CITY OF HURON

2026 Climate Vulnerability Assessment and Adaptation Plan (CVAAP) DRAFT

March 11, 2026

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Frequently Used Acronyms

CBO	Community-Based Organization
CVAAP	Climate Vulnerability Assessment and Adaptation Plan
DESS	Distributed Energy Storage Systems
EV	Electric Vehicle
FCOG	Fresno Council of Governments
FCRTA	Fresno County Rural Transit Agency
FEMA	Federal Emergency Management Agency
GHG	Greenhouse Gas Emissions
IPCC	Intergovernmental Panel on Climate Change
LHMP	Local Hazard Mitigation Plan
NOAA	National Oceanic and Atmospheric Administration
OES	Office of Emergency Services
PD	Police Department
PG&E	Pacific Gas & Electric Company
PM	Particulate Matter
RWIS	Road Weather Information System
SEEN	SocioEnvironmental and Education Network
USDA	United States Department of Agriculture

Acknowledgements

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Land Acknowledgement
The City of Huron is located on the ancestral homeland of the Tachi Yokut tribe. We acknowledge that the existence of Huron is predicated upon a violent history of stolen land and forced removal, and that anthropogenic climate change is preceded by a centuries-long history of indigenous land stewardship. We also acknowledge the persistence of vibrant cultures and communities of Yokuts in California today. To learn more about how to support Tachi Yokut businesses in the Central Valley, please visit https://www.tachi-yokut-nsn.gov/

Executive Summary

In February of 2025, the City of Huron, California (the City) disseminated a request for proposals to compile its first ever Climate Vulnerability Assessment and Adaptation Plan (CVAAP). This CVAAP assesses the vulnerabilities, capacities, and opportunities for the City of Huron in adapting to and addressing the impacts of climate change, particularly as it relates to infrastructure and community resources.

The City of Huron is located in Fresno County, within the San Joaquin Valley's vast west side region. The City is nine miles east of Interstate 5 (I-5) and three miles south of Highway 198. Lassen Avenue (Highway 269), the city's main thoroughfare, runs north and south through the city, providing easy access for local produce to major markets. The local economy is primarily based in agriculture and ag-related businesses.

The recommendations put forth in this document were informed by a methodical, multi-phase process that began in June of 2025 and concluded in March of 2026. The methodology integrated a literature review and comparative analysis, rigorous research, a feasibility study, a cost-benefit analysis, community engagement and workshops, stakeholder interviews, and data collection and analysis combined with hazard mapping. The consulting team arranged three touchpoints with the Huron community, in which the team members visited the City to engage residents and stakeholders. These touchpoints ensured all final recommendations were tailored to community needs and aligned with the City's capacities.

Huron's vulnerabilities to global climate change, extreme heat, flooding, drought, and air quality were assessed, including their impacts on public health and safety, agriculture, drainage systems, transportation, energy, and water quality. The following table summarizes the primary climate change impacts facing the City, identified through stakeholder interviews, community engagement, and literature reviews. Existing programs and policies are included to highlight current efforts and inform future adaption strategies.

Table 1: Summary of Huron's Vulnerabilities and Capabilities

Topic	Key Impacts	Existing Programs/Policies
Global Climate Change	The impacts of global climate change are projected to worsen, although the extent of future impacts will depend on today's actions. Public health and safety, agriculture, transportation, and energy are all affected by global climate change.	Solar Energy; Huron Community Health and Empowerment Committee; City App; Ord. 163; Ord. 122; Ord.194 § 844, 1983
Extreme Heat	Every year, extreme heat kills hundreds in the United States and	Cooling Center; Water Refill Stations; Bus Shelters

Topic	Key Impacts	Existing Programs/Policies
	causes many more serious illnesses. Huron is no exception to this shift; temperatures are rising in the City, and the number of days over 100 degrees Fahrenheit are increasing too. Public health and safety, agriculture, transportation, and energy are all affected by extreme heat.	
Flooding	Climate change has already made the risk of catastrophic flooding in California twice as likely, and future warming is projected to worsen flood risk. Much of Huron is situated within a 500-year floodplain, and Arroyo Pasajero is prone to flooding Lassen Avenue leading into Huron. Public health and safety, agriculture, drainage systems, transportation, and energy are all affected by flooding.	Vegetative Medians; Ord. 178 (part), 1981; Ord. 332 § 5 (part), 2001; Ord. 194 § 823, 1983
Drought	While drought is a natural component of the state's climate, drought periods are becoming more intense due to climate change and associated warming. Public health and safety, agriculture, energy, and water quality, are all affected by drought.	Recycled Water Fields; Graywater Installation Training; Ord. No. 374, § 3, 6-20-2018; Ord. 178 (part), 1981
Air Pollution	The San Joaquin Valley's topography traps pollution from vehicles, oil and gas production, agriculture, and wildfires, contributing to some of the worst air quality in the country. Public health and safety and agriculture are affected by air pollution.	Huron Police Department Electric Vehicles (EVs); EV Chargers; LEAP Institute EV Fleet; LEAP Institute E-Bike Lending Library; Dirt Alleyways; Bike Lanes on Lassen Avenue; Air Quality Monitors; Ord. 114 §7, 1971; Ord. No. 379, § 2, 9-18-2019

Incorporating findings from vulnerability assessments, capability assessments, feasibility studies, and benefit-cost analyses, the consulting team developed 17 climate adaptation and mitigation strategies for the City of Huron, along with implementation timelines and partners.

Table 2: Summary of Recommendations and Implementation Strategies

Strategy	Timeline	Implementation Partners (City and Local Partners)
Strategy 1.1: City-Wide Mutual Aid Network	4-6 years	City Administration Community Partners • CBOs, small businesses, schools, etc.
Strategy 1.2: Digital Marquee Alerts	1-3 years	Public Works Implementation partners • Fresno County OES • Caltrans
Strategy 1.3: Huron Public Library Sustainability Programming	7-9 years	Huron Public Library Staff
Strategy 1.4: Emergency Preparedness Plan	1-3 years	City Administration, Huron Police Department, CAL FIRE Fresno County, Fresno County OES
Strategy 2.1: Promote Trees and Green Spaces	1-3 years	Public Works Implementation Partners • Tree People
Strategy 2.2: Shaded and/or Cooling Bus Shelters	4-6 years	City Administration Implementation Partners • FCRTA
Strategy 2.3: Cool Roof Ordinance	1-3 years	City Council Implementation Partners • Local developers and roofing contractors
Strategy 2.4: Cool Pavement	7-9 years	Public Works Implementation Partners • Caltrans • FCOG
Strategy 3.1: Center Median Drainage Along Lassen Ave	1-3 years	Public Works Implementation Partners • Tree People • Caltrans

Strategy	Timeline	Implementation Partners (City and Local Partners)
Strategy 3.2: Permeable Pavement/Pavers	4-6 years	Public Works
Strategy 3.3: Low-Cost Flood Sensors	7-9 years	Public Works Implementation Partners • Caltrans • California Department of Water Resources
Strategy 4.1: Bioretention Basin	7-9 years	Public Works Implementation Partners • California Department of Water Resources • Local landscaping companies
Strategy 5.1: Non-Emergency City Vehicle Electrification	10+ years	City Council, Public Works, Sanitation, and Park and Recreation Implementation Partners: • Caltrans • PG&E
Strategy 5.2: Clean Off-Road Equipment	7-9 years	City Administration Implementation Partners • California Farmworker Foundation • SEEN
Strategy 5.3: Distributed Energy Storage Systems (DESS) for EV Charging	7-9 years	City Administration Implementation Partners: • California Energy Commission • Local contractors
Strategy 5.4: Classroom Air Purification Ordinance	4-6 years	City Council Implementation Partners • Coalinga-Huron Unified School District • SEEN
Strategy 5.5: Clean Air Center	1-3 years	City Administration, John Palacios Community Center Staff

This plan also outlines various relevant public and private grant opportunities for Huron to explore as it seeks to adapt to the impacts of climate change. Huron can seek out local, state, and federal funding, as well as philanthropic grant opportunities. Combining funds from various sources can be a valuable strategy for small communities seeking to take on larger-scale projects.

Throughout the implementation of this plan and beyond, it will be essential to continue maximizing accessibility for all residents, including youth, farmworkers, elders, people experiencing homelessness, and low-income families. This includes prioritizing equity by ensuring that those most vulnerable to climate impacts are protected and meaningfully included in decision-making. Additionally, limited technological literacy within the Huron community will continue to require diverse and creative communication infrastructure.

The recommendations and implementation plan put forth in this document are a starting point for Huron, meant to grow and evolve as the City's priorities and needs change over time. For all those who call Huron home, we hope this plan offers relevant, practical solutions that make the City a safer, healthier, and more sustainable place to live, both now and into the future.

Project Overview

Project Team

The project was completed by the team at EcoHealth Strategies. EcoHealth Strategies is a Chicago-based climate consultancy dedicated to safeguarding our future by designing and equitably delivering climate solutions including, climate resilience programs, solar energy, energy efficiency and workforce development to meet community impact and business goals. At EcoHealth Strategies, we envision a world where all communities are resilient and are provided the agency to contribute to the health and protection of the climate, and where climate solutions are designed in partnership with those most affected by climate change. To promote this, EcoHealth Strategies provides strategic policy consulting, program design, and public engagement services to nonprofits, utilities, clean energy providers, and governments in the United States and around the world.

Project Overview and Approach

The Climate Vulnerability Assessment and Adaptation Plan (CVAAP) was one of two technical documents requested by the City of Huron. Its purpose is to enhance the City's resilience to climate impacts and ensure the safety and well-being of all residents. The development of the CVAAP was funded by a California Department of Transportation (Caltrans) grant. It explores the feasibility, costs, and benefits of various adaptation and mitigation strategies for Huron, with a specific focus on the systems and resources in Huron that are prone to damage from climate hazards. EcoHealth Strategies, supported by City of Huron staff, employed a structed, multi-phase methodology that included literature review, data collection and analysis, stakeholder coordination, and community engagement. The project team developed a targeted, prioritized list of strategies for adaptation and mitigation, considering the capacity of people, infrastructure, systems, and natural resources to respond to climate impacts.

Project Timeline

The CVAAP was developed between June 2025 and March 2026. The project was broken down into five tasks.

Task 1- Existing Conditions (June 2025-August 2025)

- Review documents from the City of Huron related to climate adaptation policies and community needs.
- Engage with Huron residents regarding their climate-related priorities.
- Provide summaries of existing conditions, community needs, and barriers.

Task 2 - Analysis (August 2025-November 2025)

- Conduct a vulnerability assessment analyzing climate change exposure in the community of Huron.
- Develop a feasibility study and cost/benefit analysis of flood mitigation efforts along Lassen Avenue.
- Prepare a list of prioritized needs and adaptation strategies to improve resilience to climate change.

Task 3 - Public Outreach (November 2025)

- Host community workshops to collect feedback on adaptation strategies.

Task 4 - Draft and Final Plans (November 2025-January 2026)

- Draft the CVAAP, incorporating analyses and feedback from the community workshops.

Task 5 – City Council Review and Approval (January 2026-March 2026)

- Present the CVAAP to the Huron City Council for approval.
- Incorporate City Council feedback into final deliverables.

Parallel Project Efforts

In parallel with the development of the CVAAP, the project team developed a Local Hazard Mitigation Plan (LHMP), which will be submitted in March, 2026, in accordance with The Federal Emergency Management Agency (FEMA) and the California Governor's Office of Emergency Services (Cal OES) requirements to qualify for federal hazard mitigation grants. An LHMP is a federally recognized plan that outlines strategies for reducing or eliminating the long-term risks posed by disasters such as floods, wildfires, extreme heat, and droughts. The goal of the LHMP is to identify and mitigate risks associated with natural and human-made hazards.

How to Read the Data

Key Takeaways

1. This section explains how to read quantitative data, to ensure that this CVAAP is accessible to readers of **all data literacy levels**.
2. The primary kinds of quantitative data shared in this document are **maps, pie charts, bar graphs, and line graphs.**
3. Each piece of quantitative data will have a **title, figure, image description, and citation**. Specific types of figures will have additional elements, described below.

This document is a technical report, with recommendations based upon qualitative and quantitative data. EcoHealth Strategies strives to translate complex data into digestible narratives. This section explains how to read quantitative data, including maps, charts, and graphs, to ensure that this CVAAP is accessible to readers of all data literacy levels.

Each piece of quantitative data in this document will contain four key components: A title, a figure, an image description, and a citation.

- **The title** will describe the overarching topic of the figure.
- **The figure** will visualize the quantitative data.
- **The image description** will note the key takeaways from the figure.
- **The citation** will indicate the data source.

The sections below provide more information about the types of data visualizations used in this document and additional components and considerations for each.

Maps

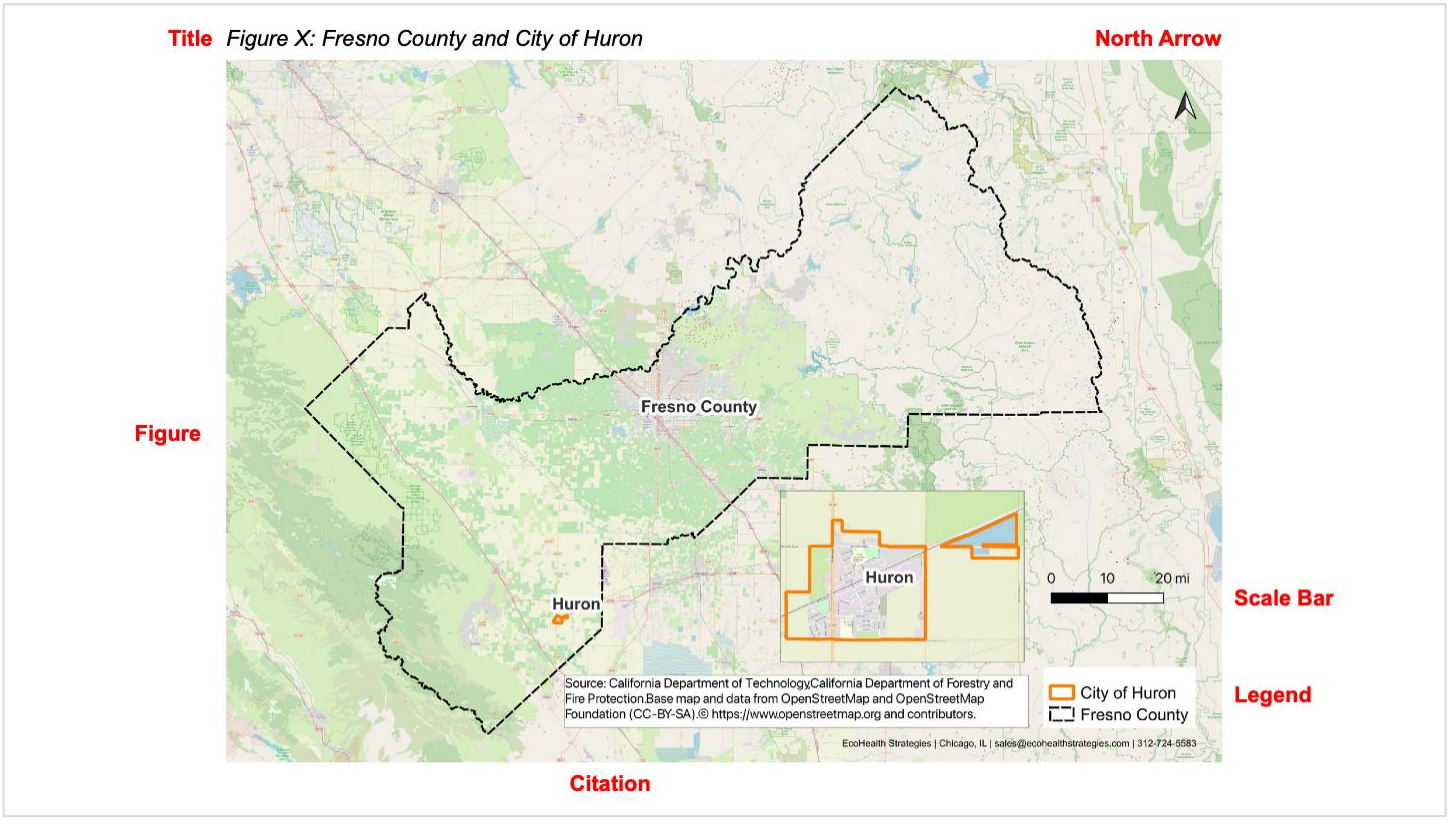
Maps can be used when the data being analyzed has a spatial component. In addition to the four key components mentioned above, each map will have a legend, scale bar, and North arrow.

- **The legend** includes the variables being shown on the map, as well as the units of measurement.
- **The scale bar** contextualizes the size of the mapped area. For example, if the scale bar indicates that one inch is equal to one mile, then a map spanning four inches will be four miles wide in actuality.
- **The tip of the North** arrow points North on the map.

Many maps in this document will also contain a **basemap**, which is the base layer of the image, often showing information such as landforms, roads, landmarks, and boundaries.[1]

[1] esri, “GIS Dictionary.”

Figure 1: Example Map



The example map above shows the location of the City of Huron, which is outlined in orange, within the boundaries of Fresno County, which is outlined with a black dashed line. The figure above also shows the key components of a map: title, figure, scale bar, north arrow, legend, and citation. The outline of Huron will be utilized throughout this document to depict the City.

