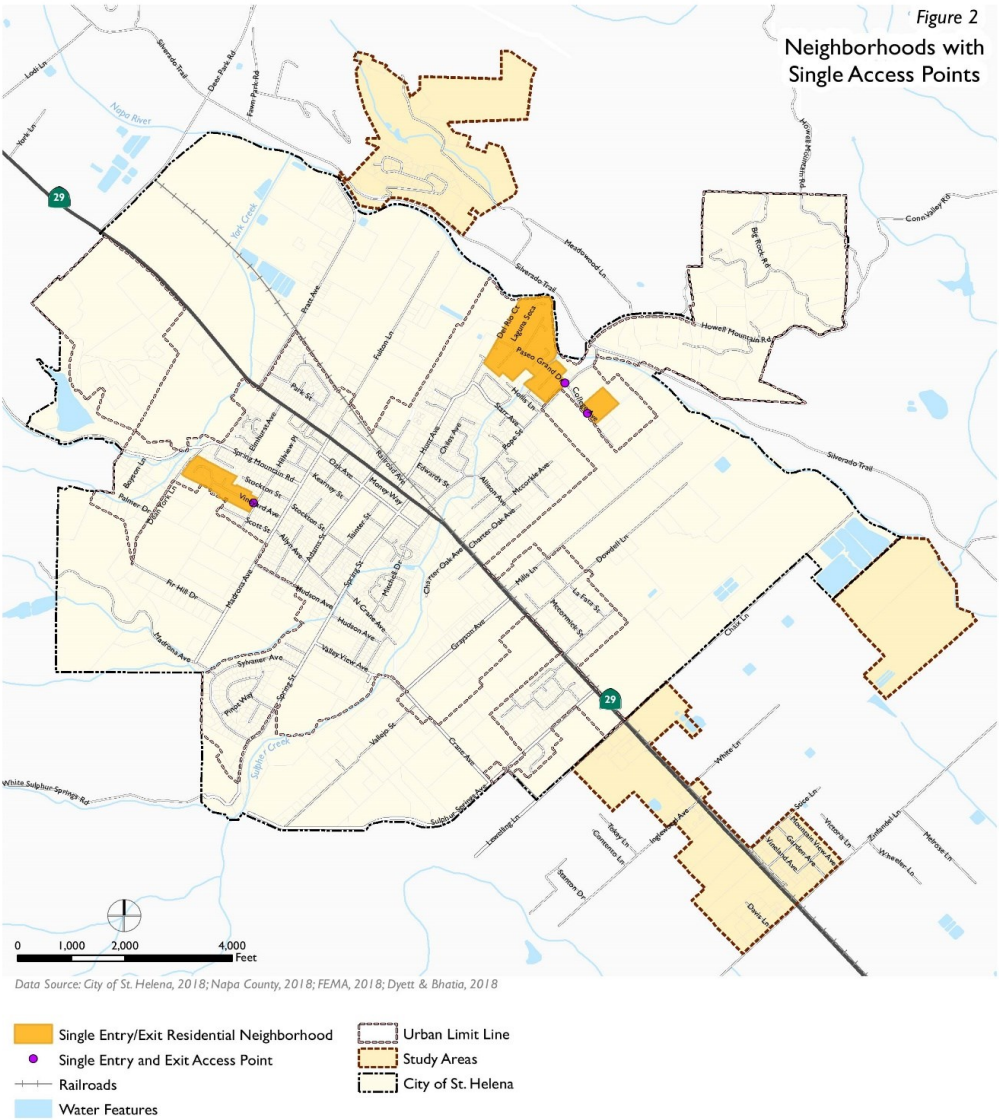


Figure 9.2Neighborhoods with Single Access Points



Flooding

The Napa River and some of its tributaries are prone to flooding, which poses a risk for people and structures in adjacent parts of the Napa Valley. The Napa River flows are largely influenced by precipitation. The peak flows generally occur in January, February, and March. Some of the worst flooding in the immediate area of St. Helena has occurred in December and April, especially in and around the Vineyard Valley Mobile Home Park, which is near the confluence of Sulphur Creek and the Napa River. The area experienced significant flooding in 1986, 1995, 1997, and 2005 with extensive property loss.

Flood hazards also exist in the York Creek and Sulphur Creek Watersheds in St. Helena. During the 2005 New Year's Eve storm event, flooding from York Creek significantly impacted residential and industrial properties, including buildings located on the properties of Beringer Winery and the Culinary Institute. The Beringer water treatment plant flooded and ponds overflowed into the creek. In addition, the creek flooded vineyards on both sides of its corridor, downstream of State Route 29 to the Napa River.

Flood hazards in the Sulphur Creek watershed are due primarily to channel bed aggradation in the lower reach where gravel mining was historically conducted. Sulphur Creek continues to supply and deposit substantial amounts of sediment in this reach. Consequently, the increased volume of sediment currently stored in the channel decreases the volume available for floodwater, potentially causing an increased flood hazard locally and within the City of St. Helena. Further study needs to be done of the Sulphur Creek area in order to prevent future flooding and to protect habitat for steelhead and salmon.

The City collaborated with the Napa County Board of Supervisors and the Napa County Flood Control District to study the Napa River's hydraulics between Deer Park Road and Pope Street. The resulting study identified the need for an extension of the 100-year floodplain beyond the areas previously identified by the Federal Emergency Management Agency (FEMA). Figure 9.3 identifies areas that fall within the City's 100-year (one percent) and 500-year (0.2 percent) floodplain and reduced risk areas due to the levee system on the Napa River; as identified by the Federal Emergency Management Agency (FEMA) in 2018. Figure 9.4 includes areas in and around St. Helena that would be inundated in the case of dam failure. **The City has several critical facilities, as seen in Figure 9.1, located within the FEMA flood zone and the dam failure inundation zone. The Vineyard Valley Mobile Home Park is located within the reduced flood risk area due to the levee and Silverado Orchard Retirement Apartments are located within 500-year flood zone. Napa Valley College – St. Helena and St. Helena Montessori School are located in the dam failure inundation zone.**

Comprehensive Flood Control and River Restoration

In 2011, the City completed a Comprehensive Flood Control and River Restoration Project north of the Pope Street bridge and on the west side of the Napa River. The purpose of this project was to protect residential property in the floodplain from the 100-year storm events and restoring the Napa River and its surrounding habitat. The project is designed to reduce flood risk to protect approximately 470 homes, including the Vineyard Valley Mobile Home Park and the Hunt's Grove Apartment Complex, that were located in a FEMA-designated flood zone prior to completion of the project. The project site was about 36 acres. The project planning began in 2000, with actual construction starting in May 2009. Phase I of the project consisted of construction of a levee, along with a storm drain bypass and other related infrastructure improvements. Phase II, the final phase of the project, included construction of a floodwall that is roughly eight feet high where it is

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anchored to the levee. The floodwall gradually reduces in height as it continues south along the Napa River to the confluence of the river and Sulphur Creek. It then turns to the west and continues along Sulphur Creek, terminating at Paseo Grand Avenue. The wall is about three and a half feet high at its terminus. The total project cost was about \$32 million, with the cost of construction at about \$9.1 million.

To balance the removal of land from the floodplain, the area known as “lower terrace B” was cut down significantly and widened to accommodate the large flood flows. In Phase II, this terrace was cut down to the level of the Napa River and is designed to carry significant amounts of flood water, should it become necessary.

The second half of this \$9.1 million project is the continuation of the flood wall around Vineyard Valley and habitat restoration in the “upper terrace B.” The habitat restoration was a critical element of the overall plan and included the installation 40,000 plantings and anchoring fallen trees into the terrace. This project also included maintenance conducted according to a maintenance plan, irrigation, and development of a pedestrian interpretive trail.

St. Helena has developed an Operations and Maintenance Manual for the Comprehensive Flood Control and River Restoration Project, which describes the extent of the project and outlines operation and maintenance activities that the City and Napa County Flood Control District will work together to manage. The manual describes project features, routine monitoring and maintenance activities, pump station operation, emergency operations, surveillance, personnel training, utility coordination and design.

Geologic and Seismic Hazards

Although St. Helena is located in a seismically active region, there are no known active faults located in the city (see Figure 9.5). Faults are commonly considered to be active or likely to have another earthquake sometime in the future, if they have moved one or more times in the past 10,000 years. The California Geological Survey, the primary source of geologic information used for decision-making by California’s government agencies, designates Alquist-Priolo Earthquake Fault Zones around the surface traces of active faults in the state and provides maps for use in planning and controlling new or renewed construction so as to minimize associated risks. According to the most recent maps the nearest active faults to St. Helena are the West Napa Fault, located 14 miles to the south, and the Rodgers Creek Fault, located 13 miles to the west. Additionally, a number of unnamed, relatively small, older faults are located at the base of the Sonoma and Vaca mountains along the margins of the Napa Valley; however, based on available information, displacement of these faults occurred more than 10,000 years ago and as such these faults are not considered active.