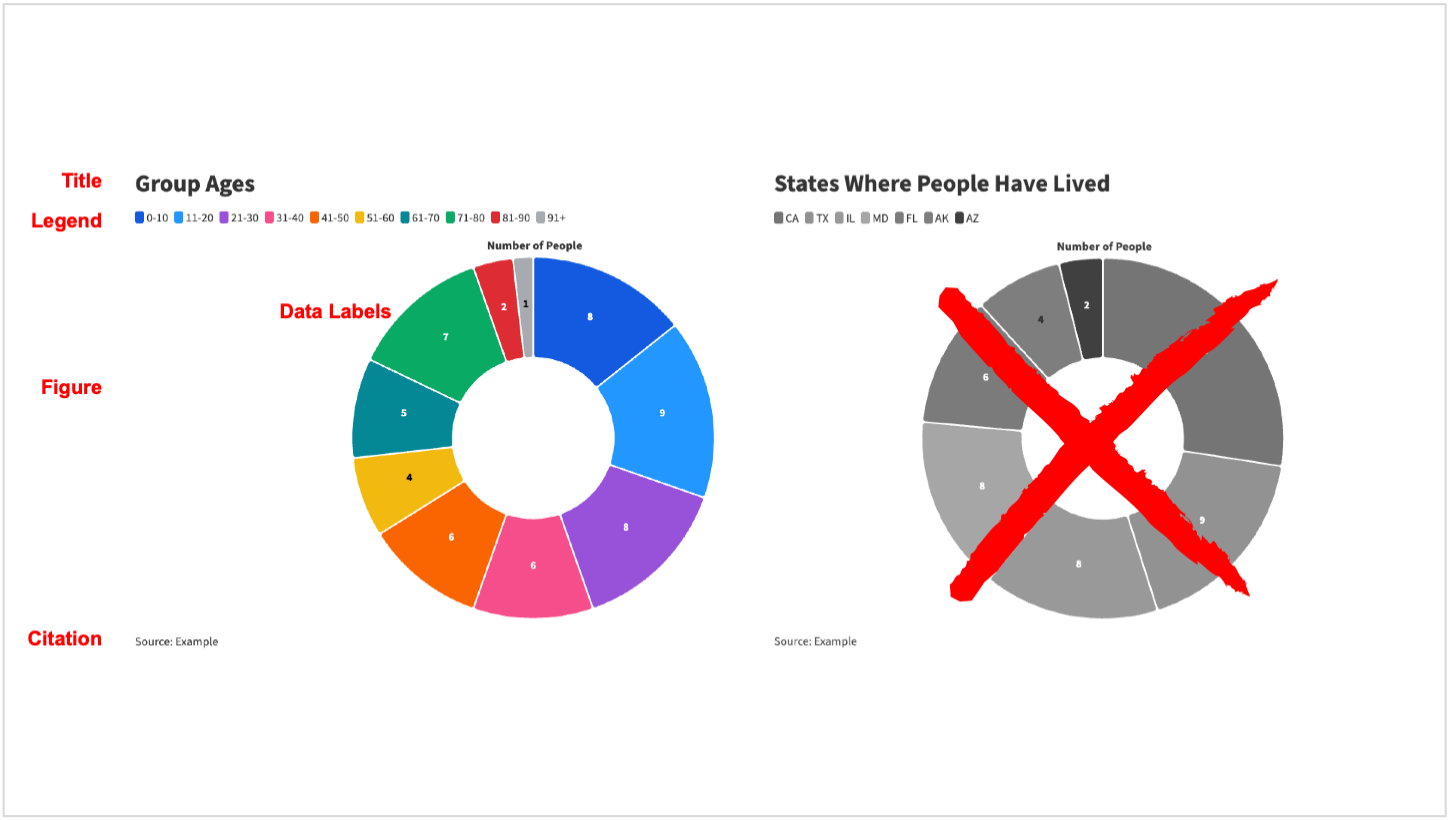
Pie Charts

Pie charts are used when the variables being analyzed are parts of a whole. For example, a pie chart would be useful for showing the age breakdown in a group of people, as each person only has one age. On the other hand, a pie chart would not accurately visualize the states in which a group of people have lived, assuming that people in the group have lived in multiple states. In this case, a bar graph would be more appropriate.

In addition to the four key components mentioned previously, each pie chart in this document will have a legend and data labels.

- **The legend** includes the variables represented in each segment of the pie chart.
- **Data labels** indicate the value of each segment.

Figure 2: Example Pie Charts



The figure above shows two example pie charts. The left chart is an appropriate use of a pie chart and the right chart is an inappropriate use of a pie chart. The figure also shows the key components of a pie chart: title, legend, figure, data labels, and citation.

Bar Graphs

Bar graphs use vertical or horizontal bars to compare quantities, and do not have to show parts of a whole. In addition to the four key components mentioned previously, each bar graph has an X axis and a Y axis.

- **The X axis** runs horizontally and typically represents the independent variable, or some category that has already been determined. Often, the X axis represents time. In other cases, the X axis can represent set categories that the data is based upon.
- **The Y axis** runs vertically and typically represents the dependent variable, which can change depending on the value of the independent variable.
- Some bar graphs may also have a **trendline**, showing the overall trend in a bar graph in which the X axis is time.
- Some bar graphs may also show an "**n**" where n is equal to the sample size represented in the graph.

In the states example from the section above, the states in which people have lived would be plotted along the X axis and the number of people who have lived in each state would be plotted along the Y axis.

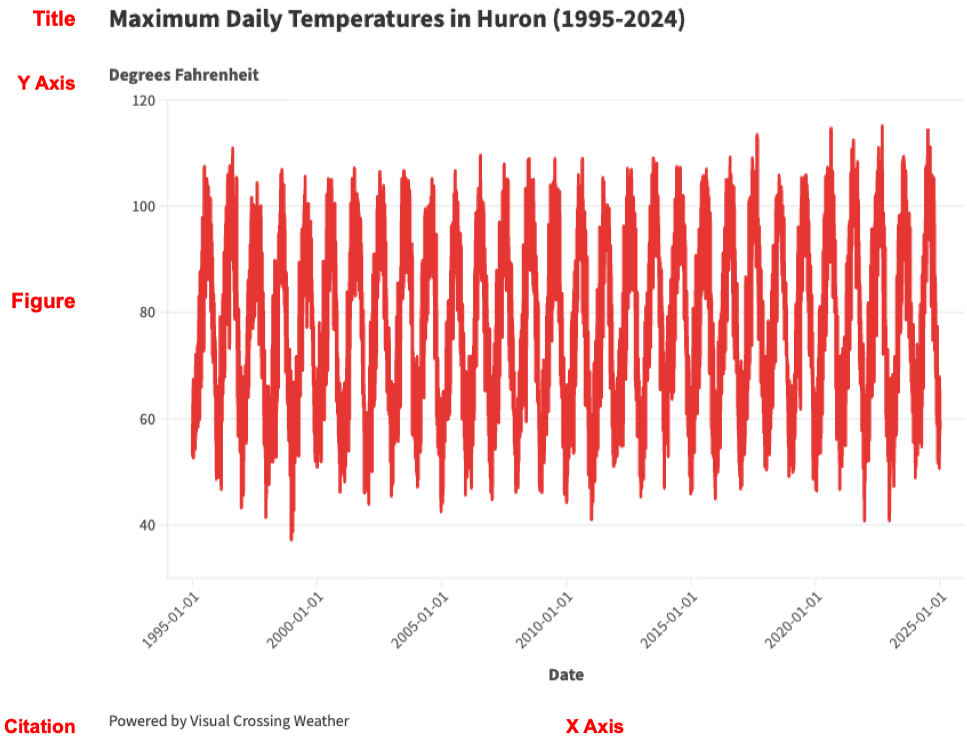
Figure 3: Example Pie Chart and Bar Graph

The figure above shows an example case in which a pie chart is inappropriate, and the more appropriate choice of a bar graph for the same dataset. The figure also shows the key components of a bar graph: title, figure, Y axis, X axis, and citation.

Line Graphs

The final type of data visualization that will be used in this document is a **line graph.** Similar to bar graphs, line graphs also have X and Y axes, with the X axis often representing time. Line graphs connect a series of points and are helpful for visualizing trends over time.

Figure 4: Example Line Graph



The figure above shows an example line graph, as well as the key components of a line graph: title, figure, Y axis, X axis, and citation.

Introduction

Key Takeaways

1. This is the **first Climate Vulnerability Assessment and Adaptation Plan (CVAAP)** for the City of Huron, California.
2. This CVAAP assesses the **vulnerabilities, capacities, and opportunities** for Huron in adapting to and addressing the impacts of climate change, particularly as it relates to **infrastructure and community resources**.
3. The development of this CVAAP was anchored in a **community-based and driven approach.**

Background and Scope

In February of 2025, the City of Huron, California (the City) disseminated a request for proposals to compile its first ever Climate Vulnerability Assessment and Adaptation Plan (CVAAP). The City of Huron is a City located in Fresno County, within the San Joaquin Valley's vast west side region. The City is nine miles east of Interstate 5 (I-5) and three miles south of Highway 198. Lassen Avenue (Highway 269) the City's main thoroughfare runs north and south, providing easy access for local produce to major markets. The local economy is primarily based in agriculture and ag-related businesses. Noting the acceleration of climate change on the City and its worsening impacts, Huron sought guidance to enhance its resilience to the impacts of climate change and related hazards. Huron lacks a similar plan that identifies the infrastructure and resources prone to the impacts of climate change. In the past few years, more extreme weather patterns such as stronger storms and longer periods of drought have overwhelmed the City's drainage infrastructure, disturbing transportation, and negatively affecting agricultural yields. As a community relying heavily on agriculture, changes in the temperature, rain patterns, or availability and quality of resources such as soil or water could have a major impact on residents' livelihoods. The project to conduct the climate vulnerability assessment was competitively awarded to EcoHealth Strategies, a Chicago-based climate consultancy.

This CVAAP assesses the vulnerabilities, capacities, and opportunities for the City of Huron in adapting to and addressing the impacts of climate change, particularly as it relates to infrastructure and community resources. EcoHealth Strategies identified the following urgent climate impacts as top priorities for the City based on a combination of climate hazard research and mapping, data collection and analysis, participatory research, community engagement, and primary interviews with key stakeholders. These five topics will be further analyzed in this document, and strategies for adaptation and mitigation will be made for each:

- Global Climate Change
- Extreme Heat
- Flooding
- Drought
- Air Pollution

Relation to the General Plan

According to California Government Code §65300, all California cities are required to adopt a General Plan to guide communities' development goals in the following seven areas: land use, circulation, open space, conservation, housing, safety, and noise.[2] The City adopted its "*General Plan 2025*" in July of 2007, outlining general Planning Principles and specific objectives developed cooperatively by the City Council and Planning Commission, City staff, and consultants. While this CVAAP is not a component of Huron's General Plan, it seeks to align with several of the Planning Principles and objectives set forth in the *General Plan 2025*, including the following:

- "By 2040 Huron should be a good and safe place to live, work and visit.
- Huron's leaders, City's staff, volunteers, service clubs, and parents should be well informed, and work together to plan for the future. Citizen participation should be maximized in decision making.
- Huron should engage in an active beautification process including: better landscapes in public and private properties, an attractive downtown, and entertainment options, including annual festivals that bring visitors to Huron.
- Huron should plan for an orderly growth through physically well-designed neighborhoods and an identifiable downtown corridor along Highway 269, which will serve as a focal point for the community and a gateway for visitors.
- The majority of Huron's vacant land is located close to the downtown corridor and immediate neighborhoods. Huron should pursue infill efforts to accommodate its future growth in the vacant land so the existing infrastructure is maximized."[3]

Community-Based Approach

The development of this CVAAP was anchored in a community-based and driven approach. Members of the Huron community were involved throughout the planning process, participating in preliminary surveys and exploratory interviews to identify their most pressing climate related needs and challenges, and community workshops to socialize the draft recommendations. Opportunities for engagement were presented at various times of day, in diverse locations around the City, and in both English and Spanish. This collaborative approach ensured the plan reflects the priorities, knowledge, and lived experiences of Huron residents. (See Appendix A).

EcoHealth Strategies followed the overarching community engagement approach listed below. For a more detailed depiction of the community engagement process and activities, please see Planning Process and Methodology on page 46.

1. **Conduct Exploratory Listening:** EcoHealth Strategies began the project by cultivating an understanding of Huron's policy landscape and community needs. Through a combination of background research, community surveys, and loosely structured interviews, the consulting team built a foundation upon which to develop actionable recommendations.

[2] *CA Govt Code § 65300 (2024)*.
[3] City of Huron, "General Plan 2025 Policies Statement."

2. **Collect Targeted Feedback:** EcoHealth Strategies worked alongside the City and community stakeholders to create a collaborative, community-centered public outreach process. The consulting team hosted two community workshops to collect specific, targeted feedback on draft recommendations, ensuring alignment with local priorities.
3. **Build Community-Based Partnerships:** EcoHealth Strategies built partnerships with community-based organizations (CBOs) to ensure that local knowledge was integrated into the planning process and to promote the use of trusted messengers.
4. **Ensure Cultural Relevance**: EcoHealth Strategies incorporated culturally relevant themes into the community engagement approach, including co-hosting air purifier workshops with the SocioEnvironmental and Education Network (SEEN), a local CBO, to combat Valley Fever.
5. **Promote Equitable Messaging**: EcoHealth Strategies ensured all materials were offered in both English and Spanish, and that the language utilized was clear, accessible, and easy to remember. This approach allowed the consulting team to reach the widest audience possible.

Key Stakeholders

This CVAAP has been developed to represent and serve the needs of all Huron community members. Additional stakeholders for the realization of this plan include community leaders (e.g., CBO leadership, community organizers, parents, other outspoken residents, and other key residents), the Mayor and City Council, and select City departments (i.e., Public Works, the Huron Police Department (PD), and the City Engineer's office).

Community Profile

Key Takeaways

1. Huron is an **economically disadvantaged** community with an economy primarily based in **agriculture and related businesses**. Farmworkers, a large portion of the City's population, are especially vulnerable to the impacts of climate change.
2. **Historic floods and droughts** in Huron have damaged infrastructure, impacted job security, and cost lives.
3. Huron has various **existing community hubs, infrastructure, and climate adaptation efforts** that support climate resilience.

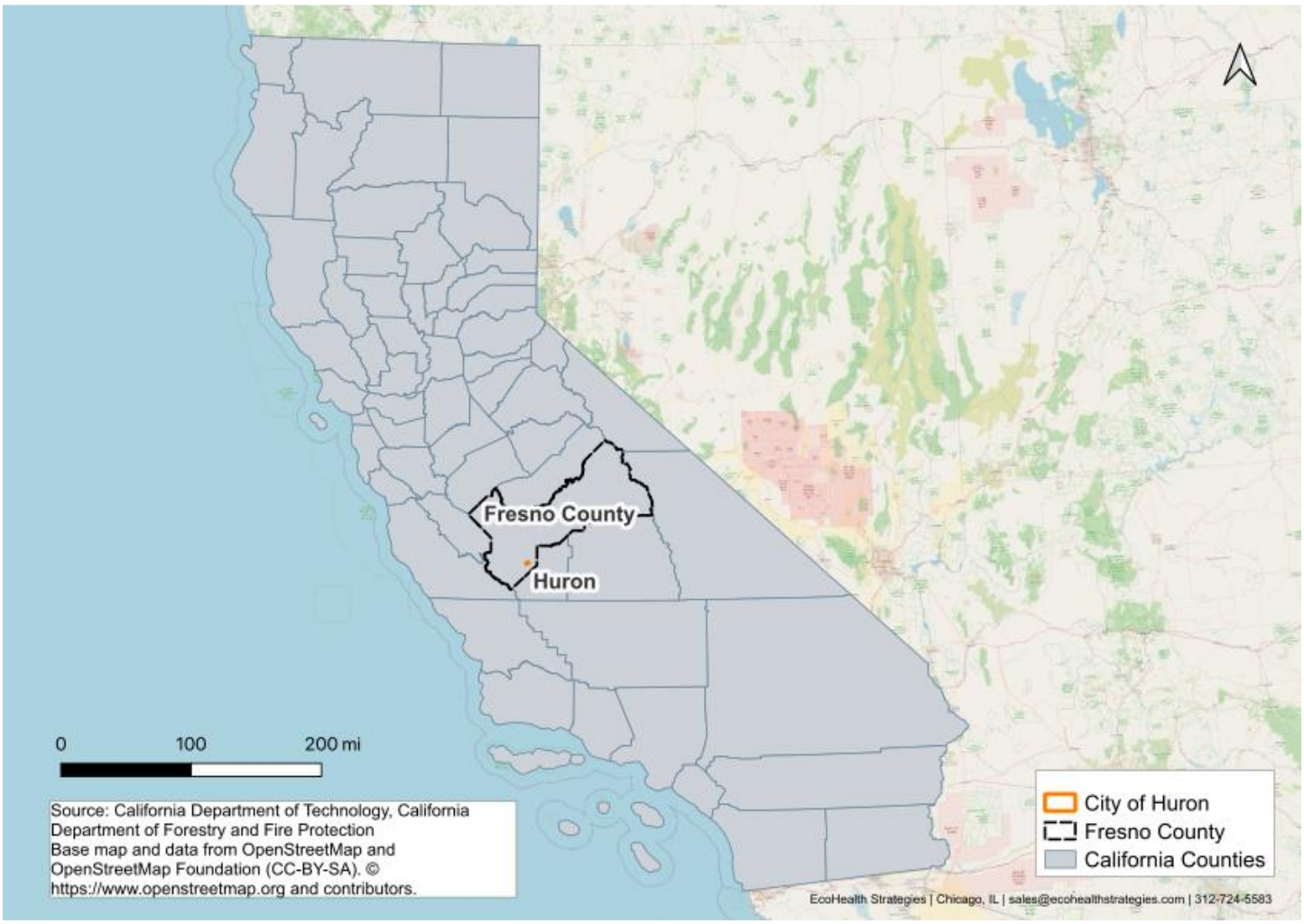
This section outlines key features of Huron that have informed the analyses and recommendations put forth in this CVAAP, including its geography and topography, demographics and economy, vulnerable populations, historic climate events, infrastructure and transportation, persistent climate impacts and existing climate adaptation efforts and resources.