Overall, the fault rupture hazard for the city is considered to be low, and the primary geologic hazards of concern are those that could result from excessive shaking effects stemming from earthquakes elsewhere in the region. For instance, a large earthquake event in the area could result in liquefaction in the city’s low-lying areas (see Figure 9.6), and landslides and debris flow in areas with sloped, hilly terrain (see Figure 9.7). Development in the city’s upland areas has often required the removal of trees and vegetation, leaving some hillsides susceptible to erosion and landslides during heavy rains. Actions available to the City to protect areas of the community at greatest risk and minimize the risks of injury and property damage include restricting development in the hillside areas and requiring prompt re-vegetation on slopes prone to instability. The use of best management practices during construction can also limit erosion and the risk of landslides. Employing earthquake engineering strategies in the design of buildings and structures, such as

installation of earthquake drains or use of low mobility grouting and dynamic compaction during construction, can limit risks associated with liquefaction.

Air Pollution and Hazardous Materials

Mitigating the public health and safety risks caused by air pollution and hazardous materials will inevitably require changing human behavior. Air pollution resulting from auto exhaust, tobacco smoke, and fugitive dust creates unhealthy air conditions for residents and can pose a particular threat to sensitive populations, such as children and older adults. Implementing measures to reduce auto trips, tobacco smoke exposure, and construction-related fugitive dust can help St. Helena reduce residents' contact with air pollution. Compact development patterns, facilities to encourage walking and biking, and incentives to reduce automobile trips are just a handful of ways that St. Helena can help improve local air quality.

The Bay Area Air Quality Management District (BAAQMD) is the public agency responsible for regulating stationary sources of air pollution in Napa County and the San Francisco Bay Area. BAAQMD monitors air quality in the nine-county Bay Area and reports annually on pollutant concentrations for comparison to State and federal health-based ambient air quality standards. Data indicates that in the Bay Area, as throughout the state, the transportation sector and mobile sources of emissions are the most significant sources of air pollution. Senate Bill (SB) 375, approved by the Governor on September 30, 2008, seeks to reduce greenhouse gas emissions—and, consequently, other pollutants—from mobile sources by integrating land use and transportation planning at the regional level. *(For a more detailed discussion of SB 375 and related opportunities see the Climate Change Element.)*

Hazardous materials used by local businesses are often transported on the City's roadways and found present in smaller quantities in private homes in the form of solvents, cleaning fluids, and other substances. Implementing policies to improve the safe use, transport, and disposal of these materials can be instrumental in avoiding environmental contamination and human health impacts.

Noise

Noise is a sound which is unhealthy or unwanted. It can be a human-caused public health hazard which includes excessive, intrusive, or objectionable noises that disrupt daily life. Noise has been tied to physiological effects ranging from hearing loss, high blood pressure, and sleep disturbance to communication interference and general interruption and annoyance of normal daily activities. Definitions of acoustical terms used in this discussion are listed in Table 9.1.

Land uses have different levels of compatibility relative to noise, and the State of California mandates that general plans include noise level compatibility standards for the development of land as a function of a range of noise exposure values (see Table 9.2). Table 9-3 identifies interior noise standards.

The ambient noise environment throughout much of St. Helena is extremely quiet in comparison to typical urbanized settings, especially in the evenings and at nighttime. With the exception of Main Street (State Route 29) and major collector roadways, the noise environment can be characterized as being that of a quiet rural setting. Residential areas are generally shielded from traffic noise on highways, arterials, and collectors and register very low background sound levels.

Sleep disturbance and the annoyance of sound not only depend on the absolute sound level of a noise source but are related to the magnitude of the noise above that of background sound levels. This means that in particularly quiet rural environments, the control of extraneous, intrusive, and

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annoying noise sources is important to maintaining the public health and a quality living sound environment expected by the community. Typically, a change in noise levels of less than 3 dBA is not discernable to the general population. Increases in average noise levels from 3 to 5 dBA are clearly discernable to most people and increases in average noise levels of more than 5 dBA are common considered to constitute a significant environmental impact in many California communities.

Vehicular traffic on Highway 29 and collector streets is the primary source of noise in the community. Other non-stationary sources which are intermittent and generally inconsequential to the noise environment include flyover commercial aircraft at high altitudes, and small general aviation and helicopter flyovers. The Wine Train travels to St. Helena each day and emits a loud horn at crossings, along with the low frequency rumble of the diesel engines. Typical stationary noise sources in St. Helena include agricultural and industrial activities. Agricultural activities result in noise from wind machines, tractors, and sulphur blowers which are employed in the spring in the early hours of the morning. The St. Helena Fire Department has sirens at two locations which sound on average twenty times annually, with approximately half of them occurring during nighttime hours. Noise contours as of 2018 are seen in Figure 9.8.

Noise concerns in St. Helena are principally linked to land use compatibility. Concerns relate to adverse noise effects from new commercial development on surrounding noise-sensitive uses such as residences and schools, and also to adverse noise effects from agricultural activities within the city limit. Right-to-farm provisions necessitate accommodating agricultural uses while also seeking to minimize conflicts. To address these concerns and to promote a compatible noise environment throughout the city, Table 9.4 establishes limits on intrusive noise and regulates the amount of noise a specific sound source can emit relative to the typically low residential background sound levels. This standard is specific to residential areas within St. Helena. Additionally, by generally promoting good neighbor practices and facilitating open communication between agricultural, commercial, and residential uses the City can help to foster a healthy noise environment. Noise contours projected for 2040 as a result of the General Plan are shown in Figure 9.9.

Fire

Key human-caused public health and safety hazards affecting St. Helena include structural fires, vegetation fires, and other disasters that require advanced planning. Overall, in the urbanized portion of St. Helena within the city limit, the risk of vegetation fire is moderate to low; however, areas of the city in the hilly terrain along the western perimeter of the city and east of the Napa River are **designated by the California Department of Forestry and Fire Protection (CAL FIRE) as moderate, high or very high fire hazard severity zones, according to CAL FIRE 2020 data (see Figure 9.10). St. Helena does not have any critical facilities, as seen in Figure 9.1, located within a fire hazard severity zone.**

As described in the Public Safety Services section, fire services are provided to residents by Napa County Fire Department and the City of St. Helena Fire Department. Fires occurring in the heavily-wooded hillside areas can be difficult for firefighting efforts due to slope, topography, and availability of fuels. Fire burns more intensely up slopes and securing a fire on steep terrain is challenging for firefighting efforts. ~~to address due to~~ Traffic congestion on City streets, **including particularly when emergency vehicles must travel on or across State Route 29, a two-lane highway, can provide limited ingress and egress for emergency vehicles that must gain access to the fire.** Furthermore, traffic congestion can pose important ~~important~~ **major** challenges to St. Helena's collaboration with neighboring municipalities and agencies ~~seeking that seek~~ to establish and implement

regionally coordinated disaster planning for police, fire, and emergency medical services. The City can work with local, regional, and state agencies to address key traffic-related concerns on State Route 29 and County roads to ensure that adequate levels of fire protection are maintained, particularly on hillsides and in fire-prone areas, and to support regional collaboration for disaster preparedness.

In 2021, the Napa Communities Firewise Foundation led the development of the Napa County Community Wildfire Protection Plan in collaboration with Napa County agencies, PG&E, CAL FIRE and local jurisdictions. The Plan seeks to reduce wildfire risk in Napa County, including areas surrounding St. Helena, through a variety of proposed wildfire mitigation projects.

Napa County has experienced many historical fires in the past several decades. Historical fires in or adjacent to St. Helena since 1950 are summarized ~~seen~~ below in Table 3.

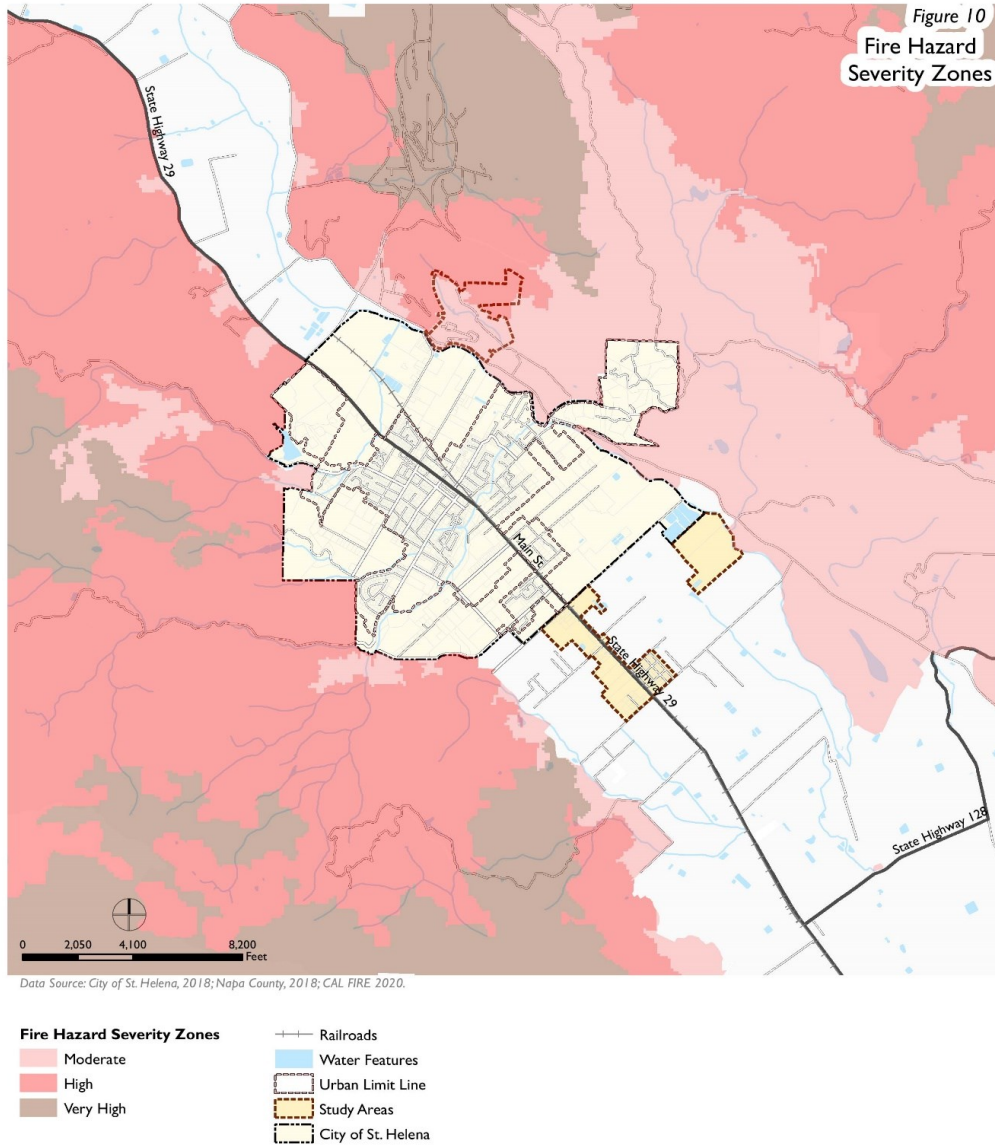
Table 3 Historic Fires in or adjacent to St. Helena (1950-2022)

Name	Year	Acres Burned
Roadside #14	1964	231
Atlas Peak	1981	33606
Howell Mountain Fire	1983	2354
Silverado	2003	69
Deer	2008	233
Hillcrest	2016	17
Tubbs	2017	36702
Atlas	2017	51625
Nuns	2017	55798
Glass	2020	67484
LNU Lightning Hennessey	2020	305651
Spring	2021	1
Pope	2022	4
Source: CAL FIRE 2021		

Peak water supply and water availability are crucial for fighting wildfires. Peak load water supply refers to the sum total of water required for fire flow, operational daily consumption, and emergency storages. With new developments, the City will need to increase its peak load water supply reserves. Policies PS4.G and PS4.H seek to address water supply demand concerns.

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Figure 9.10 Fire Hazard Severity Zones



Climate Change Hazards

The St. Helena Climate Vulnerability Assessment, found in Appendix B, includes an evaluation of how climate change may impact vulnerable community members as well as critical services, facilities and infrastructure in the City. Key findings from the assessment are summarized below.

Climate change is a global phenomenon that can impact local health, natural resources, infrastructure, emergency response, and many other aspects of society through changes in climate conditions. In St. Helena, climate conditions and associated natural hazards are expected to change in the following ways:

- Increasing temperatures: Average maximum temperatures in St. Helena are expected to rise between 3.3°F and 4.4°F by 2050, and between 4.2°F and 7.2°F by 2100.
- Extreme heat: Extreme heat days occur when the maximum temperature is above 100.4°F. The annual number of extreme heat days is projected to increase by as much as 31 days per year by 2100.
- Increasing intensity of precipitation events and longer dry periods. It is projected that by the end of the century the largest precipitation events in the Bay Area region will increase in volume (inches of rain per day) between 6% and 37%.
- Wildfire: There will be increased wildfire probability due to variable and decreasing precipitation and increasing temperatures.

Climate change will disproportionately impact certain populations in St. Helena. The following vulnerable populations have been identified in St. Helena:

- Young Children. St. Helena has one of the highest concentrations of children in Napa County (St. Helena General Plan 2019). Children are particularly at risk to climate hazards because they are dependent on others for care, are vulnerable to injury or sickness, and may not understand or are not capable of taking the measures needed to protect against or evacuate from climate hazards.
- Older Adults. Silverado Orchards Retirement Community and Vineyard Valley Mobile Home Park are two particularly vulnerable facilities in the City, as they are home to a substantial population of elderly individuals.
- Outdoor Workers. Extreme heat and smoke events pose disproportionate health risks to the city's outdoor workers who are employed in viticulture, agriculture, construction, and other outdoor occupations
- Individuals that are Linguistically Isolated. Individuals that are linguistically isolated have no to limited English proficiency. Linguistically isolated households may not understand important safety, public health, or evacuation orders and communications when conducted exclusively in English during a hazard event, which may compromise the ability of residents to remain safe and healthy. They may not have access to resources available to help recover from climate related impacts if resources are only available in English.
- Visitors. St. Helena is surrounded by an expanse of vineyards and agricultural lands. The City is a popular tourist destination in Napa County. Visitors are at risk during climate hazard events as they may not receive adequate warning and may not have knowledge regarding access to emergency services.

All residents of St. Helena rely on various infrastructure and services such as water systems, electricity, natural gas, and roads. These systems and assets are vulnerable to the impacts of

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climate change, which puts the wellbeing of residents at risk. Those with pre-existing and chronic health conditions that rely on services and systems, are particularly vulnerable in situations where hazard events impact access to electricity, food, water supplies, healthcare, sanitary resources, transportation, and communication platforms. Impacts to St. Helena from climate change are wide ranging and expected to include the following:

- Extreme heat can cause heat-related illnesses such as heat stress, heat stroke, and dehydration and may exacerbation of existing respiratory and cardiovascular conditions. Those who do not have access to cooling, who have high outdoor exposure, and those who have health conditions or physiological conditions are particularly at risk. Extreme heat may trigger a power safety shutoff to decrease wildfire risk and/or manage high demand.
- Drought can impact the reliability of affordable water services for city residents which may cause individuals to become dehydrated and/or experience costs burdens associated with increased water rates. Prolonged droughts may limit the water supply for fire suppression efforts. Drought can also negatively impact wildlife dependent on local water resources. It can lead to declining quality and yield of vineyards located in St. Helena.
- Wildfires can cause individuals to be injured from smoke inhalation or burns. People may also have their belongings or homes destroyed or damaged during a wildfire event. Residential and commercial buildings, critical facilities, and critical infrastructure can be damaged from a wildfire. Wildfires may move through open spaces, threatening local wildlife. In order to mitigate further risk, a power safety shutoff may be initiated during a wildfire which would impact electricity services in the city.
- Floods can cause individuals to be injured from high velocity or high-volume floodwaters. People may have their belongings or homes destroyed or damaged from floodwater inundation. Flooding can cause structural damage to residential and commercial buildings, critical facilities, and critical infrastructure. High volumes of floodwater may cause stormwater systems to get overwhelmed and impaired.

Implementation of policies and programs included in this Public Health, Safety, and Noise Element that improve the community's adaptive capacity, including addressing some of the underlying contributing factors, will reduce the negative impacts that climate change could have on vulnerable populations, critical services, facilities, and infrastructure.