Geography & Topography

The City of Huron is located in Fresno County, in the Western portion of California's San Joaquin Valley,[4] which is part of the larger physical region known as the Central Valley.[5] The City is located nine miles east of Interstate 5 (I-5) and three miles south of Highway 198. Lassen Avenue (Highway 269) runs north and south through the City, and is a major thoroughfare.[6]

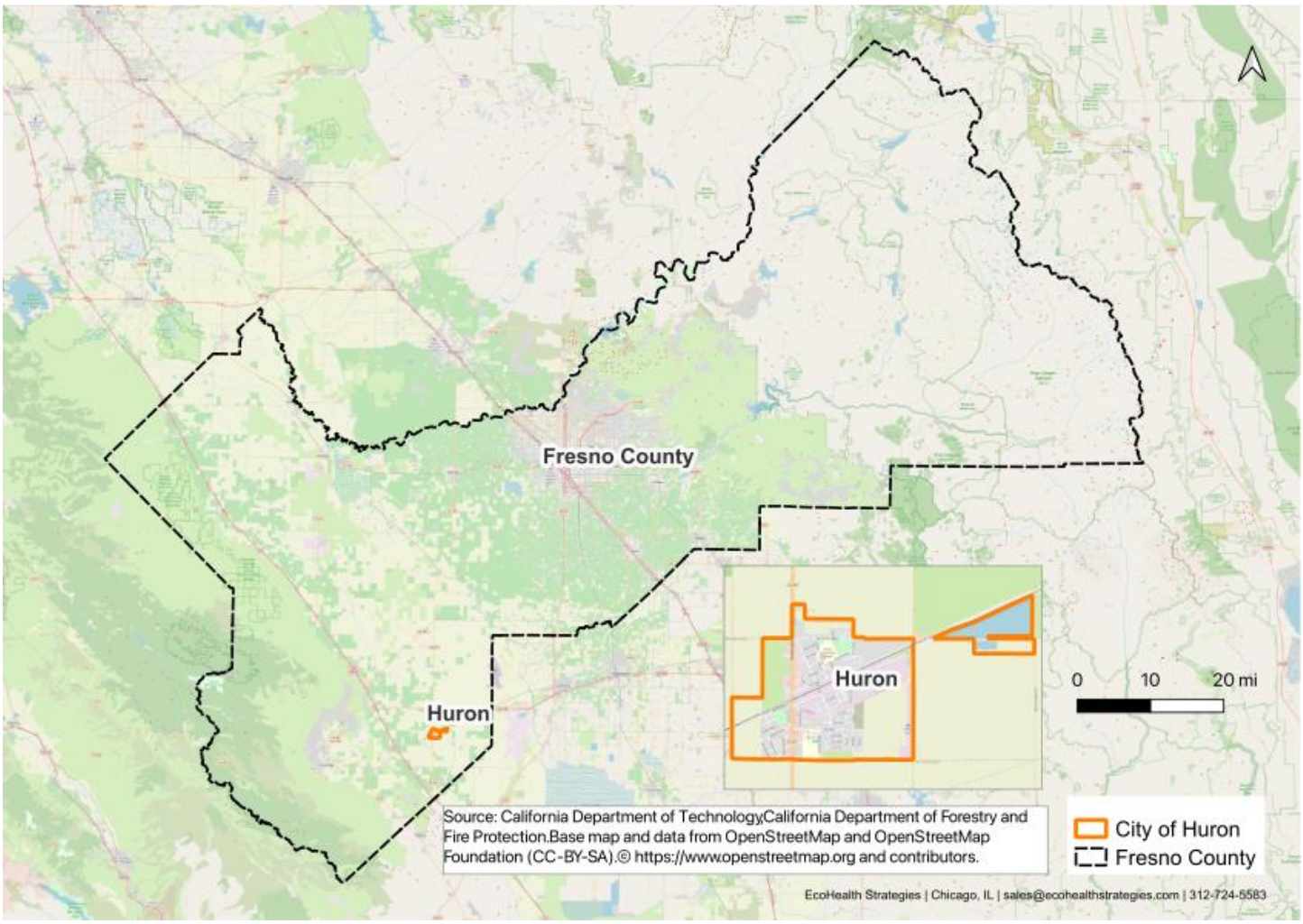
[4] City of Huron, "General Plan 2025 Policies Statement."
[5] The County of Fresno, "Fresno County Hazard Mitigation Plan."
[6] City of Huron, "General Plan 2025 Policies Statement."

Figure 5: California Counties and the City of Huron



The map above shows California's county boundaries. The map provides geographic context for the City of Huron, located in Fresno County, in the central region of the State.

Figure 6: Fresno County and the City of Huron



The map above shows the boundaries of Fresno County and the City of Huron, located in the southwestern region of the county.

Fresno County's topography is characterized by flat valleys and foothills located between the Coast Ranges to the West and the Sierra Nevada to the East. Its two major rivers, the San Joaquin and Kings rivers, both originate in the Sierra Nevada. [7]

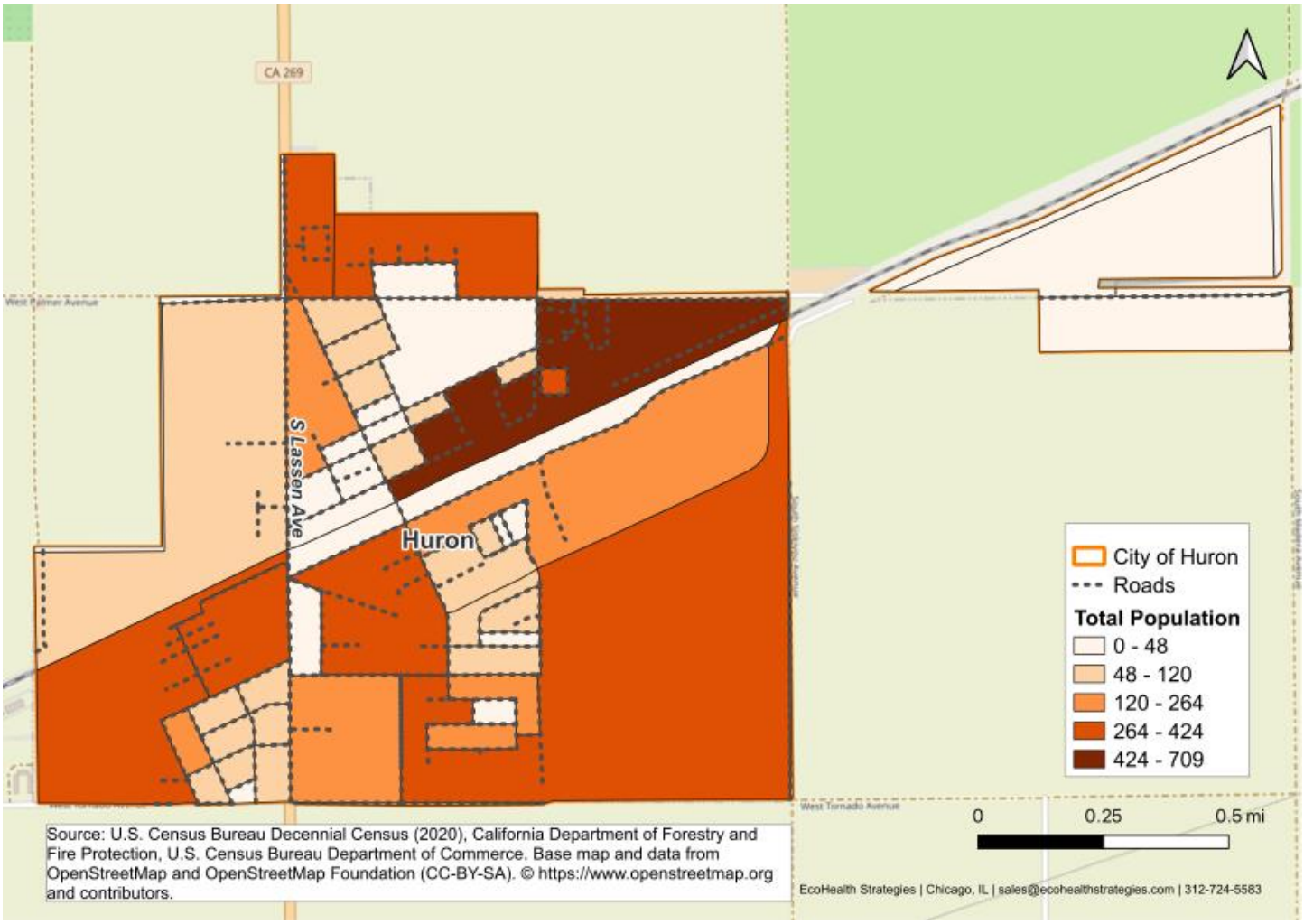
In the Central Valley where Huron is situated, summers are long, hot, and dry[8] and winters are foggy and rainy.[9] While the San Joaquin Valley's sun and soil make it one of the most productive agricultural regions in the country, irrigation plays a large role in local agricultural production.[10]

Demographics & Economy

[7] The County of Fresno, "Fresno County Hazard Mitigation Plan."
[8] The County of Fresno, "Fresno County Hazard Mitigation Plan."
[9] Westerling et al., "San Joaquin Valley Summary Report."
[10] Britannica Editors, "San Joaquin Valley."

Huron is a small city, with a population of 6,425.[11] In Huron, 98.3% of the population is Hispanic or Latino (of any race),[12] and 91.6% speak a language other than English.[13] Language accessibility is a crucial component of all public-facing communications, with most community events and resources offered in both English and Spanish.

Figure 7: Total Population by Block Group in Huron



The map above shows the total population of each U.S. Census Bureau block group in Huron, according to the 2020 Decennial Census. Populations are generally distributed throughout the City, with the most residents living in the northeastern portion.

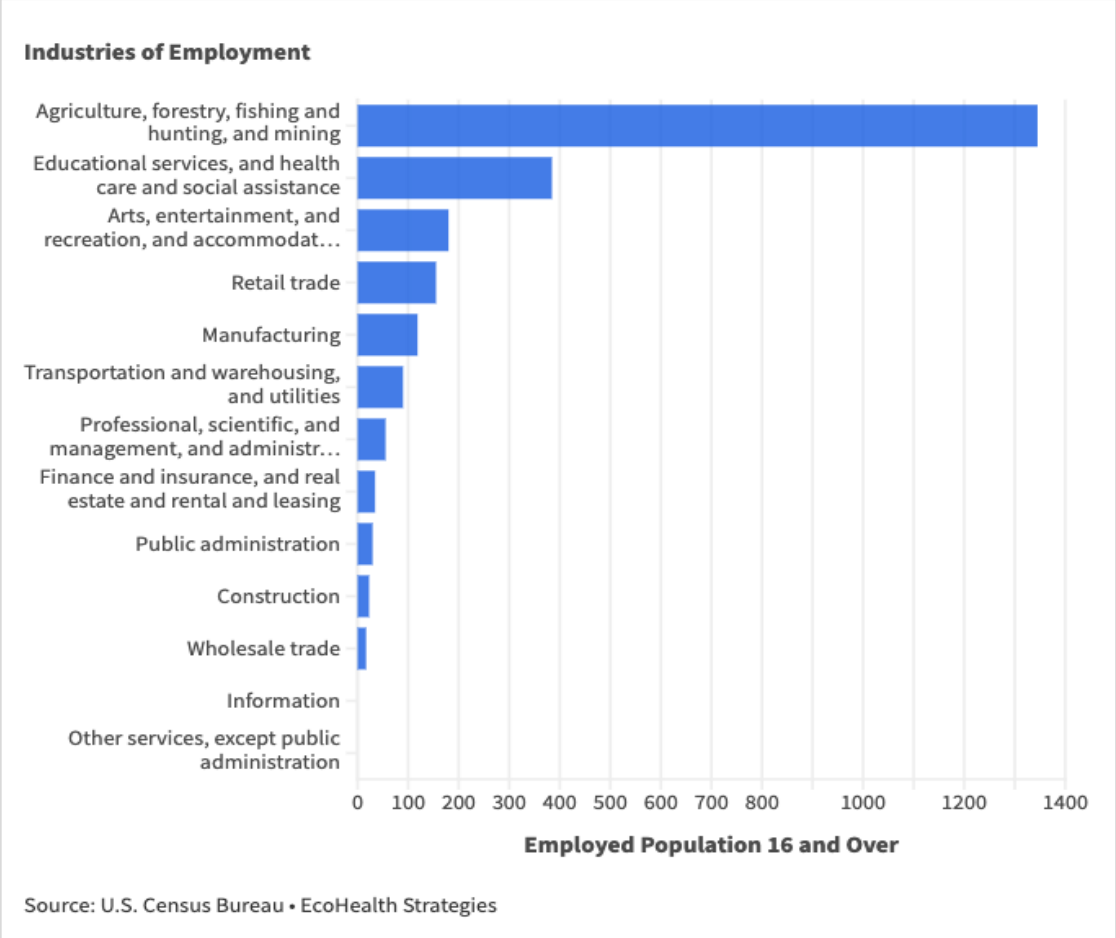
Huron is an economically disadvantaged community, with almost one third (33.2%) of the population living below the federal poverty level.[14] This number exceeds the national poverty rate of 11.1%.[15] According to a Fresno County official, the City's small property tax base limits funding for public services, such as the City having its own fire department and High School. Instead, the City relies on support from Fresno County, including mutual aid agreements with the California Highway Patrol (CHP) and Fresno County Sherrif's office, and collaborations with neighboring cities for emergency

[11] U.S. Census Bureau, "Age and Sex."
[12] U.S. Census Bureau, "Selected Characteristics of the Total and Native Populations in the United States."
[13] U.S. Census Bureau, "Characteristics of People by Language Spoken at Home."
[14] U.S. Census Bureau, "Poverty Status in the Past 12 Months."
[15] United States Census Bureau, "Poverty in the United States: 2023."

response. For example, Huron's ambulance services depend on collaboration with the City of Coalinga.

Huron's economy is primarily based in agriculture and related businesses.[16] In 2024, Fresno County's gross production value in the agricultural sector was $9,029,122,000, its highest value to date. Almonds, grapes, and pistachios were the three highest value crops, bringing in $1,458,370,000, $1,042,137,000, and $859,151,000 respectively.[17]

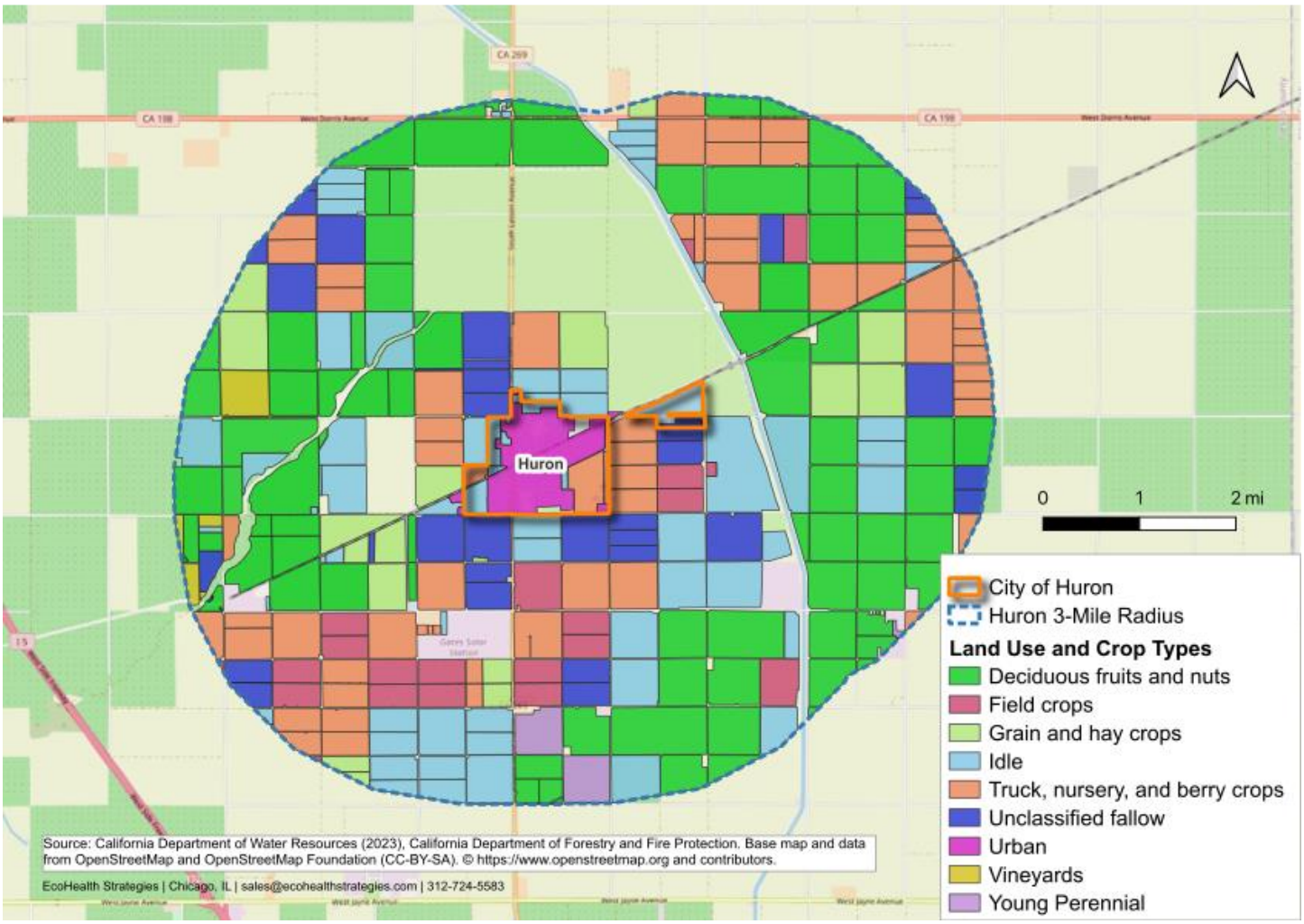
Figure 8: Industries of Employment in Huron



The chart above shows the industries of employment in Huron among the employed population ages 16 and over. The largest industry is "agriculture, forestry, fishing, hunting, and mining," employing over half of the working population. "Educational services, and health care and social assistance" is the next largest category, followed by "arts, entertainment, and recreation and accommodation and food services."