Concepts, Trends and Ideas

Hazard Mitigation Planning

Hazard mitigation is defined by the Federal Emergency Management Agency (FEMA) as “sustained action taken to reduce or eliminate long-term risk to people and their property from hazards.” The goal of hazard mitigation is to ensure long-term resilience against natural and human- caused hazards.

Mitigation Plans form the foundation for a community's long-term strategy to reduce losses from disaster and break the cycle of catastrophic event, disaster damage, and reconstruction.

As a condition for receiving certain types of non- emergency disaster assistance, State, Tribal, and local governments are required to develop a hazard mitigation plan. The Napa County Multi-Jurisdictional Hazard Mitigation Plan was written in cooperation with the cities of St. Helena, Calistoga, American Canyon, Yountville, and local special districts, and was developed in

accordance with the Disaster Mitigation Act of 2000 (DMA 2000) and followed FEMA's 2011 Local Hazard Mitigation Plan guidance. The Napa County MJHMP identified and profiled hazards, assessed facilities and populations at risk, and sets forth goals, mitigation strategies and mitigation action items for flooding, earthquakes, wildfire, severe weather, drought, climate change, slope failure, dam failure, agricultural disaster, and pandemic disease. Working together, local communities and jurisdictions in Napa County can reduce the long-term risks associated with natural and human-caused hazards. Consistent with that effort, the Public Health, Safety and Noise Element is St. Helena's primary policy tool for ensuring local action and St. Helena's involvement in implementing regional hazard mitigation strategies. For more information about the Napa County MJHMP, visit <https://mitigatehazards.com/napa-county-mjhmp/documents/>.

9.3 Key Findings

There are several challenges and opportunities facing St. Helena related to Public Health, Safety, and Noise. The following key findings are based upon comprehensive existing conditions analysis and community input.

Flooding

- Flooding in Napa County generally occurs within the low-lying Napa Valley floor. Between 1961 and 1997, flooding resulted in approximately \$540 million in property damages. St. Helena experienced major flood events in 1986, 1995, and 2005 that caused an estimated combined total of \$95.6 million in damages in the city. Most flooding occurred in the vicinity of Vineyard Valley from Fulton Lane to Pope Street.
- The flood history of York Creek suggests that the creek bed is not of adequate size to convey larger storm events. During the 2005 New Year's Eve storm event, flooding from York Creek significantly impacted residential and industrial properties. The Beringer water treatment plant flooded and ponds overflowed into the creek. In addition, the creek flooded vineyards on both sides of its corridor, downstream of State Route 29 to the Napa River.
- Until 2002, an aggregate mining operation, now discontinued, removed approximately 40,000 to 50,000 cubic yards of material from Sulphur Creek annually. Further study is needed to determine how aggregate buildup at Sulphur Creek may affect flooding issues in the area.
- Completed in June 2011, the City of St. Helena Comprehensive Flood Control and Environmental Restoration Project provides a minimum 100-year level of flood protection within the project and surrounding area of St. Helena. Design of the project was done on the basis of a Napa River Flood Model Study from Zinfandel Lane to Lodi Lane completed jointly by the City of St. Helena and the Napa County Flood Control and Water Conservation District with Measure A funding. The individual elements of the project include floodplain terracing, shoreline restoration, a new levee, floodwall and bank stabilization, and storm- water management features including a detention basin and pumping facility. The project protects hundreds of homes and is projected to save millions of dollars in flood insurance claims.
- Portions of St. Helena's residential, commercial and winery industrial areas are located within or near the 100-year floodplain and/or dam failure inundation zone. Requiring infrastructure and drainage plans to minimize risk in these areas, in compliance with State and federal requirements, at a minimum, can promote the safety of residents and businesses. Moreover, restricting new development within the FEMA- designated floodplain and prohibiting

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development in the floodway can minimize additional flood hazards and the need for further mitigation measures.

Seismic and Geologic Activity

- St. Helena is located in a seismically-active region, with seismic activity primarily related to movements in the San Andreas Fault Zone (SAFZ). Although there are a number of active faults in the region, there are no known active faults in St. Helena.
- Local earthquake hazard mapping suggests that a magnitude 7.9 or greater earthquake on the San Andreas Fault, or a 6.5 magnitude event on the West Napa Fault, could result in strong shaking in the city. As a result, St. Helena's susceptibility to liquefaction ranges from low in the upland areas west of downtown, to very high along the Napa River. United States Geological Survey (USGS) maps indicate that slope stability and landslide issues exist in St. Helena's upland areas, and a major earthquake event could result in significant debris flow. As noted previously, the recent August 2014 earthquake had a magnitude of 6.0, which resulted in no measurable soil liquefaction within the City of St. Helena.
- By limiting the type and scale of new development in hillside areas, or areas subject to liquefaction, the City can limit the potential for property damage and loss of life as a result of major seismic activity. In addition, complying with the Universal Building Code (UBC) and adopting other standards for building safety along with emergency response disaster planning will help minimize the impacts of seismic and geologic disasters.

Air Pollution and Hazardous Materials

- The greatest source of greenhouse gas emissions in the City of St. Helena is the Transportation sector, which comprises 59 percent of total emissions according to a 2018 inventory compiled for the General Plan update. The transportation sector is also the largest generator of air pollution emissions in the County, with mobile sources – automobiles and trucks – providing the greatest level of emissions. A 2007 Bay Area Air Quality Management District (BAAQMD) GHG inventory indicated that approximately 56 percent of GHG emissions in Napa County resulted from mobile source emissions. Mobile emissions are a significant source of other pollutants, as well, including carbon monoxide and particulate matter.
- The development of a Climate Change Element for the St. Helena General Plan is an important step forward in contributing to the effort to improve regional and local air quality. Napa County's Communitywide Climate Action Plan and the Climate Change Element provide a strategic policy framework to reduce greenhouse gas emissions and reduce air pollution derived from its multiple sources.
- CalEnviroScreen have shown that people living in agricultural areas of California have higher amounts of pesticides in their bodies than other people, which can result in adverse health outcomes. Based on data compiled by the Office of Environmental Health Hazard Assessment (OEHHA), census tracts in St. Helena are in the top quartile in terms of pounds of pesticide per square mile in the state for the years 2012-2014. The Napa County Agricultural Commissioner is responsible for ensuring the safe use of pesticides in all settings in the county. The County runs a Pesticide Use Enforcement program to educate pesticide users of their legal responsibilities and conduct inspections and investigations to ensure the safety of workers, the public, and the environment. Compliance and enforcement activities are complemented with extensive training and outreach to help growers and employees ensure safe handling and use of pesticides.

Noise

- The primary source of noise in the community stems from motor vehicle traffic and commercial activity, particularly in areas near major roads, such as State Route 29. Mitigating traffic noise can be difficult, particularly the noise generated along State Route 29 throughout the day and night. However, the City can adopt noise standards to address more infrequent noise sources, such as those related to off-hours delivery, and commercial loading and unloading.
- While there are few industrial noise sources in St. Helena, passing trains and aircraft generate intrusive noise periodically in the community.
- Agricultural operations generate noise on a seasonal basis; however, local right-to-farm policies limit the City's power to regulate noise impacts. Encouraging the regular communication of planned agricultural activities to surrounding residents can help address potential conflicts relating to noise compatibility. In addition, adopting noise compatibility standards for sensitive land uses can help to minimize the impacts of intrusive noise sources.

Fire and Emergency Response

- St. Helena's paid-per-call full time fire department, supported by six full time and 19 part time firefighter staff members (hired in Fall 2021) two permanent staff members (hired in Summer 2018), provides fire protection services for wildland and structural fires within the city limits and in unincorporated areas of Napa County. Although service levels within the city are generally adequate, the heavily-wooded and frequently dry hillside areas could create significant challenges for firefighters.
- By limiting the type and scale of new development in hillside areas and requiring sufficient road widths and turning radii to accommodate emergency response vehicles, the City can limit the potential for property damage and loss of life due to fires.
- Traffic congestion can adversely impact emergency response time in St. Helena, particularly when emergency vehicles must cross State Route 29. The City can work with emergency response providers to create solutions that address traffic-related emergency response challenges.
- The City of St. Helena Fire Department and Napa County Fire Department provide fire services to St. Helena.
- In Napa County, wildfires have grown in frequency and intensity over the past two decades. There have been several fires in or adjacent to St. Helena since 1950.
- Water availability and peak water supply are extremely important for fighting fires and preparing for disaster events. St. Helena can ensure adequate water availability by pursuing water supplies from additional sources.