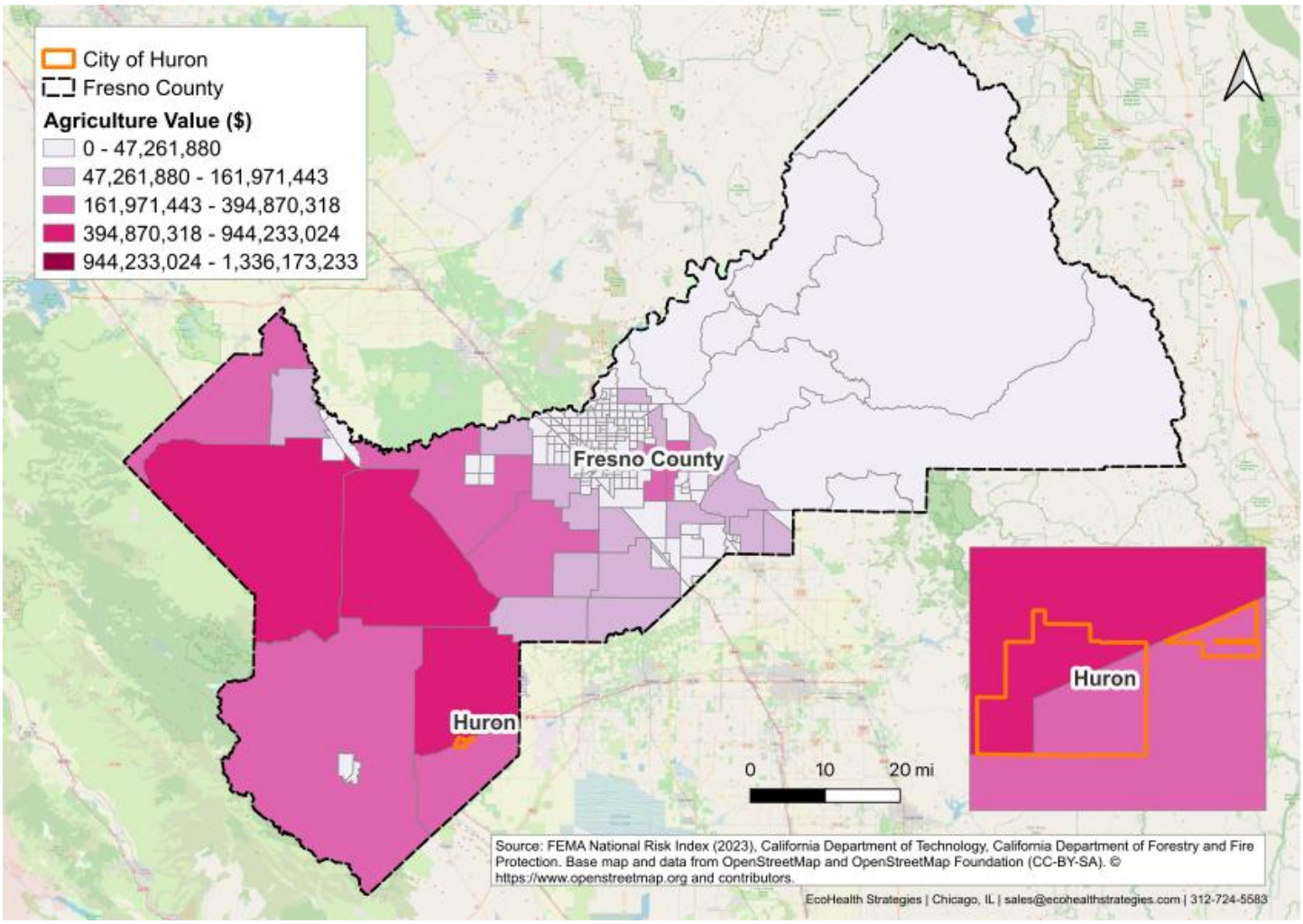
[16] U.S. Census Bureau, "Industry by Occupation for the Civilian Employed Population 16 Years and Over."
[17] The County of Fresno Department of Agriculture and Weights and Measures, "2024 Ag Crop and Livestock Report."

Figure 9: Land Use and Crop Types Near Huron



The map above shows the different land uses and crop types within a 3-mile radius of Huron. Deciduous fruits and nuts, as well as truck, nursery, and berry crops are prominent, with many parcels land idle or unclassified fallow as well. This data is from 2022, as the most recent 2023 data is still provisional.

Figure 10: Fresno County Agriculture Value by Census Tract



The map above shows the total agricultural value produced in each census tract in Fresno County. Huron's agriculture value is high compared to the rest of Fresno County, highlighting the prevalence of agricultural businesses in and around the community. Agriculture value data was derived from the United States Department of Agriculture 2017 Census of Agriculture and downloaded from FEMA's National Risk Index (NRI).

Vulnerable Populations

Due to social and economic disparities, including those pertaining to race, ethnicity, income, age, and language, climate hazards can impact some communities more than others. Within Huron, the following populations are particularly vulnerable to the impacts of climate hazards within Huron:

- **Farmworkers:** Extended exposure to direct sunlight and hazardous air have become increasingly dangerous as temperatures rise across the San Joaquin Valley. During summer months, farmworkers often harvest crops in triple-digit heat, frequently without adequate access to shade, water, or mandated rest breaks.[18] According to the American Lung Association, farmworkers are 35 times more likely to die from heat-related illness than other civilian workers.[19] In interviews and local news reports, many workers have reported feeling

[18] Montalvo, "Farmworker Who Labored in Extreme California Heat Died. Family, Advocates Seeking Answers."
[19] Reyes Becerra, "Farmworkers on the Front Lines of the Climate Crisis."

dehydrated or dizzy after hours in the fields, sometimes returning to homes without adequate air conditioning.[20] Enforcement of heat safety standards by the Division of Occupational Safety and Health (DOSH), also known as Cal/OSHA, has been inconsistent, and complaint processes can be slow or unresponsive.[21] Local organizations like United Farm Workers and Central California Environmental Justice Network (CCEJN) have stepped in to provide emergency support, such as distributing water, cooling supplies, and information on heat safety. However, these efforts remain limited in scope compared to the scale of the challenge.

- **Low-income families:** Low-income families in Huron experience disproportionate exposure to climate hazards due to financial, structural, and geographic factors. Many low-income residents live in older, poorly insulated homes that retain heat and lack efficient cooling systems.[22] During prolonged heat waves, high indoor temperatures can pose safety issues, especially for children, older adults, and people with health conditions. The CalEPA Office of Environmental Health Hazard Assessment CalHeatScore reports that low-income communities experience higher rates of heat-related illness and mortality.[23] High energy costs further limit residents' ability to use air conditioning, leading some to rely on temporary methods to stay cool, such as placing frozen water bottles near fans or sleeping in cooler parts of their homes.[24]
- **Older individuals:** Older adults are especially vulnerable to extreme heat because of reduced physiological reserves, heightened risk of chronic illnesses, and potential social isolation or mobility limitations.[25] The Huron PD has identified the residents of the City's two senior citizen complexes as vulnerable in the event of an emergency.
- **People experiencing homelessness:** People experiencing homelessness in Huron face heightened heat risk due to limited access to indoor cooling, shade, and reliable water sources. While official data are limited, the 2022 Point-in-Time count identified 2 unhoused individuals in Huron, with local estimates suggesting fewer than 50 residents may experience homelessness at any given time.[26] Local interviews indicate one primary encampment and several smaller clusters, including locations along Lassen Avenue, with an estimated one to three encampments overall. According to one City official, individuals experiencing homelessness rarely use cooling centers, instead remaining in informal encampment areas, which increases heat-related risk.

City officials have also identified that Huron residents can be difficult to reach, as many are without smartphones, televisions, or other devices that serve as communication channels during emergency events. Creative and innovative outreach tactics are therefore vital to Huron's climate resiliency efforts.

[20] Sherman, "Farm Worker Lourdes Cardenas Speaks at #HeatWeek Kickoff"; Lopez, "Farm Workers Educate Others of Existing Rights, Protections When Working in Extreme Heat."
[21] Lopez, "Farm Workers Educate Others of Existing Rights, Protections When Working in Extreme Heat."
[22] Boyd-Barrett et al., "As California's Central Valley Bakes, Calls Grow for Renter Protections."
[23] CalEPA Office of Environmental Health Hazard Assessment, "About Heat and Its Impact on Communities."
[24] Boyd-Barrett et al., "As California's Central Valley Bakes, Calls Grow for Renter Protections."
[25] U.S. Centers for Disease Control and Prevention, "Heat and Older Adults (Aged 65+)."
[26] "Appendix 1F: City of Huron."

This CVAAP seeks to support climate resilience for all who reside in Huron while ensuring that no vulnerable populations are left behind.

Historic Climate Events

Overall, climate impacts have contributed to more extreme weather patterns such as stronger storms and longer periods of drought, which have overwhelmed the City's drainage infrastructure, disturbed transportation, and negatively affected agricultural yields. As a community relying heavily on agriculture, changes in the temperature, rain patterns, or availability and quality of resources such as soil or water have significantly impacted residents' livelihoods.

Huron has faced a number of historic climate events, with flooding and drought most notably damaging infrastructure and threatening economic productivity. In March 1995, storms overwhelmed Arroyo Pasajero Creek, destroying a section of the I-5 freeway bridge and leading to the deaths of six Huron residents traveling together.[27] The community lacked an escape route, as Lassen Avenue (Highway 269), routinely flooded during winter rains. These flood events cut off access to food, work, and emergency services. Before the Heart of the Valley Bridge opened in 2019, Highway 269 flooded as many as 22 days each year.[28] Drivers faced detours of nearly 30 miles or risked driving through dangerous floodwaters. Regional estimates put annual productivity losses at nearly $454,000 from flooding, totaling over $18 million during the 40 years of repeated road closures.[29]

Water scarcity has also impacted Huron residents. For many years, agricultural employment around Huron was steady and farmworkers regularly traveled from across the state to meet labor demand.[30] This pattern shifted during California's driest three-year period on record (2020-2022), following a major drought from 2012 to 2016, when thousands of acres near Huron were left unplanted due to severe water shortages. Growers reduced production, leading to substantial economic impacts. In 2021 alone, the state's agricultural sector lost more than 8,750 jobs and over $1 billion in revenue.[31] In 2022, Huron faced major water allocation cuts and declining ground water levels, prompting mandatory outdoor water restrictions and straining the local water systems as wells neared failure.[32] Residents and City staff were asked to conserve water as the community navigated unprecedented shortages.

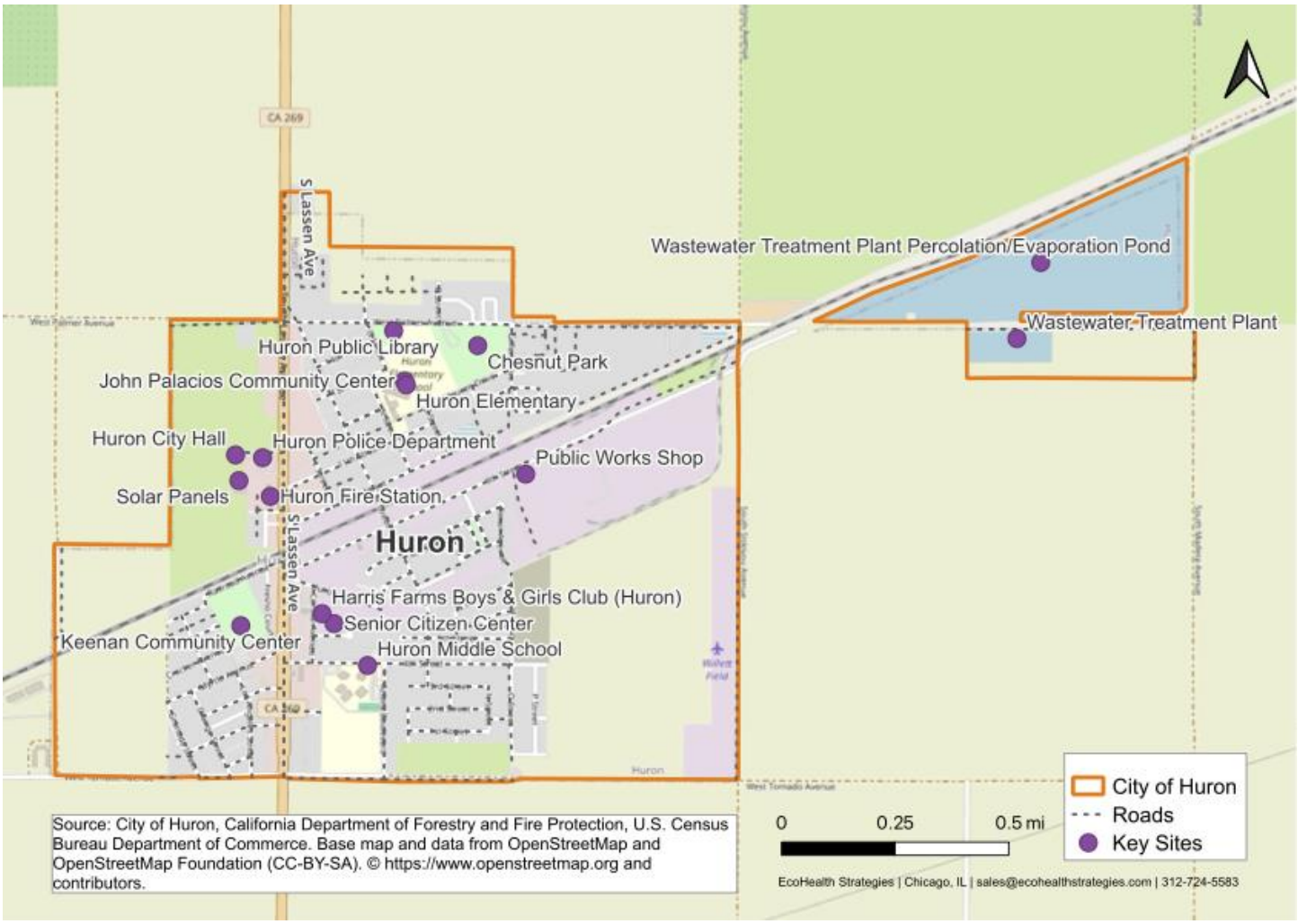
Infrastructure

Key Sites

The City has several key sites that serve as community hubs, evacuation locations, cooling centers, or other resources.

[27] Abc30 Action News, "New Bridge on Hwy 269 to Make Roadway Safer for Drivers."
[28] Abc30 Action News, "New Set of Highway 269 Bridges Will Protect Town of Huron from Flooding."
[29] Ortiz-Briones, "Heart of the Valley Bridge Brought Huron Residents Peace of Mind during Last Rainstorms."
[30] Quintanilla, "Amid California's Three-Year Drought, a San Joaquin Valley Farmworker Considers Seeking Work Outside the Region."
[31] Montalvo, "Another Dust Bowl? How This California Farmworker City Plans on Surviving Historic Drought."
[32] Abc30 Action News, "Huron Officials Enforcing Strict 'no Watering' Restrictions."

Figure 11: Key Sites in Huron



The map above shows the locations of key sites in Huron. The majority of the key sites identified by the consulting team are located above 9th Street and/or clustered along Lassen Avenue.

Table 3: Key Sites in Huron

Key Site	Description
Chestnut Park	Chestnut Park offers a shaded environment for recreation. The park is maintained by the Coalinga-Huron Recreation and Parks District (CHRPD).[33]
Harris Farms Boys & Girls Club (Huron)	The Harris Farms Boys & Girls Club is a part of the Boys & Girls Club of Fresno County. The site offers after-school programming for children and teenagers ages 6-18.[34]

[33] City of Huron, "Recreation."
[34] Boys and Girls Clubs of Fresno County, "Home."

Key Site	Description
Huron City Hall	Huron City Hall hosts City Staff offices and is a place residents can go with questions. City Hall recently moved into a new building, which is the one marked on the map.
Huron Elementary & Huron Middle School	Schools are a critical partner for climate emergencies, with buses used for evacuation purposes, according to a county official.
Huron Fire Station	The Huron Fire Station is within the Fresno County Fire Protection District and offers fire prevention services to the community.[35]
Huron Police Department	The Huron Police Department hosts police officers. Additionally, the Sky Room/City Council Chamber in the Huron PD building is used for city council meetings and as a cooling center. As a cooling center, the Sky Room is open from noon to 7:00 p.m. when temperatures are over 100 degrees Fahrenheit.
Huron Public Library	The library is an air-conditioned public space for residents to access books and other educational materials. There is also a community bulletin board where community events and other notices can be posted. It is generally open from 10 a.m. to 6 p.m.
John Palacios Community Center	The John Palacios Community Center is a key community hub available for public events, personal gatherings, and music events, as well as for City and community-based organization programming. It also serves as an evacuation site during extreme flooding and has historically been used as a cooling center.
Keenan Community Center	The Keenan Community Center is an additional hub for community events and activities. It is overseen by the Coalinga-Huron Recreation and Parks District (CHRPD).[36]
Public Works Shop	The Public Works Shop hosts Huron's Public Works staff, who repair and maintain public facilities and make infrastructure improvements.[37]
Senior Citizen Center	The Senior Citizen Center is open Monday through Friday with programming for older adults.[38]

[35] Fresno County Fire Protection District, "About Us."
[36] Coalinga-Huron Recreation and Park District, "About the District."
[37] City of Huron, "Public Utilities."
[38] City of Huron, "Recreation."

Key Site	Description
Solar Panels	Solar panels power Huron's water treatment plant, wastewater treatment plant, and old City Hall building
Wastewater Treatment Plant and Wastewater Treatment Plant Percolation/Evaporation Pond	Huron's Wastewater Division operates the city's wastewater treatment facilities, including the wastewater treatment plant percolation/evaporation pond.[39]

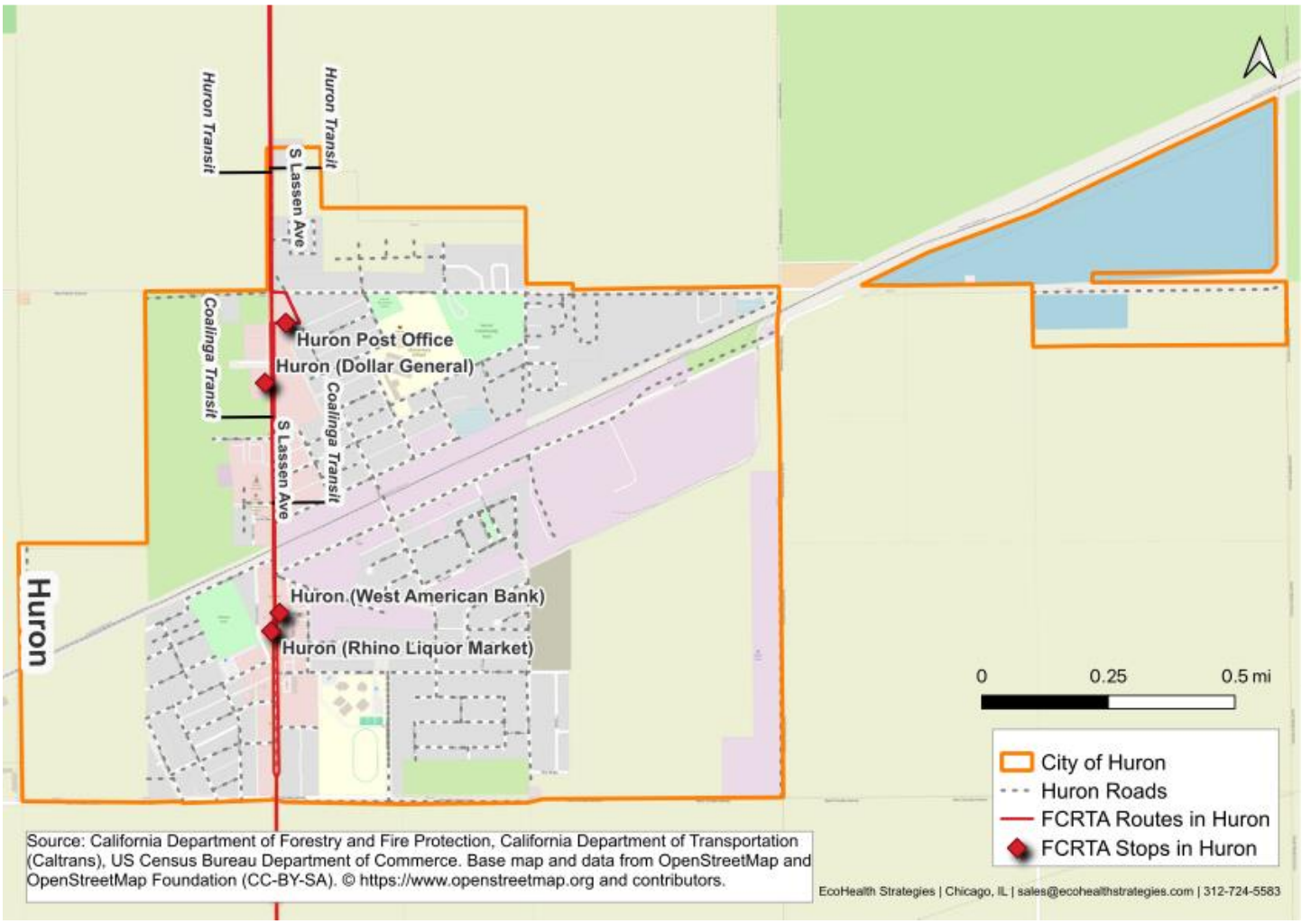
Transportation

The City's transportation infrastructure centers on Lassen Avenue. Lassen Avenue is the City's main thorough-fare and primary truck route. Lassen Avenue is also the most prone to experiencing extreme flood events.

Huron is served by two Fresno County Rural Transit Agency (FCRTA) bus routes: Coalinga Transit and Huron Transit. Coalinga Transit runs from Coalinga to Fresno and back, passing through Huron on its way and stopping at the West American Bank bus shelter, Huron Post Office, and an informal, inbound, and on-demand only stop at the Dollar General. The Coalinga Transit route averages about 6,000 riders per year. The Huron Transit route stops at West American Bank, the Huron Post Office, and Rhino Liquor Market,[40] as well as the Dollar General. The Huron Transit route averages about 3,000 riders per year. The bus stops at the Post Office and Dollar General store do not have shelters, and the Dollar General stop also lacks a bench.

[39] City of Huron, "Public Utilities."
[40] Fresno County Rural Transit Agency, "Inter-City Transit: Huron."

Figure 12: Fresno County Rural Transit Agency (FCRTA) Routes and Stops in Huron



The map above shows the FCRTA bus route in Huron. The route runs up and down Lassen Avenue, both outside of and within the City limits. While the bus route connects the northern and southern parts of the city, Huron's east side lacks access to public transportation. The Dollar General stop was not included in the publicly available data, but was added to this figure per conversations with FCRTA officials.

In addition to the two FCRTA routes, the FCRTA operates a General Public Dial-A-Ride, an on-demand response service that circulates within Huron only. This service picks up riders from residences directly, typically near Lassen Avenue and at other apartment complexes. Drop off locations are commonly the main shopping areas and Post Office, all located on Lassen Avenue. The on-demand response service is very popular, often having higher ridership in a year than Coalinga Transit and Huron Transit combined at an average of 10,000 riders per year.

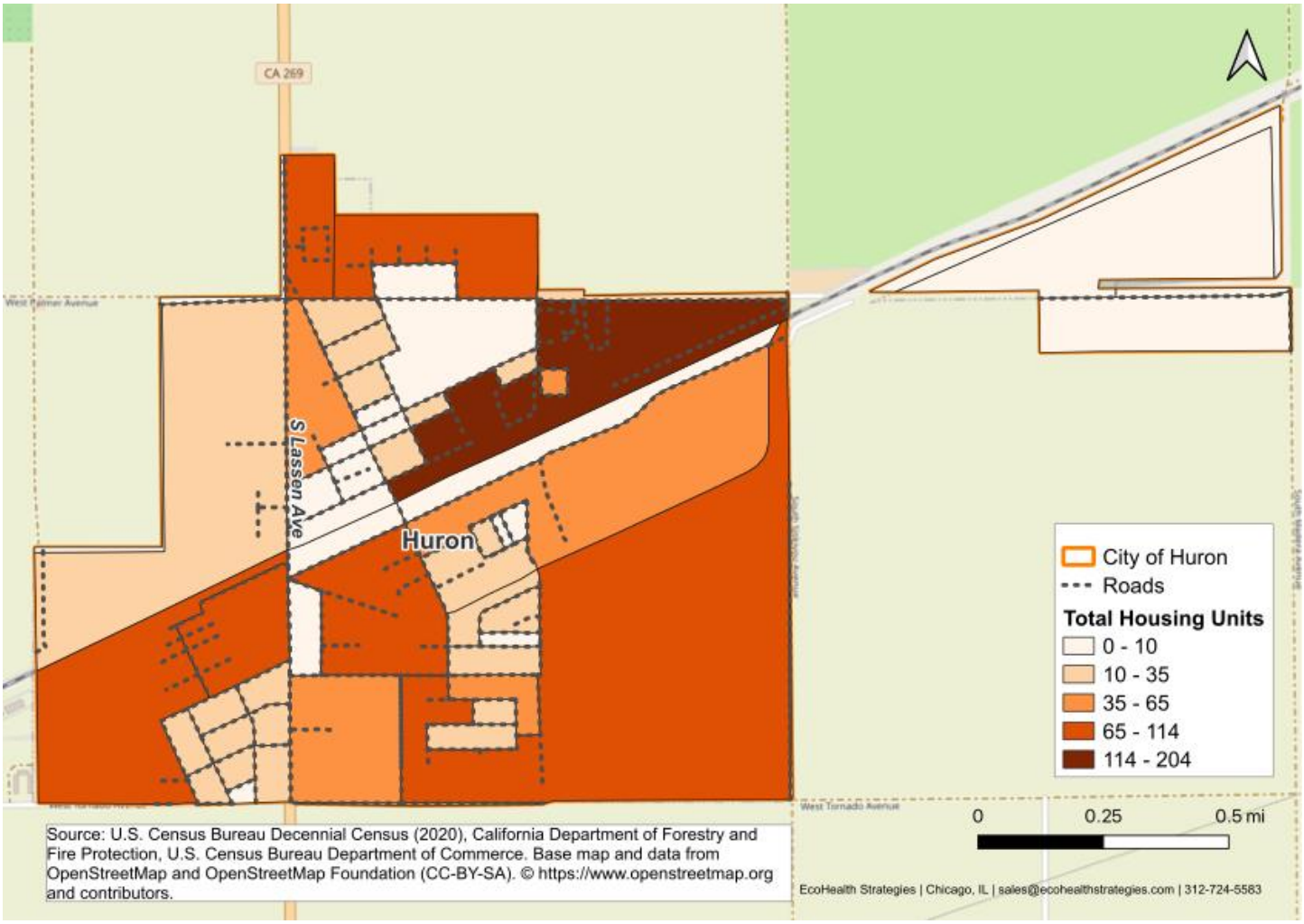
Huron is one of the FCRTA service areas with the highest ridership, ranking fifth out of 20 transit subsystems. Most Huron residents are considered transit dependent, given the overall lower incomes and car ownership rates compared to larger communities.

There are sparsely connected, protected bike lanes on Lassen Avenue, as well as some median vegetation strips. In August 2025, the Latino Equity Advocacy & Policy Institute (LEAP) unveiled a new e-bike lending library for Huron, which seeks to expand transit options for residents.

Housing

Huron's housing stock varies in type and location, with housing units distributed throughout the City. Based on the consulting team's analysis of the FEMA Geospatial Resource Center "USA Structures" dataset, 76% of structures in Huron are residential. Of those residential structures, 57% are single family dwellings, 27% are multi-family dwellings, 0.5% are temporary lodgings, 3% are manufactured homes, and 12% are unclassified residential.[41]

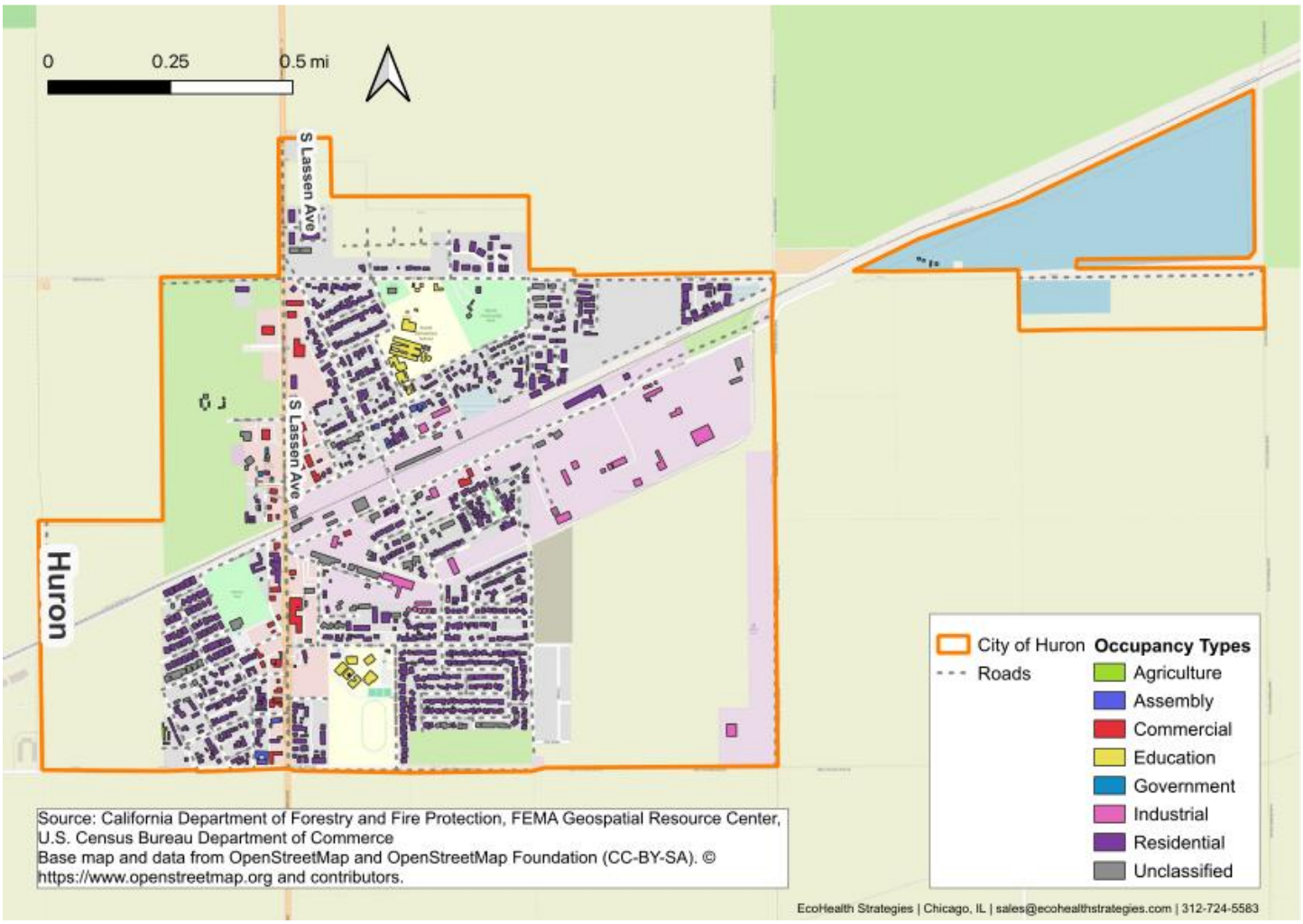
Figure 13: Total Housing Units in Huron by Block Group



The map above shows the total number of housing units in Huron by U.S. Census Bureau block group. The northeastern side of the City has more housing units overall, with the housing density otherwise relatively distributed.

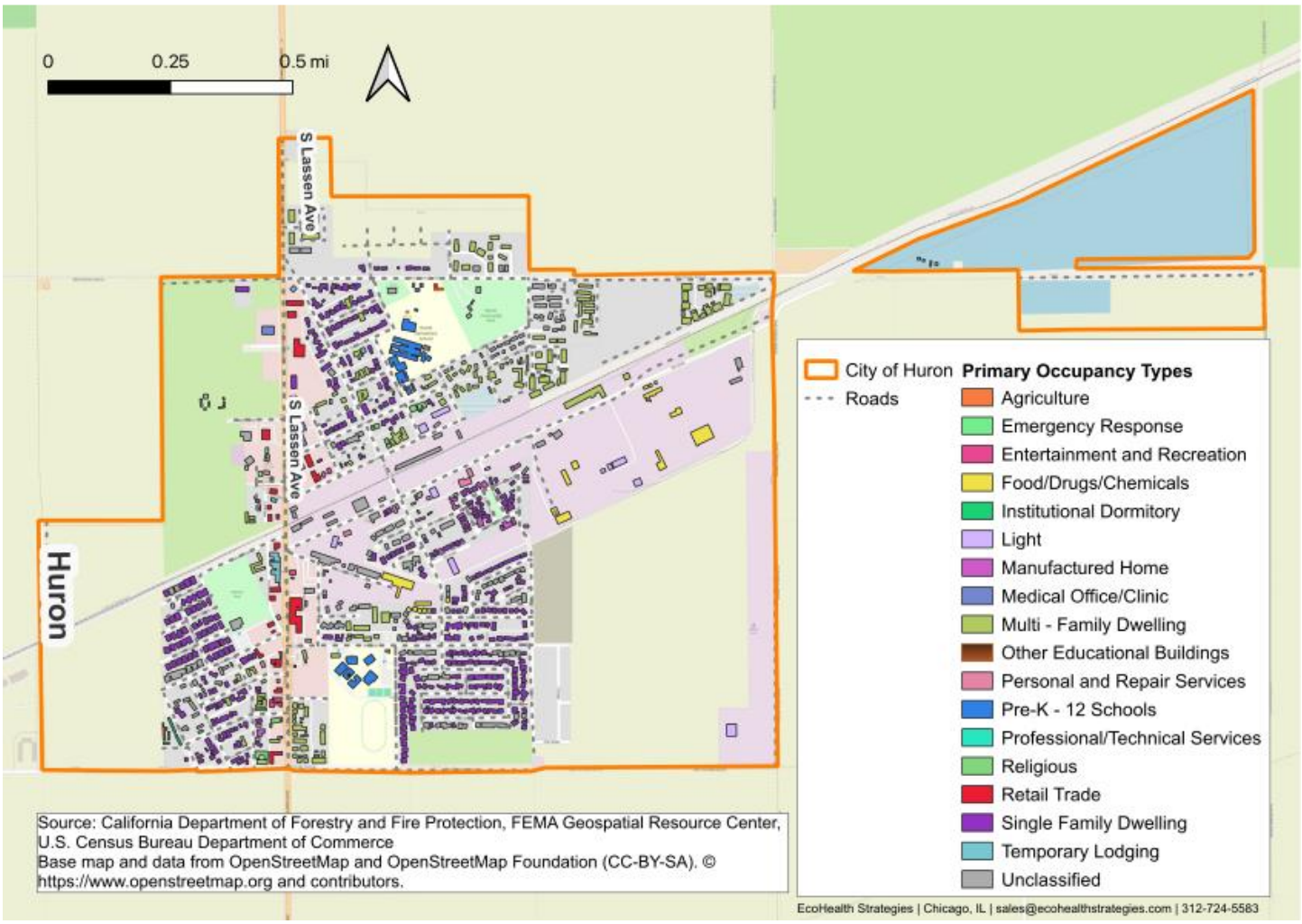
[41] Federal Emergency Management Agency, "USA Structures."