Climate Change Hazards

- Climate change is projected to increase the frequency and/or intensity of various natural hazards in the coming decades.
- St. Helena will experience increasing average maximum temperatures, increasing intensity of precipitation events, and longer dry periods.
- St. Helena is vulnerable to growing impacts from extreme heat and wildfire.
- As climate change occurs, communities and assets will be affected to varying degrees based on level of sensitivity to a particular hazard.

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- The City's most vulnerable populations include young children, older adults, outdoor workers, individuals that are linguistically isolated, and visitors.
- Vulnerable critical services and infrastructure include water systems, natural gas, and roads.
- Extreme heat, drought, wildfire, and flooding will have impacts to critical facilities, services, and infrastructure that are vulnerable and located in hazard zones.
- Wildlife may suffer from loss of habitat and decreased availability of food and water sources due to increased severity and frequency of extreme heat, drought, wildfire, and floods.

9.4 Goals

The goals of the Public Health, Safety and Noise Element are:

Maintain High Levels of Public Health and Safety

St. Helena is committed to maintaining high standards of public health and safety through anticipation of and preparation for potential natural and human-caused hazards.

Effectively Coordinate Responses to Emergencies and Natural Disasters

St. Helena is dedicated to protecting residents, businesses, and the environment through efficient local emergency response efforts, public education, and effective coordination with regional, State, and federal agencies.

9.5 Policies and Implementing Actions

A range of policies and implementing actions are outlined below and organized into the following topic areas:

1. Air Quality;
2. Noise;
3. Seismic and Geologic Hazards;
4. Fire and Hazardous Materials;
5. Flood Hazards;
6. Disaster Planning; and
7. **Climate Change Hazards**

The following policies and actions mandate, encourage, or allow certain initiatives to be pursued throughout the duration of the General Plan. Together, they serve as strategic directions for City staff and partners, highlighting where time and resources should be focused.

Topic Area 1 Air Quality

Policies

PS1.1 Achieve and maintain clean, healthy air for the residents of St. Helena to preserve environmental quality and community health.

PS1.2 Support regional efforts to achieve and maintain state ambient concentration standards to protect public health, reduce adverse industrial plant effects, and enhance the visual environment. In particular, provide local support for implementation of policies and measures set forth in the Napa County Congestion Management Program.

PS1.3 Encourage effective regulation of those sources of air pollution, both inside and outside of St. Helena, which affect air quality, by implementing as many of the recommendations of the Napa County Congestion Management Plan as is feasible.

PS1.4 Promote an optimized land use development pattern that minimizes cumulative air quality impacts from proposed developments.

Implementing Actions

PS1.A Minimize local adverse air quality impacts related to construction by requiring dust abatement procedures for local projects.

~~**PS1.B** Mandate the use of EPA-approved wood stoves or fireplace inserts, rather than fireplaces, as a means of reducing emissions into the air.~~

PS1.B Review project proposals for their potential to generate hazardous air pollutants.

PS1.C Develop guidelines for locating new sensitive uses, including residences, schools, and childcare facilities, away from air pollutant sources. The guidelines can include measures to mitigate air emissions from existing sources, as well as to design buildings to prevent exposure.

PS1.D Encourage and support regional efforts to use alternative modes of transportation.

PS1.E Consider a citywide network to help commuters arrange carpools, including online coordination capabilities and designated areas for parking and pick-up.

PS1.F Adopt the thresholds of significance contained in the Bay Area Air Quality Management District's (BAAQMD) Guidelines for Assessing the Impacts of Projects and Plans for determining the significance of project impacts under the California Environmental Quality Act.

PS1.G Continue to implement an ordinance to restrict exposure to environmental tobacco smoke in new and existing multi-unit dwellings, public events, and outdoor areas, such as parks and playgrounds.

PS1.H Adopt a voluntary, employer-based transportation demand management (TDM) program for St. Helena businesses in compliance with the BAAQMD's 2017 Clean Air Plan (CAP). Components of a TDM program should include measures to reduce the use of single-occupancy vehicles for work-related commuting, such as carpool/vanpool matching services and employer-sponsored transit passes.

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PS1.I The potential for sources of odors that includes restaurants, auto body shops, or waste treatment facilities shall be considered when evaluating proposed residential projects and projects with sensitive recipients.

Topic Area

2 Noise

Policies

PS2.1 Preserve the current low levels of noise in St. Helena to maintain the City's rural atmosphere.

PS2.2 Maintain a citywide environment that balances various City objectives while minimizing the impact of highway, railroad, and industrial noise. The City should manage both indoor and outdoor noise levels to protect health and safety. A combination of noise standards and existing noise levels should be used to determine impacts and mitigation measures.

PS2.3 Minimize potential noise impact conflicts between land uses by regulating incompatible land uses. Encourage noise-generating uses to reduce their impacts while promoting land use patterns that avoid conflicts. Employ compatibility guidelines, interior noise level criteria, the City's noise standards, and noise contour maps to determine the compatibility of land uses.

PS2.4 Require a reduction and/or control of the use of machinery, mechanical systems and other noise-making equipment and sources in and near residential areas where the noise impacts would be considered intrusive to adjacent residential property, unless consistent with the right-to-farm.

PS2.5 An increase in average noise levels of 5 dBA or greater is considered to be significant and to constitute a noise impact by the noise source in question for the purpose of environmental analyses.

Implementing Actions

PS2.A Consider the environmental impact of transportation-related noise and other noise sources in the review of any new projects and approval of subdivision plans and requests for changes in the zoning ordinance.

PS2.B Enforce the Land Use Compatibility Standards presented in the State of California's General Plan guidelines when siting new uses. These standards identify the acceptability of a project based on levels of noise exposure.

PS2.C Adopt and enforce Title 24 Standards for all types of new residential construction, including single family dwellings, duplexes, apartments, and dormitories.

- An interior maximum noise level of LAdn-45 dBA in all habitable rooms for all dwelling units;
- A maximum allowable interior noise level for bedrooms of an hourly LAeq-35 dBA;
- A maximum noise level of LAdn-60 dBA for residential exterior activity areas;
- If interior noise standards are met by requiring windows to be closed, cooling and outside air exchange must also be provided in the building's design.

PS2.D Require an acoustical study, prepared by a qualified acoustical consultant for:

- All proposed projects that are likely to be exposed to noise levels greater than the standards;
- All proposed projects that would generate noise where impacts on other uses would be greater than the standards;

- Any project exposed to outdoor noise at or above a day-night average sound level (Ldn) of 60 or for any noise source that could create such outdoor noise levels for adjacent uses; and
- Any project exposed to or that creates noise which may exceed the adopted City standards.

PS2.E Require new developments to implement noise mitigation measures when built in close proximity to noise sources, such as State Route 29 and the railroad tracks. These developments should consider the exterior and interior noise environment.

PS2.F Require construction operations to use noise suppression devices and techniques and limit noisy construction activities that can be heard at the property line to the least noise-sensitive times, as per the City's noise ordinance.

PS2.G Include appropriate noise attenuation techniques in the design of all new arterial streets. Such techniques could include the use of site planning, building orientation, buffer distances, quiet pavement surfaces, and the use of correctly- engineered acoustical barriers and berms where necessary. Adopt the noise standard for intrusive noise at residences given in Table 9.4.

PS2.H Amend the City's noise ordinance to regulate intrusive noise sources, such as the use of machinery and equipment, landscaping and property maintenance devices, animals, and idling buses or trucks in or near uses sensitive to noise.

PS2.I Incorporate right-to-farm legal provisions relative to noise in all newly- created deeds where agricultural activities may pose noise impacts in the future. Require similar language in deeds for properties similarly impacted by the Harold Smith & Son gravel plant operations.

Topic Area

3 Seismic and Geologic Hazards

Policies

PS3.1 Minimize risk of injury, loss of life and property damage from seismically- induced and other known geologic hazards.

PS3.2 Restrict the intensity of development and the level of landform alteration in the hillside areas in order to minimize the potential for slope failure.

PS3.3 The required soils and geologic reports for new development shall include geotechnical analysis for construction in areas with potential geological hazards and/or for purposes of environmental analysis. The analysis shall investigate all potential geo-hazard issues for the site where there is substantial evidence of a potential risk.

PS3.4 Geologic reports for new development shall describe hazards and include mitigation measures to reduce risks to acceptable levels. Where appropriate, an engineer's or geologist's certification shall be required stating that risks have been mitigated to an acceptable level.

Implementing Actions

PS3.A Require a soils and geologic report to be submitted for new construction prior to the issuance of grading and building permits and the submission of final maps.

PS3.B Prohibit any development—including any land alteration, grading for roads, and structural development—in areas of slope instability or other geo- logic concerns until mitigating measures are taken to limit potential damage to levels of acceptable risk.

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PS3.C Require prompt re-vegetation of development areas on slopes prone to instability. Use native and drought-tolerant plant species for landscaping on slopes where excess watering might induce landslides and/or erosion.

PS3.D The City shall rely upon the most current and comprehensive geological hazard mapping available in the evaluation of potential seismic hazards associated with proposed new development.

PS3.E All development and construction proposals shall be reviewed by the City to ensure conformance to applicable building standards. Recommendations of the geotechnical analysis shall be implemented.

Topic Area

4 Fire and Hazardous Materials

Policies

PS4.1 Use the Zoning Code to define a transitional zone around industrial areas to protect the health and safety of residential neighborhoods.

PS4.2 Limit development in areas of High and Very High wildfire hazard as defined and mapped by the California Department of Forestry and Fire Prevention (**CAL FIRE**) in order to prevent the loss of lives, injuries, and property damage due to wildfires.

PS4.3 Protect residents, employees, and visitors from wildfires.

PS4.4 Protect St. Helena residents from health and safety impacts related to the use, storage, manufacture, and transport of hazardous materials.

PS4.5 Discourage new uses that rely extensively on the use of hazardous materials.

PS4.6 Facilitate communication and education about fire safety, non-point source pollution, household hazardous waste disposal, and recycling opportunities.

PS4.7 Ensure that all streets and roads are adequate in terms of width, turning radius, and grade in order to facilitate access by City firefighting apparatus, and to provide alternative emergency routes of ingress and egress.

Implementing Actions

Wildfire

PS4.A Designate areas in St. Helena that are prone to fire hazards and make this information available to the community.

PS4.B Continue to require implementation of best practices in fire resistance for all new and remodeled structures in fire-prone areas, including fire fuel removal, creation of defensible space for firefighters, construction with fire-resistant building materials, and installation of automatic sprinkler systems. Study the need to designate a Wildland-Urban Interface Fire Area within St. Helena to provide protection in additional areas.

PS4.C Require all structures in high wildfire hazard areas to maintain a clearance of flammable vegetation away from structures and to use fire-resistant ground covers. The minimum clearance distance should be 100 feet in the Wildland-Urban Interface areas.

PS4.D Require all new development to meet the minimum fire flow rates specified by the City's Fire Code.

PS4.E Require all new development plans to be approved by the Fire Department prior to the issuance of building permits, grading permits, or final map approval.

PS4.F Develop a program to inform and educate the community about potential risks, resources, and roles and responsibilities for addressing fire safety in St. Helena. Inform residents of homes adjacent to public lands of their responsibility to provide fire breaks adjacent to their homes.

PS4.G Investigate additional water supply sources to ensure the provision of adequate water availability to meet future peak fire, emergency, and domestic demands.

PS4.H Permit new development only within areas that have adequate water pressure.

PS4.I Coordinate with the Napa County Communities Firewise Foundation, the St. Helena Fire Safe Council, and neighboring jurisdictions to implement wildfire mitigation projects proposed in the Napa County Community Wildfire Protection Plan.

PS4.J Consider incorporating wildfire risk reduction measures, including load clearing and brush management into plans, operations and maintenance procedures for public access roads, parks, trails, open space, critical infrastructure, and critical roads.

PS4.K Provide educational materials to encourage businesses and residents to adopt drought tolerant and fire-resistant landscaping practices.

PS4.L Develop and disseminate education and outreach materials to landlords, businesses, and residents regarding retrofits and home-hardening measures that align with recommendations from CAL FIRE's Wildfire Home Retrofit Guide. Identify funding resources to support home retrofit and hardening projects.

PS4.M Partner with the St. Helena Fire Safe Council, the Napa Communities Firewise Foundation, and CAL FIRE to conduct educational workshops for landowners on defensible space, vegetation management, and home-hardening techniques based upon the most up-to-date science and State management guidelines to reduce wildfire hazards.

PS4.N Update standards in the zoning code to be consistent with the most recent SRA Fire Safe Regulations: title 14, CCR, division 1.5, chapter 7, subchapter 2, articles 1-5 (commencing with section 1270) (SRA Fire Safe Regulations) and title 14, CCR, division 1.5, chapter 7, subchapter 3, article 3 (commencing with section 1299.01) (Fire Hazard Reduction Around Buildings and Structures Regulations).

PS4.O Minimize risks to existing development in areas at highest risk to wildfire by identifying existing non-conforming development and revise to meet contemporary fire safe standards. Address road standards and vegetative hazard, and require all development to meet or exceed CCR, division 1.5, chapter 7, subchapter 2, articles 1-5 requirements (SRA Fire Safe Regulations).

PS4.P Coordinate with CAL FIRE and Napa County Fire Department to incorporate best practices around wildfire risk reduction and vegetation management into maintenance planning of parks and open spaces.

PS4.Q Coordinate with CAL FIRE, Napa County Firewise Foundation, and Napa County Fire Department to identify funding sources and develop incentives to assist landowners in dead tree removal.

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PS4.R Require fire protection plans for new development in areas of the City that are located adjacent to CAL FIRE hazard severity zones.

Hazardous Materials

PS4.S Review all new development proposals for their potential to introduce the production, use, storage, and/or transport of hazardous materials, and require reasonable controls on such materials.

PS4.T Develop a Hazardous Materials Response Plan that includes guidelines, protocols, and strategies to respond to a local hazardous materials spill.

PS4.U Continue to require compliance with federal, State, and local regulations for the safe production, transport, handling, use, and disposal of hazardous materials that may cause air, water, or soil contamination. Require buffers for operations which handle substantial amounts of hazardous materials. When siting new facilities or expanding existing facilities, require buffer zones between hazardous materials facilities and residential uses, parkland, trails, and open space facilities.

PS4.V Develop and launch a citywide education campaign to encourage the use of green products in order to reduce non-point source pollution. Target efforts towards the reduction of household chemical use and hazardous waste disposal.

PS4.W Require environmental assessments during the planning for development in areas previously used for agricultural, commercial, or industrial uses. Remediation of identified contamination that may result in health risks to construction workers and future owners and users shall be required prior to approval of construction, demolition, and grading permits for development.

PS5.X Work with the Napa County Agricultural Commissioner and other responsible agencies to identify and enforce mechanisms to control residual pesticides and pesticide runoff to prevent significant risk to water quality, vegetation, wildlife, and humans.

PS4.Y Develop a program to inform and educate the community about potential risks, resources, and roles and responsibilities for addressing fire safety in St. Helena. Inform residents of homes adjacent to public lands of their responsibility to provide fire breaks adjacent to their homes.

PS4.Z Review all new development proposals for their potential to introduce the production, use, storage and/or transport of hazardous materials, and require reasonable controls on such materials.

PS4.AA Develop a Hazardous Materials Response Plan that includes guidelines, protocols, and strategies to respond to a local hazardous materials spill.

PS4.AB Strengthen regulations for the safe production, transport, handling, use and disposal of hazardous materials that may cause air, water, or soil contamination. Require buffers for operations which handle substantial amounts of hazardous materials. When siting new facilities or expanding existing facilities, require buffer zones between hazardous materials facilities and residential uses, parkland, trails, and open space facilities.

PS4.AC Develop and launch a citywide education campaign to encourage the use of green products in order to reduce non-point source pollution. Target efforts towards the reduction of household chemical use and hazardous waste disposal.

Topic Area

5 Flood Hazards

Policies

PS5.1 Minimize the risk to people, property and the environment caused by flooding hazards. Site new development to minimize potential damage from a 100-year flood. **Consider changes in precipitation associated with climate change in the design of new development to avoid potential flood damages.** Continue to require that any new development is constructed to FEMA standards. Prohibit the siting of uses within Flood Hazard Areas inconsistent with FEMA standards that could result in health and safety hazards, including those due to the release of chemicals or other substances as a result of inundation or erosion. Ensure that any new flood protection projects comply with federal and State standards.

PS5.2 Ensure that new development or existing lots of record within the 100- year floodplain are properly graded, sited, and constructed to mitigate flood effects and do not cause increases or expansion of the flood area that increase flood risk.

PS5.3 Within the 100-year floodplain, encourage open space uses, such as parks or natural areas.

PS5.4 Ensure that construction of flood barriers does not adversely affect natural floodplains, stream channels and natural barriers that help accommodate or channel flood waters.