Figure 14: Occupancy Types in Huron



The map above shows the locations of different structure types in Huron, including agricultural, assembly, commercial, educational, government, industrial, residential, and unclassified structures. Residential buildings, represented by purple shapes, are the dominant structure type in Huron. Along Lassen Avenue, commercial buildings, represented by red shapes, are dominant. Some industrial buildings, represented by pink shapes, are mixed in with other structure types, and some are sectioned off in more sparsely populated areas in the northeastern corner of the city.

Figure 15: Primary Occupancy Types in Huron



The map above shows further segmentation of Huron structure types, including breaking down the residential class into single family dwellings, multi-family dwellings, temporary lodgings, manufactured homes, and unclassified residential. Single family dwellings, represented by dark purple shapes, dominate the residential class, with other housing types interspersed throughout the City.

As of 2020, 79.1% of households in Huron were renting, pointing to limited community ownership over housing stock improvements. However, Huron has a comparatively new housing stock, with 43.9% of housing units being built over 30 years ago and 15.2% being built over 50 years ago. These numbers are lower than the countywide rates of 64.5% and 32.9% respectively. Finally, approximately 12% of the housing stock is in need of rehabilitation, and only 3% is in need of replacement.[42]

These data highlight an opportunity to support climate adaptation through the residential sector, considering the aging housing stock and the knowledge that a majority of residents do not own their homes.

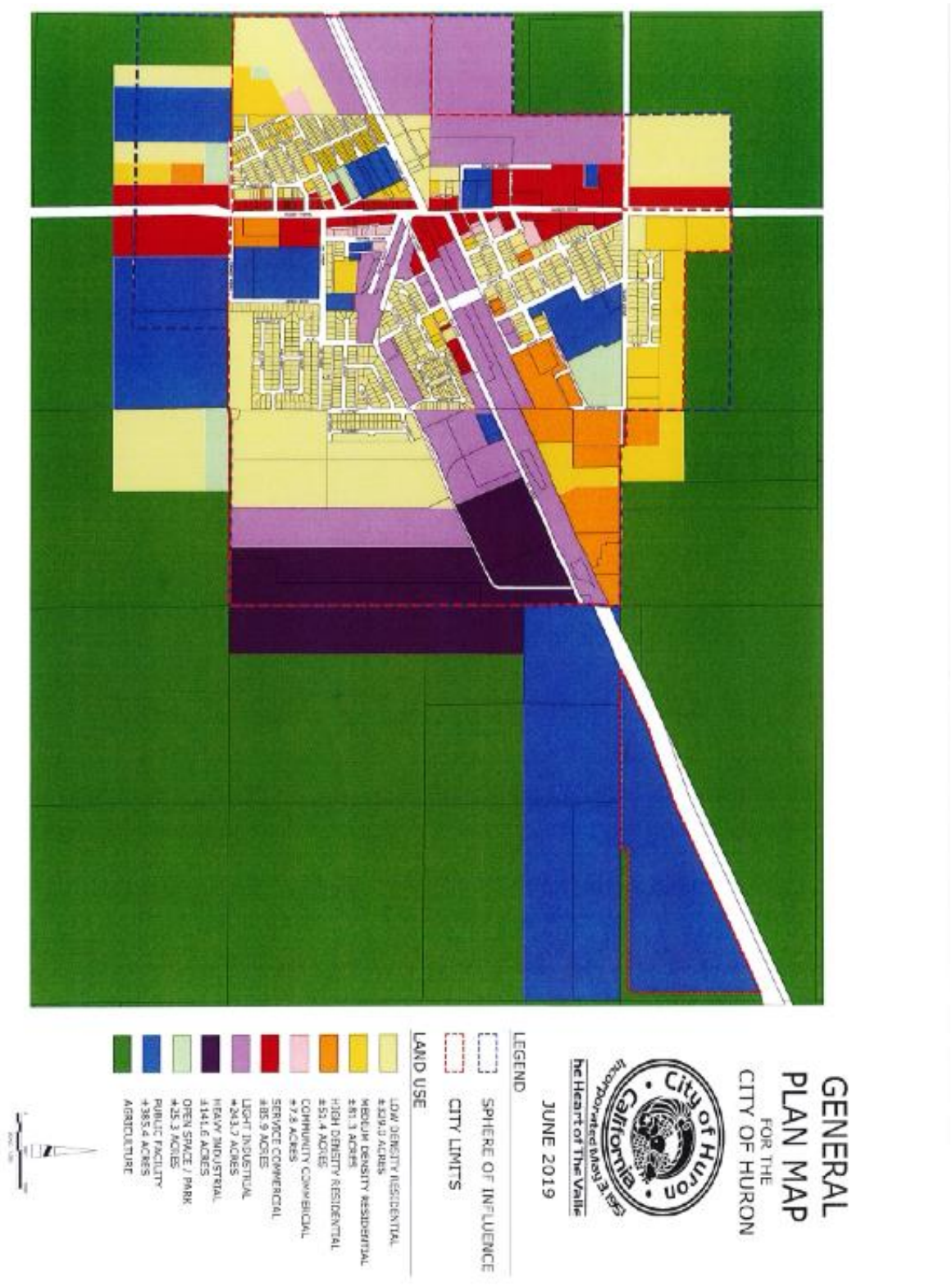
[42] "Appendix 1F: City of Huron."

Zoning & Land Use

Zoning ordinances are another avenue to understand land use in the City, and the types of climate adaptation efforts that are feasible within certain areas. Huron's base zoning districts include residential, commercial, industrial, and special purpose districts.[43] Per the General Plan Map for the City of Huron, further segmentation of these districts includes low-density residential, medium-density residential, high-density residential, community commercial, service commercial, light industrial, heavy industrial, open space/park, public facility, and agriculture.

[43] City of Huron, "Municipal Code."

Figure 16: General Plan Map for the City of Huron (2019)



The map above was prepared by the City of Huron in 2019 to show the categories of land use in the City. Much of the City is zoned for low-density residential, with service commercial zoning along Lassen Avenue. Industrial zoning is sectioned on the west side and along 9th Street. The City is surrounded by agriculture.

As is also seen in the FEMA dataset, the central areas in the City are predominantly zoned for low-density residential, with service commercial zoning along Lassen Avenue and industrial zoning along 9th Street and around the perimeter. Immediately surrounding the City limits, most land is zoned for agriculture.

Existing Climate Adaptation Efforts

Huron has several climate adaptation efforts already underway, as well as resources that can be leveraged for climate adaptation. Given the economic position of the City, grant funding is an indispensable resource for any explicitly climate-related projects, and has been utilized for several of the following examples. The information in the list below emerged from conversations with City and county officials.

Table 4: Existing Climate Adaptation Efforts

Existing Efforts	Description
Electric Police Vehicles	A recent Fresno Council of Governments (FCOG) Carbon Reduction Program (CRP) for electric police vehicles allowed the City to purchase four electric vehicles (EVs) for the Huron PD. The Huron PD also has two EV charging stations, one in front of the Huron PD building and one behind the old City Hall.
Dirt Alleyways	The City has begun paving existing dirt alleyways to reduce dust particles and improve local air quality and is seeking funding to expand these efforts.
Water Recycling	The City converted six of its existing evaporation/percolation ponds into lined storage ponds to support its recycled water operations. These facilities provide storage for treated wastewater following secondary treatment, facilitating nitrogen management and reuse for hemp irrigation. The recycled water is not treated to a potable standard.
Solar Energy	Solar energy operates the water treatment plant, wastewater treatment plant, and old City Hall building.
Fresno County Emergency Preparedness Council	By ordinance, Fresno County convenes an emergency preparedness council with representatives from various jurisdictions. The council meets quarterly, inviting City Mangers and Mayors to establish mutual aid connections in the event of a disaster.

Existing Efforts	Description
Mutual Aid	In the event of an emergency, cities can request mutual aid from neighboring cities before escalating to the county or state. The Huron PD has a mutual aid agreement with the CHP and the Fresno County Sheriff's Office. Ambulance services depend on collaboration with the City of Coalinga.
School Buses for Evacuation	School buses are used for evacuation during climate emergencies.

EcoHealth Strategies seeks to leverage these existing efforts and resources in the climate mitigation and adaptation strategies recommended in this document.

Planning Process & Methodology

Key Takeaways

1. The consulting team developed this plan with a **methodical, multi-phase process** that began in June of 2025 and concluded in February of 2026. The methodology consisted of literature reviews and comparative analyses, community engagement, stakeholder interviews, data collection and mapping, feasibility studies, and cost-benefit analyses.
2. **Community engagement** was a cornerstone of the consulting team's methodology. The Huron community was engaged throughout the process, providing feedback via structured surveys, loosely structured interviews, and community workshops.
3. **Federal political context** impacted the availability of public climate data and environmental justice resources such as the federal Climate and Economic Justice Screening Tool (CEJST).

The recommendations put forth in this document were informed by a methodical, multi-phase process that began in June of 2025 and concluded in February of 2026. The methodology integrated a literature review and comparative analysis, rigorous research, a feasibility study, a cost-benefit analysis, community engagement, stakeholder interviews, and data collection and analysis combined with hazard mapping.

Literature Review & Comparative Analysis

EcoHealth Strategies began its project planning process by conducting a literature review of similar climate resilience plans. The consulting team also conducted a review of relevant city and county documents, including the city's General Plan[44] and zoning ordinance.[45] The goal of this literature review was to analyze the extent of Huron's existing climate-related policies and identify areas lacking direct climate change resiliency measures. The team compared these documents with adaptation policies from similar cities and Fresno County's frameworks, which helped frame the context and provide an understanding of the current landscape of climate resiliency planning. The team then noted key characteristics of Huron—such as population size, demographics, geography, key climate hazards, and agricultural economy—to ground the City within the existing landscape of state climate adaptation measures. Finally, the team conducted a comparative analysis of Huron and peer cities both within and outside of California that shared several key characteristics with Huron. Cities such as Firebaugh, Mendota, and San Joaquin were analyzed from within the state, alongside out-of-state communities such as Immokalee, Florida and Pearsall, Texas (See Appendix B).

The comparative analysis was guided by the following questions:

1. What are existing climate impacts to assess?
2. How has the city/municipality addressed ongoing impacts?
3. What are the mitigation strategies of localities of a similar size and characteristics doing?

[44] City of Huron, "General Plan 2025 Policies Statement."
[45] City of Huron, "Municipal Code."

Outputs of this comparative analysis included a table of potential mitigation strategies from peer cities on the topics of agricultural hazards, air quality, drought, earthquakes, energy security, extreme heat, flooding, water quality and supply, and wildfire. To ensure the key issues addressed were relevant to the City, these topics were further refined through the community engagement process

Community Engagement

The consulting team arranged three touchpoints with the Huron community, in which team members visited the City to engage residents and stakeholders. These touchpoints ensured all final recommendations were tailored to community needs and aligned with the City's capacities. Touchpoint 1 focused on speaking to residents broadly about their climate concerns and priorities. Touchpoint 2 aimed to collect community feedback on draft recommendations. Touchpoint 3 consisted of presenting the draft plans to the City Council and incorporating feedback. To accurately capture, track and monitor community feedback for each touchpoint, the consulting team introduced user-friendly data collection software with feedback from community leaders that streamlined information gathering at every stage—before, during, and after each engagement—ensuring efficient data capture.

Touchpoint 1

Goal: Collect community input on priority climate-related needs.

In August 2025, EcoHealth Strategies visited Huron to formally introduce the project's purpose and plans, and to gather input on the community's most pressing climate issues (See Appendix C). For this initial engagement, the consulting team sought to socialize initial findings, receive feedback from residents, and identify their community needs and safety concerns related to extreme heat, flooding, air quality, and other climate concerns.

The consulting team was supported by City staff and community partners from SEEN, a local CBO focused on education, justice, and community development. The EcoHealth Strategies team attended six community events, collecting 25 structured surveys and conducting eight loosely structured interviews. Surveys and interviews were offered in both English and Spanish with assistance of interpreters from Linguistica (See Appendix D).

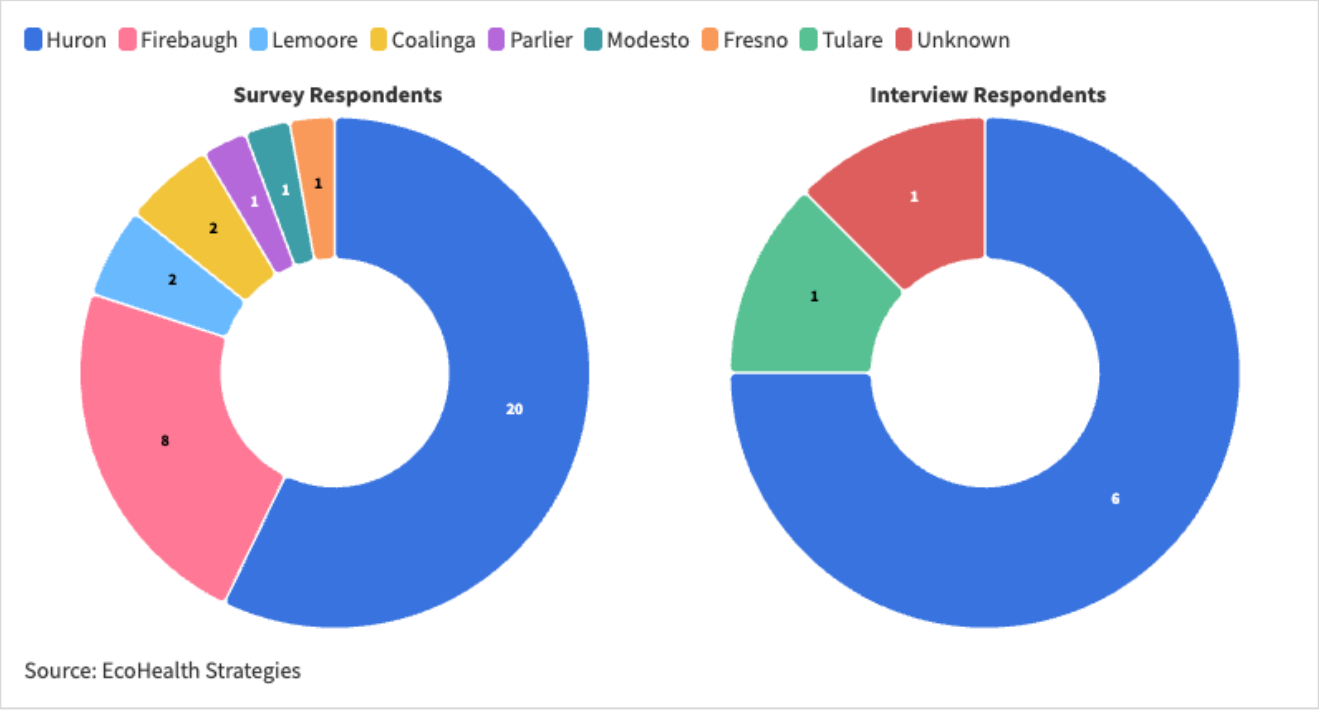
The following community events were attended as a part of Touchpoint 1:

- **City Council Presentation** (August 6, 2025): EcoHealth Strategies presented the goals of the CVAAP along with preliminary research findings to the City Council and community attendees in the City Council Chamber (See Appendix E). The City Council was held in-person and virtually. The team answered questions from the audience and distributed surveys to community members after the meeting. Live interpretation was provided by Linguistica during the presentation and the Q&A.
- **Firebaugh Community Garden Tour** (August 7, 2025): EcoHealth Strategies received a guided tour of the Firebaugh Community Garden from a community partner at SEEN, who shared about local efforts to enhance the affordability and accessibility of growing fresh, culturally-relevant produce.