PS5.5 Prohibit new development within areas designated as Floodway in the current FEMA Flood Insurance Study (FIS) and Flood Insurance Rate Map (FIRM). *(Also see the Public Facilities and Services Element, Topic Area 3)*

PS5.6 Coordinate with the Napa County Flood Control and Water Conservation District and other responsible agencies to maintain protocols and funding for the regular inspection and maintenance of flood control facilities in the city, including levees, floodwalls, floodplain terracing, stormwater detention ponds, and pumping facilities.

PS5.7 Require that development within Special Flood Hazard Areas prepare and implement infrastructure and drainage plans compliant with State and federal requirements in order to minimize risk in these areas.

PS5.8 Locate, **when feasible**, new essential public facilities outside of Special Flood Hazard Areas, including hospitals and health care facilities, emergency shelters, fire stations, emergency command centers, and emergency communications facilities. *(Also see the Public Facilities and Services Element, Topic Area 3)*

Implementing Actions

PS5.A Coordinate with the Napa County Flood Control District to ensure that stream channels are routinely cleared of vegetation and debris which could impede stormwater flows, while protecting riparian habitat.

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PS5.B Require developers with land adjacent to the Napa River to construct or contribute a fair share toward the construction of necessary flood control improvements.

PS5.C Strengthen and enforce regulations that prohibit the dumping of litter, fill, and waste materials into creeks and waterways. Educate the public about flooding and health hazards associated with these activities.

PS5.D Require that **best design practices** are implemented for sewer and water lines in areas subject to flooding or are sited to avoid contamination and flooding when pipelines break.

PS5.E Prohibit the introduction of urban development in FEMA-designated Floodway zones.

PS5.F Review Municipal Code Chapter 15.52, Flood Damage Prevention, to ensure that regulations reflect best practices. Periodically update the City's flood hazard regulations in accordance with FEMA/NFIP regulations.

PS5.G Implement the requirements of FEMA relating to construction in Special Flood Hazards Areas as illustrated on Flood Insurance Rate Maps.

PS5.H Implement low impact development practices for new development and redevelopment projects to reduce stormwater peak flow rates and volumes from smaller, more frequently occurring storm events.

Topic Area

6 Disaster Planning

Policies

PS6.1 Ensure that City emergency procedures are adequate in the event of potential natural or man-made disasters.

PS6.2 Ensure the swift and safe evacuation of residents, employees, and visitors in the event of a disaster event or other emergency.

PS6.3 Alleviate evacuation challenges associated with single access residential neighborhoods.

Implementing Actions

PS6.A Maintain and periodically update the City's Emergency Response Plan to align with emergency planning efforts by Napa County Office of Emergency Services, Napa County Sheriff Office, Napa County Fire Department and Cal OES.

PS6.B Conduct periodic emergency response exercises to test the effectiveness of City emergency response procedures. Identify current emergency service and projected emergency service needs, and goals or standards for emergency services for training for City staff and volunteers.

PS6.C Continue to collaborate with regional agencies and neighboring jurisdictions, including Napa County Office of Emergency Services, Napa County Sheriff Department, Napa County Fire Department, and Cal OES, to develop and implement a regional emergency coordination plan and agreement for police, fire, and emergency medical services.

PS6.D Maintain emergency roadways and improve them as necessary and appropriate to ensure ongoing serviceability.

PS6.E Maintain reliable communication pathways with the public to ensure a safe and streamlined evacuation.

PS6.F Engage with the Napa County Transportation Authority, Caltrans, California Highway Patrol, adjacent cities, and Napa County to identify regional evacuation solutions that address major evacuation routes.

PS6.G Conduct outreach with residents in single access road neighborhoods to enforce home hardening and defensive space standards and conduct emergency preparedness and response trainings.

PS6.H Coordinate with Napa County Sheriff Department, Caltrans, Napa County Emergency Response Team (CERT), St. Helena Fire Safe Council, homeowner associations, and neighborhoods to facilitate the use of Zonehaven for evacuation coordination.

PS6.I Develop and employ evacuation alternatives and/or alternative emergency access routes in neighborhoods that have single ingress/egress.

PS6.J Develop and maintain evacuation options for vulnerable populations such as young children, older adults, outdoor workers, individuals that are linguistically isolated, visitors, and individuals with access and functional needs.

PS6.K Designate and publicize evacuation routes and evacuation shelters through Zonehaven.

PS6.L Designate and publish in Zonehaven safety zones and/or shelter-in-place locations as potential places of refuge when evacuation routes or evacuation shelter are inaccessible.

PS6.M Assist local and small businesses in planning for business continuity and emergency preparedness.

PS6.N Prioritize the City's essential facilities when conducting post-disaster building evaluations.

Topic Area

7 Climate Change Hazards

Policies

PS7.1 Protect the City's vulnerable population from the impacts of climate change.

PS7.2 Support greater resilience, redundancy, and reliability of local and regional infrastructure and services.

PS7.3 Protect and restore climate-vulnerable ecosystems, natural resources, and managed resources.

PS7.4 Increase local economic resilience and business continuity.

Implementing Actions

PS7.A Conduct an assessment on the effectiveness of current City cooling center operations to evaluate current amenities and resources available to ensure the needs of vulnerable populations are met during extreme climate events, such as high heat days and bad air quality days. Ensure the City's cooling center has adequate backup power sources and battery storage to mitigate service disruptions.

PS7.B Update the St. Helena building code to require weatherization and consideration of extreme heat for new developments.

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PS7.C Explore opportunities to provide funding assistance to households and populations that are in greatest need of weatherization to address extreme heat, extreme storm, and air quality concerns.

PS7.D Consider climate change impacts and vulnerabilities during the infrastructure planning process. Identify projects as part of capital improvement programs that consider climate adaptation priorities.

PS7.E Invest in renewable back-up power sources and storage options to increase energy resilience at critical facilities during extreme heat events, wildfires, extreme precipitation events, or other scenarios that may trigger a power safety shutoff or outage.

PS7.F Expand the use of drought-tolerant green infrastructure, including street trees, and landscaped areas, as part of cooling strategies in public and private spaces.

PS7.G Coordinate with PG&E and Napa County Office of Emergency Services to establish backup power and emergency grid shutdown protocols that protect the City's vulnerable populations.

PS7.H Evaluate critical facilities to assess the feasibility of retrofitting to increase long-term resilience to climate change hazards including extreme heat, extreme precipitation events, and wildfire.

PS7.I Partner with St. Helena Chamber of Commerce and Visit Napa Valley to pilot and implement a local business resilience initiative to build small business resilience capacity by increasing the awareness of and preparedness for business continuity risks in the face of climate change. Provide resources to help local business manage risk and enhance resilience, and conduct outreach campaigns to engage business, governmental, and community leaders to preparedness for economic resilience.

PS7.J Develop and disseminate guidelines and outreach materials on tree and plants species that are drought-tolerant and wildfire resistant to city residents and businesses.

PS7.K Partner with local researchers (such as, California State University-Sonoma) to develop localized viticulture climate adaptation strategies that address impacts of extreme heat, drought, wildfire, and extreme precipitation events to vineyards in and around the city.

PS7.L In recognition of the increase in severity and frequency of floods and wildfires, essential public facilities should be sited in areas that are least prone to hazard impacts, when possible.

PS7.M Partner with the St. Helena Chamber of Commerce and St. Helena Welcome Center to develop emergency public health and evacuation communication strategies for visitors and tourists.



Public Health, Safety, and Noise Element

City of St. Helena

Joint Study Session
September 27, 2022

Presentation Outline

- Public Health, Safety, and Noise Element Overview
- Climate Change Hazards and Impacts in St. Helena
- Vulnerable Populations at Risk
- Assets, Infrastructure, and Services at Risk
- Evacuation Routes and Vulnerable Neighborhoods
- Policies and Implementing Actions
- Discussion

Public Health, Safety, and Noise Element

- Identifies and describes the natural and human-caused hazards that could impact the people, assets, services, and resources in the City.
- Establishes policies and implementing actions to mitigate and recover from hazard.
- Updates City practices and regulations to reflect new State law.

Relevant Hazards to St. Helena:

- Flood, earthquake, landslide, air pollution, hazardous materials, noise, fire, climate change hazards

Climate Change Hazards in St. Helena

- State laws require that the City consider and plan for the impacts of climate change on the community.
- The City has prepared a Climate Change Hazards and Vulnerability Assessment as an Appendix to the Element.
- Climate Change Hazards of Concern:
 - Drought
 - Extreme Heat
 - Wildfire
 - Flooding
 - Air Pollution

Climate Change Hazard in St. Helena

- **Drought** – The City is projected to experience longer and more extreme drought periods.
- **Extreme Heat** – Intensity and frequency of extreme heat days is expected to increase. Extreme heat days are expected to increase up to 31 days per year by 2100.
- **Wildfire** – Wildfire risk is projected to increase as climate change is projected to create hotter and dryer landscapes.
- **Air Pollution** – Air quality is expected to worsen during certain periods due to increased smoke from more frequent wildfires.
- **Flooding** – Increased heavy precipitation events are expected to increase flooding risk in low-lying areas of St. Helena.

Climate Change Hazard Impacts

- Extreme heat days
- Extreme precipitation events
- Extended drought
- Increased wildfire risk
- Worsening air quality



- Exacerbation of respiratory and cardiovascular health conditions and illnesses
- Increased likelihood of heat related illnesses including heat stroke, heat stress, and dehydration
- Power outages
- Service disruptions
- Evacuations
- Infrastructure and structure damage
- Increased water rates
- Vegetation, crop, and tree mortality

Vulnerable Populations

- Young Children
- Older Adults
- Outdoor Workers
- Individuals that are Linguistically Isolated
- Individuals with Access and Functional Needs
- Visitors

Assets, Infrastructure, and Services

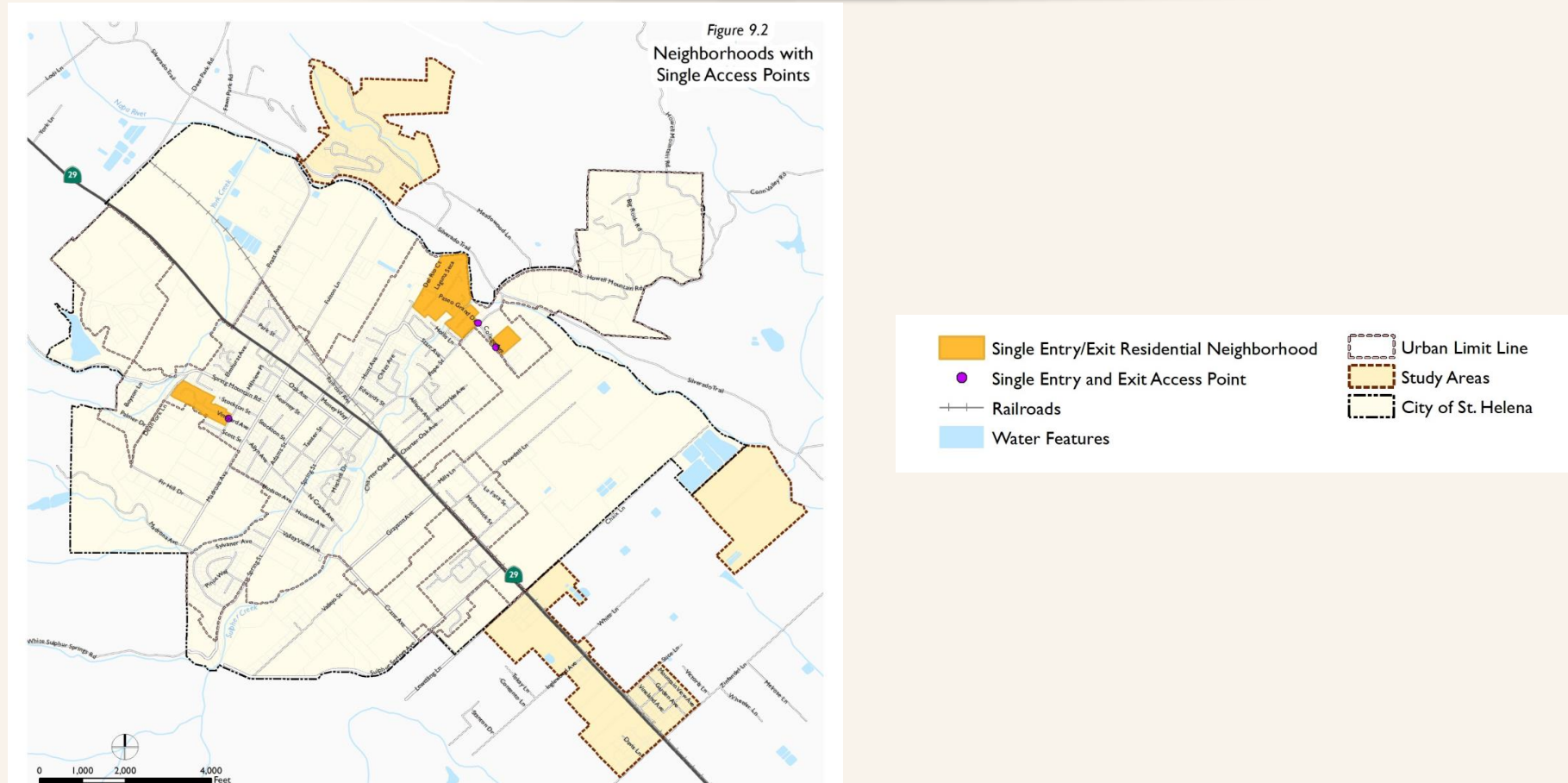
- Water Systems and Services
- Electricity and Natural Gas Infrastructure
- Transportation Infrastructure
- Emergency Services
- Municipal Building and Public Facilities
- Open Space, Parks, Agriculture

Evacuation Routes and Vulnerable Neighborhoods

The Public Health, Safety, and Noise Element update includes:

- Major evacuation routes in St. Helena
 - State Route 29 and Silverado Trail
- Residential neighborhoods that have a single access road for entry and exit and therefore are vulnerable during evacuation scenarios
 - Following State guidance, **three** residential neighborhoods in St. Helena (Vineyard Ave., Vineyard Valley Mobilehome Park, and College Ave.) were identified as having a single access road for entry and exit
 - Policy and implementing actions were developed to minimize evacuation challenges for these neighborhoods

Vulnerable Neighborhoods



Policies and Implementing Actions

- Policies and implementing actions were augmented and added to the Public Health, Safety and Noise Element to comply with new State legislation and ensure climate change hazard impacts are addressed.
- Policies and implementing actions in the following areas were augmented and added:
 - Wildfire
 - Disaster Planning
 - Climate Change Hazards

Example Implementing Actions

- **Wildfire**

PS4.L Develop and disseminate education and outreach materials to landlords, businesses, and residents regarding retrofits and home-hardening measures that align with recommendations from CAL FIRE's Wildfire Home Retrofit Guide.

- **Disaster Planning**

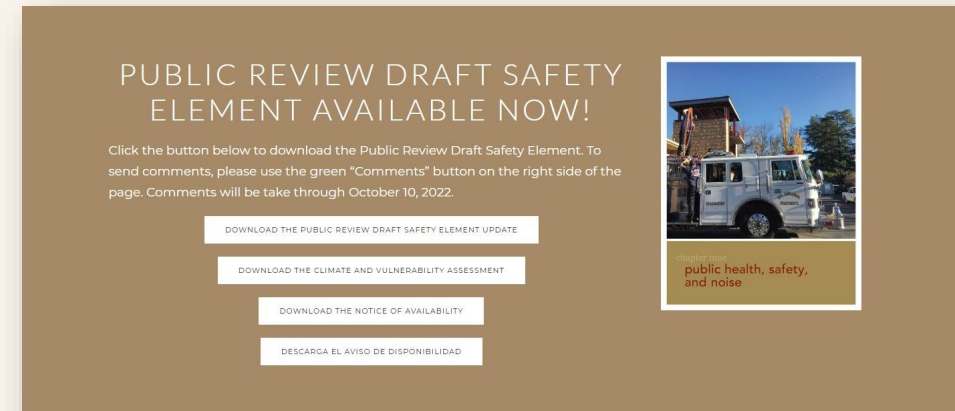
PS6.L Designate and publish in Zonehaven safety zones and/or shelter-in-place locations as potential places of refuge when evacuation routes or evacuation shelters are inaccessible

- **Climate Change Hazards**

PS7.G Coordinate with PG&E and Napa County Office of Emergency Services to establish backup power and emergency grid shutdown protocols that protect the City's vulnerable populations.

Public Engagement

- Visit st.helenahousing.com
- Join the email list
- Provide public comment through October 10, 2022



Discussion

- Questions or recommendations on hazards of concern?
- Feedback on policies and implementing actions aimed at mitigating hazard risk and support to vulnerable populations, resources, and assets?

Next Steps

- Draft Safety Element Public Review through October 10, 2022
- Revisions based on public comment, staff, agency feedback (Oct. and Nov.)
- Adoption hearings concurrent with Housing Element (by Jan. 31, 2023)