- **Firebaugh Farmer's Market** (August 7, 2025): With assistance from a community partner at SEEN, the EcoHealth Strategies team attended the Firebaugh Farmer's Market to speak with vendors and shoppers about climate impacts and distribute surveys. Interpretation support was provided by the community partner.
- **The LEAP Institute E-Bike Fleet Event** (August 8, 2025): The Latino Equity Advocacy & Policy Institute (LEAP) hosted a launch event for its new e-bike lending library based in Huron. EcoHealth Strategies attended the event to learn about the initiative and speak with community members.
- **Huron Back-to-School Event** (August 8, 2025): Huron's Mayor León hosted a back-to-school shoe giveaway event at the Keenan Community Center, next to the Huron Farmer's Market. With the assistance of interpreters from Linguistica, the EcoHealth Strategies team invited community members attending the back-to-school event to complete surveys or participate in recorded interviews.
- **Huron Farmer's Market** (August 8, 2025): With the support of the City, EcoHealth Strategies occupied a booth during the Huron Farmer's Market, just outside of the Mayor's back-to-school shoe giveaway event. With the assistance of interpreters from Linguistica, farmer's market attendees were also invited to complete surveys or participate in recorded interviews.

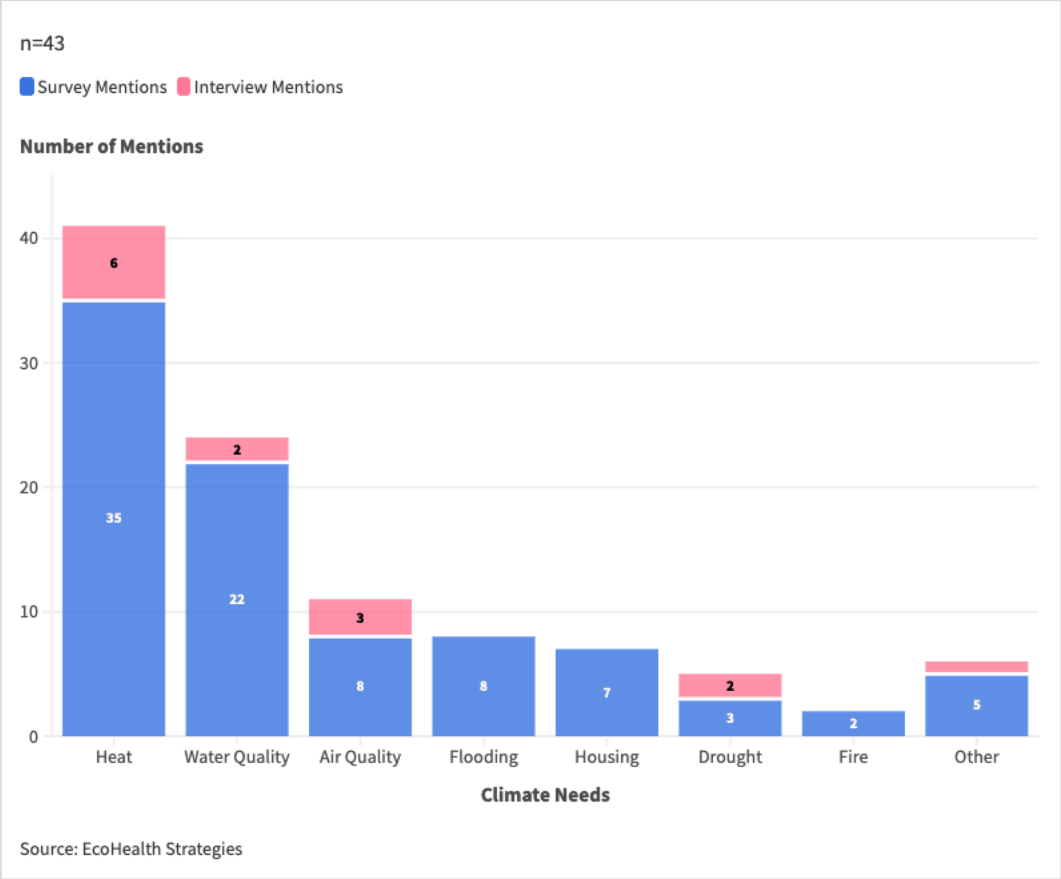
The outputs of the surveys and interviews are shown in the figures below.

Figure 17: Respondent Cities



The pie charts above show the distribution of cities where survey and interview respondents reside. 57% of survey respondents reside in Huron, with the other 43% residing in neighboring communities with similar climate-related needs, including Firebaugh (8), Lemoore (2), Coalinga (2), Parlier (1), Modesto (1), and Fresno (1). 75% of interview respondents reside in Huron, with 1 residing in Tulare and 1 unknown.

Figure 18: Community Climate Needs



The bar graph above shows the number of times various climate-related needs were mentioned in both the surveys and interviews. Heat, water quality, air quality, and flooding were the top concerns of respondents, with housing, drought, fire, and other topics following. "Other" responses included street cleanliness (1), trash (1), Huron's own high school (1), solar energy (1), streetlights for pedestrians (1), and affordability of utility bills (1).

Touchpoint 2

Goal: Collect community feedback on draft recommendations.

In November of 2025, the consulting team hosted two community workshops in collaboration with SEEN. SEEN has hosted a series of air quality workshops in and around Huron to educate farmworkers about the causes, prevention, and treatment of Valley Fever, a fungal infection that can cause symptoms such as fever, cough, and fatigue. Valley Fever can occur as a result of activities that disturb the soil, such as digging, tilling, harvesting, and operating heavy machinery, putting farmworkers at an elevated risk. [46] These workshops also provide materials and instructions for building at-home air purifiers to help reduce the risk of infection.

SEEN's strong track record with these workshops positioned them as a valuable partner in supporting EcoHealth Strategies' efforts to socialize draft recommendations with the community. EcoHealth Strategies formalized a partnership with SEEN, including the following accountabilities:

[46] UC Davis Health, "Risk Factors for Valley Fever among Hispanic California Farmworkers."

EcoHealth Strategies Accountabilities:

- Provided funding, coordination, materials, and logistical support for the workshops and refreshments.
- Presented draft climate strategies and collected resident input to strengthen and refine final recommendations.

SEEN Accountabilities:

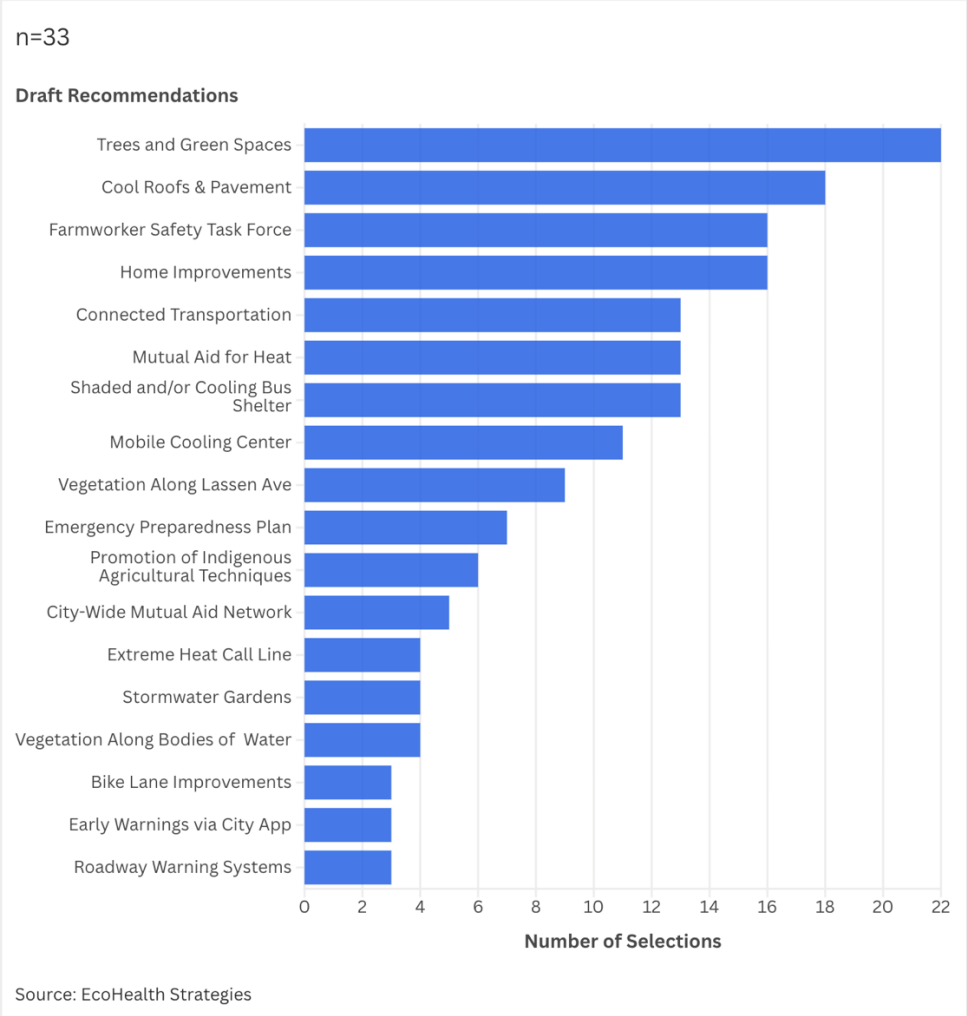
- Led the community-facing components of the workshops, including outreach, facilitation, and language support, with SEEN leading the creation of marketing materials, supporting translation of the presentation, and assisting with outreach and engagement.
- Brought lived experience and local knowledge to ensure content was culturally grounded and responsive to Huron residents.

EcoHealth Strategies and SEEN cosponsored the workshops to collect feedback on the draft recommendations. The workshops were held in the morning and afternoon on Wednesday, November 19th, 2025, at the John Palacios Center. The dual-session approach was recommended by SEEN to ensure accessibility for residents with different work schedules and caregiving responsibilities. SEEN also provided food and refreshments to support participation (See Appendix F).

Each workshop hosted participants from the Huron community, with 15 attendees in the first workshop and 21 attendees in the second. EcoHealth Strategies and SEEN presented an abbreviated list of 18 draft recommendations to participants at each workshop, selecting those that were most directly applicable to community members. The list was also abbreviated in order to keep the presentation digestible and memorable. Following the presentation, the consulting team collected feedback via a short survey, which was offered both digitally and physically, and in English and Spanish (See Appendices G and H). Following the presentation of draft recommendations, SEEN presented a short overview of air quality and health impacts and led participants in the construction of home air purifiers.

The quantitative component of the survey asked participants to select their top five recommendations from the 18 presented. Out of 36 total attendees, 33 responded to the survey. One respondent filling out a paper survey selected 10 recommendations, and all 10 were included in the final counts. The following chart shows the outputs of this ranking activity.

Figure 19: Priority Recommendations from November Community Workshops



The chart above shows the survey results from the two community workshops. Out of a total of 33 survey respondents, the priority projects included trees and green spaces, cool roofs and pavement, a farmworker safety task force, and home improvements, including weatherization opportunities to lower utility bills.

Following the workshops, the consulting team documented key learnings for accessibility, including:

- Use larger font sizes for printed presentations and surveys to ensure legibility for all attendees.
- Emphasize that support will be provided for those who cannot read or write or do not have cell phones via promotional materials to ensure the widest reach.

While some comments from workshop attendees fell out of the scope of this project, they are still valuable insights for the City. Out of scope comments included the presence of stray dogs, insufficient lighting on the streets, and FCRTA buses not stopping for riders waiting at the bus stops.

Finally, EcoHealth Strategies met with Huron's Mayor León on November 19, 2025, to discuss his perspectives on the draft recommendations and their potential implementation. Mayor León provided insights into the capacities, resources, and interests of the City. He also led EcoHealth Strategies team members on a drive-through tour of Huron to give a better understanding of the community. The tour included the following locations:

- Huron Community Garden
- LEAP Institute Headquarters
- Lassen Avenue
- Various Huron neighborhoods
- "La Plazita" - A public space for community gathering, not yet completed

Touchpoint 3

Goal: Collect City Council and community feedback on draft plans.

Once EcoHealth Strategies had completed the draft CVAAP, the consulting team presented the findings and recommendations to Huron's City Council at a public meeting (See Appendix I). City Council members provided verbal feedback, which was recorded and incorporated into the final plans.

Feedback included making adjustments to certain recommendations to better apply to the Huron context and including data from Huron's air quality monitor in the Vulnerability Assessment. The City also recommended translating the CVAAP's executive summary into Spanish to disseminate within the community.

Stakeholder Interviews

In addition to on-the-ground engagement with residents, the consulting team conducted virtual 30- to 45-minute interviews with key stakeholders in September of 2025. Interviews were conducted to dive deeper into the operational capacity, budgetary constraints, opportunities, and limitations of City and county entities to ensure that all recommendations made were feasible and appropriate (See Appendix J).

Interviews were conducted with representatives of the following departments:

- City of Huron - City Engineer's Office (Interview conducted 9/17/25)
- CAL FIRE Fresno County (Interview conducted 9/18/25)
- Huron Police Department (Interview conducted 9/22/25)
- Fresno County Office of Emergency Services (Interview conducted 9/26/25)
- Fresno County Rural Transit Agency (Email exchanged 11/10/25)

The City had a temporary vacancy for the Public Works Director position during this time. All questions related to public works were directed to the City Engineer's office.

Data Collection & Mapping

As an additional component of the methodology, the consulting team identified publicly available, downloadable datasets to support the visualization of key climate impacts in the City. Federal data sources reviewed included the US Census Bureau, The United States Department of Agriculture (USDA), the Federal Emergency Management Agency (FEMA), the Centers for Disease Control and Prevention (CDC) National Environmental Public Health Tracking Network, the National Oceanic and Atmospheric Association (NOAA), and the United States Geological Survey (USGS). State-level data sources included CalEnviroScreen 4.0 (Office of Environmental Health Hazard Assessment), the California Air District, the California Water Boards, and the California Department of Transportation. A complete list of data sources included in this document can be found in the Bibliography. The consulting team also worked with the City to collect some internal data, such as the locations of key community sites and climate hazard-related 911 calls from the last five years.

Data were selected based on relevance and timeliness, then visualized using QGIS, an open-source geographic information services (GIS) software. Spatial patterns were analyzed to better understand the City's major vulnerabilities and resources, and to inform the recommendations put forth in this CVAAP.

Feasibility Studies

Two focus areas were identified as priorities for the City:

1. Flood Mitigation and Groundwater Recharge
2. Evacuation and Transportation Planning Alternatives

Relevant strategies for each focus area were assessed for feasibility and cost-effectiveness. The feasibility study methodology was developed in alignment with City officials' priorities, following the five steps outlined by Aschbrenner et al., in their 2022 journal article. The researchers recommend the following steps for mixed-methods feasibility studies, which combine quantitative and qualitative data.[47]

1. Identify the relevant feasibility domains
2. Align quantitative and qualitative data sources
3. Determine the timing of data collection
4. Plan integrative analyses
5. Draw meta-inferences about feasibility

Scoring methodology was adapted from the California State Hazard Mitigation Plan's prioritization methodology.[48] In response to each question, three points were assigned for "yes," one point for "somewhat" or "unknown," and zero points for "no." Out of a possible 12 points, a total score of seven or higher would be considered feasible, as it is above the halfway point.

[47] Aschbrenner et al., "Applying Mixed Methods to Pilot Feasibility Studies to Inform Intervention Trials."
[48] California Governor's Office of Emergency Services, "California State Hazard Mitigation Plan."

Benefit-Cost Analyses

The two priority projects were also analyzed for cost effectiveness using a standard BCR, where benefits are divided by costs. If the resulting number is above 1, the intervention is considered cost effective.[49] Estimated benefits, or avoided losses, were determined in conjunction with Huron's historic data and additional research where needed. Estimated intervention costs were identified through literature reviews. It is important to note that standard benefit-cost analyses fail to consider non-quantifiable benefits, including human health, safety, and well-being.

Research Roadblocks

In March of 2025, U.S. Environmental Protection Agency (EPA) Administrator Lee Zeldin announced 31 deregulatory actions, creating the largest rollback of climate action in U.S. history.[50] This rollback included the termination of environmental justice (EJ) programs advanced under the Biden administration, including the Justice40 Initiative, the EJ Scorecard, and the Climate & Economic Justice Screening Tool (CEJST), which sought to protect vulnerable communities from the impacts of climate change.[51] In July of 2025, the Trump administration also closed the EPA's Office of Research and Development,[52] limiting the availability of federal environmental data for projects such as these. This political context has reduced the availability of federal grants for small cities like Huron pursuing climate action initiatives, and has also limited access to essential research and data for small consultancies such as EcoHealth Strategies working to support these efforts.

[49] U.S. Department of Transportation Federal highway Administration, "Chapter 2. Overview of B/C Analysis for Operations."
[50] United States Environmental Protection Agency, "EPA Launches Biggest Deregulatory Action in U.S. History."
[51] Federal Environmental Law Tracker, "Trump Rescinded Biden's Executive Order 14008 Establishing Justice40 Initiative."
[52] Stein, "Trump Administration Shuts down EPA's Scientific Research Arm."

Vulnerability Assessment

Key Takeaways

1. This section highlights the City's vulnerabilities to 1) Global Climate Change, 2) Extreme Heat, 3) Flooding, 4) Drought, and 5) Air Pollution
2. Each climate impact is assessed for its extent, risk, and impacts on the community, including public health and safety, agriculture, drainage systems, transportation, energy, and water quality.
3. **Huron is vulnerable to all five climate impacts analyzed**, with extreme heat, flooding, and drought being identified as top concerns by City officials and residents.

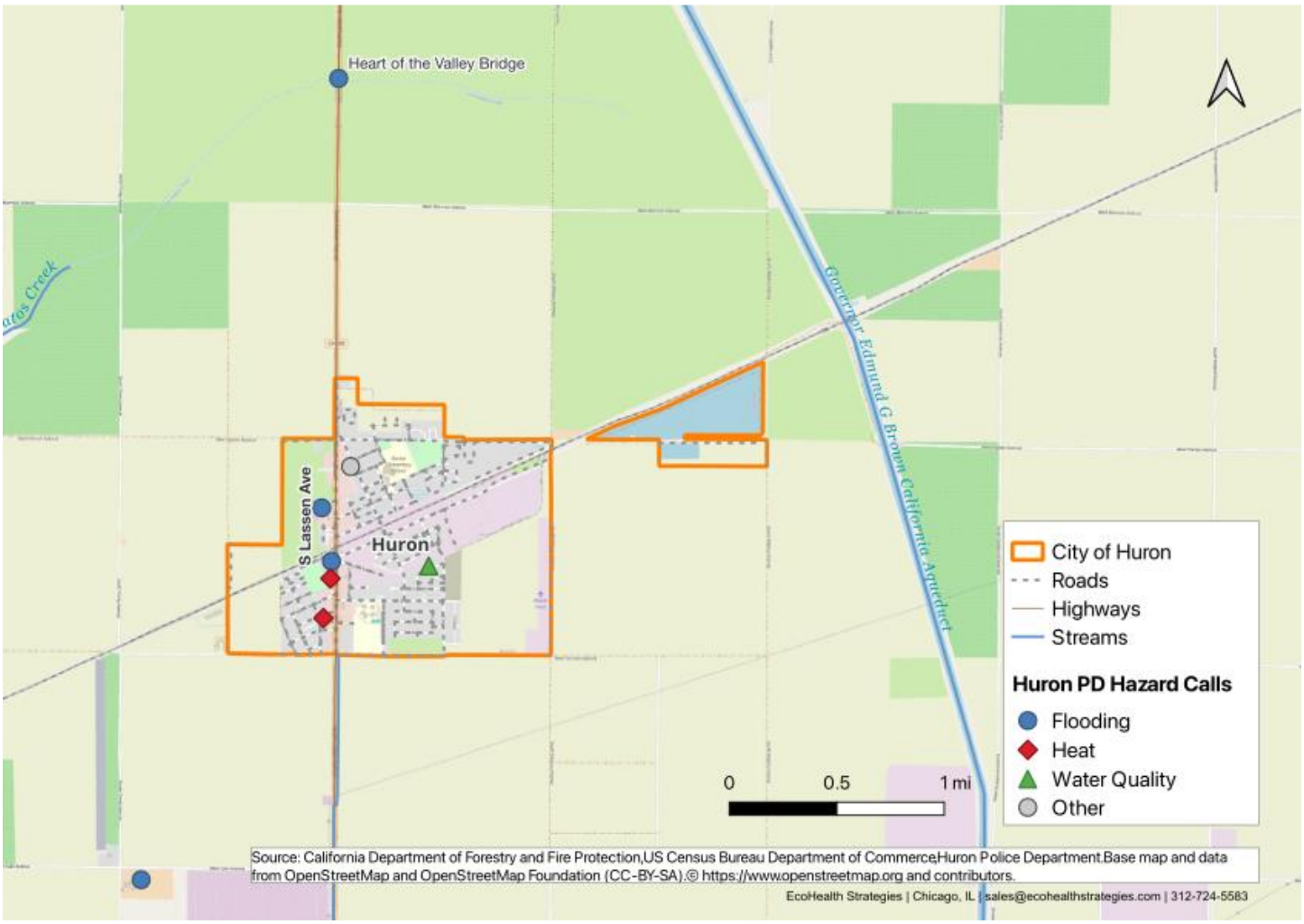
This section analyzes the systems and resources in Huron that are most prone to damage from key climate impacts. Each climate impact is assessed for its extent, risk, and impacts on the community, including public health and safety, agriculture, drainage systems, transportation, energy, and water quality. The subsections that follow highlight the City's vulnerabilities to the following:

- Global Climate Change
- Extreme Heat
- Flooding
- Drought
- Air Pollution

The impacts listed above were selected as a result of the priorities outlined in the City's request for proposal (RFP), community engagement findings, stakeholder interviews, and research outputs.

Lassen Avenue is a key site for climate hazards. Huron Police Department records show nine calls made between 2022 and 2025 reporting heat (two calls), flooding (four calls), and water quality hazards (two calls), as well as one call reporting a gust of wind that blew a tarp onto a power line, with the majority located along the main road.

Figure 20: Huron Police Department Hazard Calls (2022-2025)



The map above shows the locations of the nine hazard calls reported to the Huron PD between 2022 and 2025. Flooding calls, represented by blue circles, were primarily reported along Lassen Avenue. Heat calls, represented by red diamonds, were also reported along Lassen Avenue. Two calls were made reporting poor water quality, represented by green triangles, both from the same location. One “Other” call was made, reporting a gust of wind that blew a tarp onto a power line near Lassen Avenue.

This vulnerability assessment will not specifically analyze water quality or windstorm impacts. For a more in-depth analysis of natural and human-made hazards in Huron, please see the City of Huron Local Hazard Mitigation Plan.

Global Climate Change

Overview and Extent

Climate change is defined as “a long-term change in the average weather patterns that have come to define Earth’s local, regional and global climates.”[53] The Intergovernmental Panel on Climate Change (IPCC), the United Nations’ body for scientific climate change research, observed in its most recent report that global surface temperatures are rising as a result of human activities, primarily the emission of greenhouse gases (GHGs). These activities have already caused changes in the atmosphere, ocean, cryosphere, and biosphere, leading to climate impacts and weather extremes across the globe and in the City of Huron. The IPCC also reports that vulnerable communities are disproportionately impacted by these changes.[54]

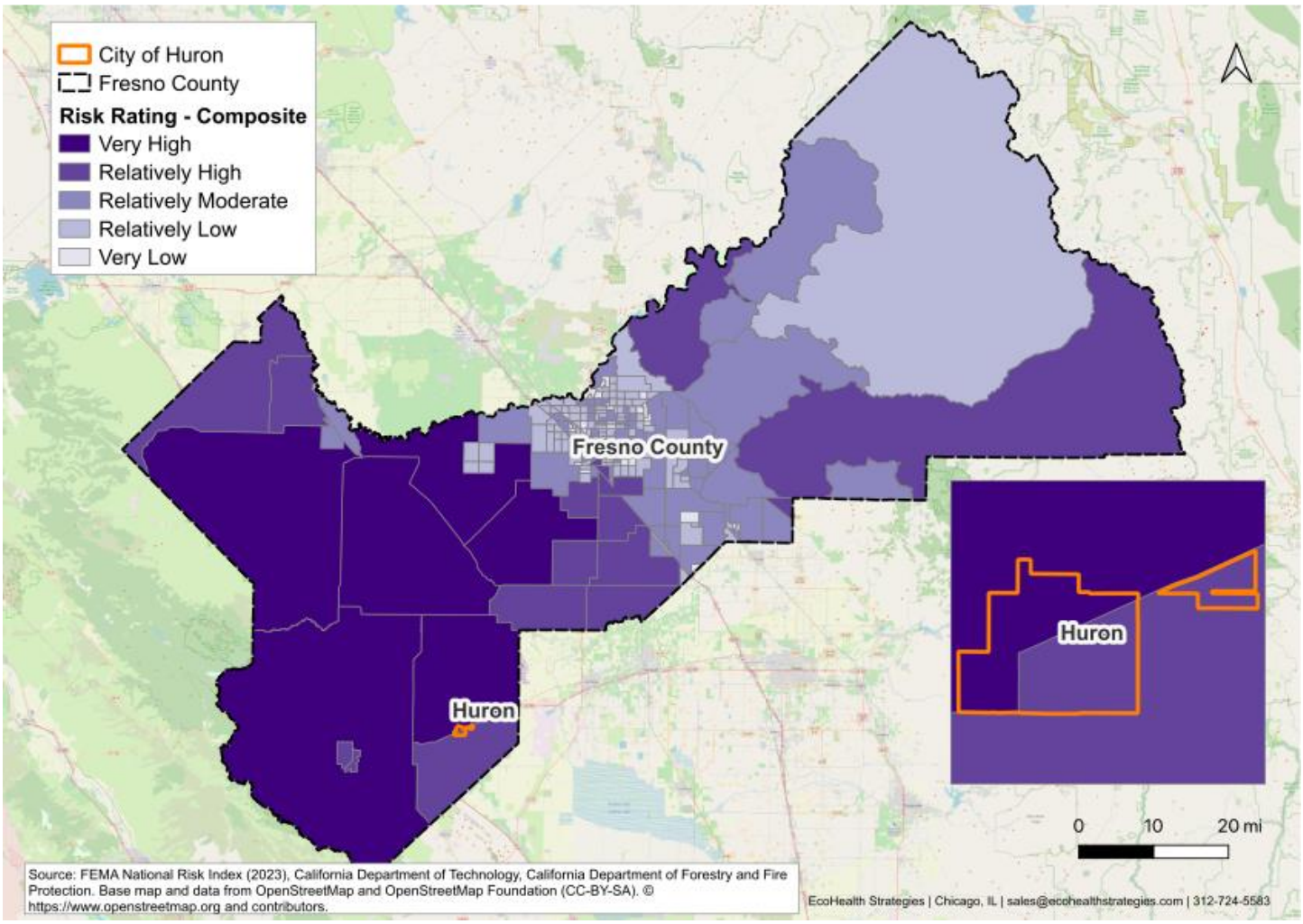
Risks and Projections

The impacts of global climate change are projected to worsen, although the extent of future impacts will depend on today’s actions. One approach to projecting climate change impacts is through Shared Socioeconomic Pathways (SSPs), which predict future climate change scenarios based on actions taken in the near-term. The scenarios range from very high emissions to high, intermediate, low, and very low emissions. Another approach to projecting climate change is through Representative Concentration Pathways (RCPs), which categorize emissions scenarios based on the warming limit. RCPs range from scenarios limiting warming to 1.5°C to scenarios exceeding warming of 4°C, representing policies and actions taken in the near-term.[55] Under a ”business-as-usual“ scenario, where no effort is taken to reduce GHG emissions, the highest SSP and RCP are projected. This means global temperatures could rise around 4ºC by 2100, which could bring severe and widespread climate impacts. For context, historically the Earth has warmed only about 0.1 to 0.3°C per century.[56]

The impacts of global climate change are interconnected and intersectional. Social and economic disadvantages can exacerbate climate extremes, as vulnerable communities are less well-situated to adapt. Per the FEMA National Risk Index (NRI), the census tracts within Huron have a relatively high or high composite risk rating, a score that is calculated based on three key factors: the risk of natural hazards (Expected Annual Loss), the risk of enhanced consequences (Social Vulnerability), and the ability of a community to reduce the risk of consequences (Community Resilience).

[53] NASA, “What Is Climate Change?”
[54] Intergovernmental Panel on Climate Change, “Climate Change 2023 Synthesis Report: Summary for Policymakers.”
[55] Intergovernmental Panel on Climate Change, “Climate Change 2023 Synthesis Report: Summary for Policymakers.”
[56] Abram et al., “Framing and Context of the Report: Supplementary Material”; National Aeronautics and Space Administration, “Evidence.”

Figure 21: Fresno County Risk Rating by Census Tract - Composite



The map above visualizes FEMA's National Risk Index (NRI) composite risk rating. The NRI dataset highlights the communities most at risk for 18 natural hazards (avalanche, coastal flooding, cold wave, drought, earthquake, hail, heat wave, hurricane, ice storm, landslide, lightning, riverine flooding, strong wind, tornado, tsunami, volcanic activity, wildfire, winter weather). The risk rating visualized in the map above combines the risk of natural hazards (Expected Annual Loss), the risk of enhanced consequences (Social Vulnerability), and the ability of a community to reduce the risk of consequences (Community Resilience). Risk values are then calculated for each census tract.[57] This is a national dataset used to contextualize the comparative risk of Huron, but is not a substitute for localized data.

This risk rating points to economic, social, and community challenges in adapting to climate change. The recommendations put forth in this CVAAP consider the Huron community's vulnerability, and seek to recommend adaptation strategies that enhance equitable resilience.

[57] Federal Emergency Management Agency, "National Risk Index Data: Technical Documentation."

Impacts

Public Health and Safety

Climate change impacts public health in numerous ways. A changing climate makes weather events—such as heatwaves, drought, and floods—more extreme. GHG emissions and the activities that contribute to them can also lead to more polluted air, water, and soil, as well as the degradation of food systems and livelihoods.[58]

In the San Joaquin Valley, where 55% of the population is considered disadvantaged, public health is more severely impacted by climate change. Socially and economically disadvantaged residents are at a higher risk of experiencing the interconnected impacts of climate change, including illnesses related to heat, air pollution, and water pollution.[59]

Furthermore, experiencing climate extremes can negatively impact mental health. Trauma from the direct impacts of extreme weather events and natural disasters,[60] anxieties about the impact of drought on work opportunities and livelihood,[61] and solastalgia, a feeling of loss from a changing home environment,[62] can impact mental and emotional wellbeing.

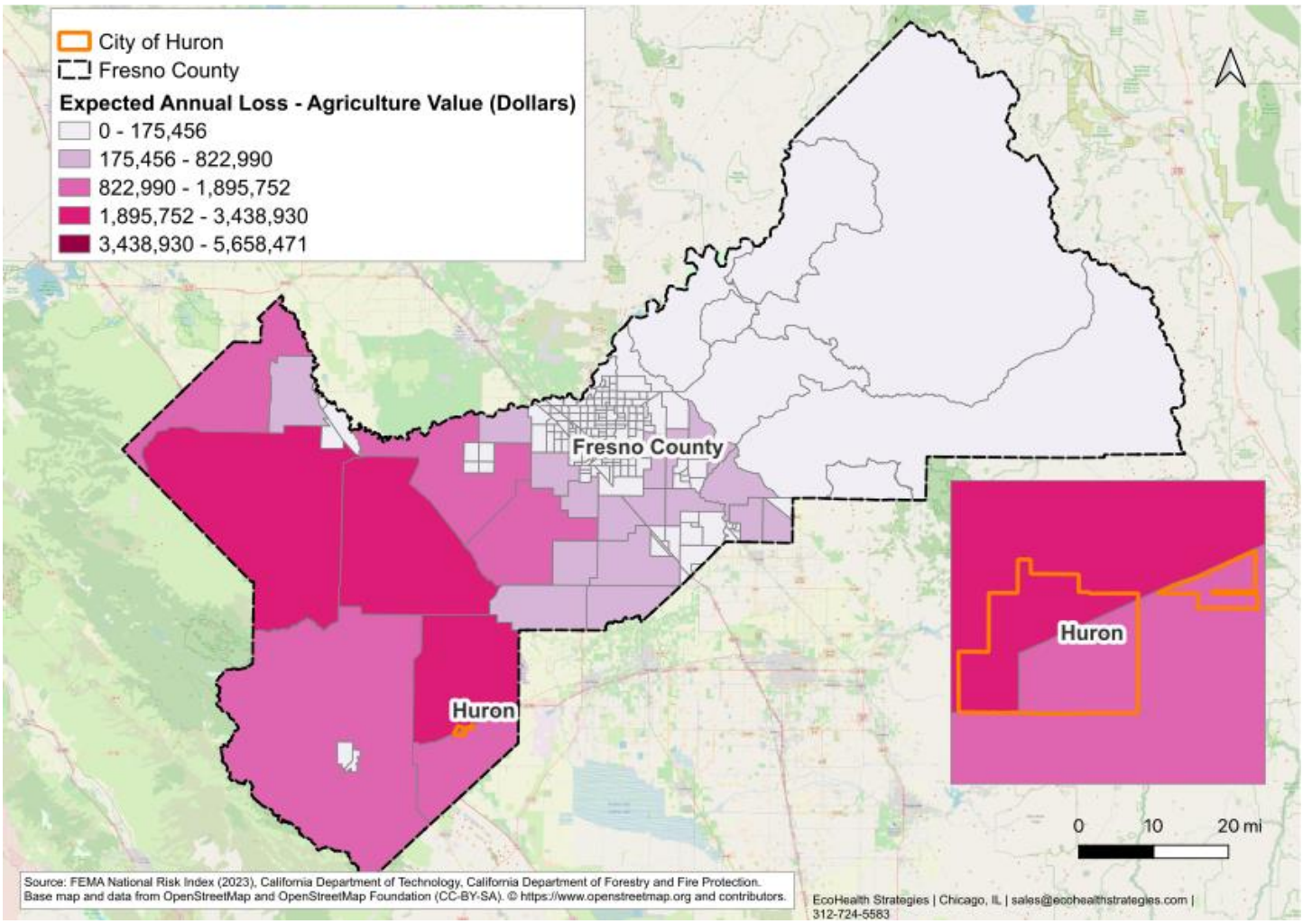
Agriculture

Agriculture is a cornerstone of the region's economy, with over half of Huron residents working in the agricultural sector (US Census Bureau, 2023). In 2023, Fresno County's agricultural industry contributed $21.664 billion to the local economy, with one in every nine jobs in the county attributed to agriculture and even more attributed to multiplier effects.[63]

Although the sector has significant local and global economic value,[64] agriculture is one of the most vulnerable industries under climate change.[65] In the San Joaquin Valley, direct impacts such as water shortages, fewer chill hours, and extreme heat, as well as indirect impacts such as pests and water scarcity, are expected to threaten crop yields and revenues.[66]

[58] World Health Organization, "Climate Change."
[59] Fernandez-Bou et al., "Regional Report for the San Joaquin Valley Region on Impacts of Climate Change."
[60] Fritze et al., "Hope, Despair and Transformation: Climate Change and the Promotion of Mental Health and Wellbeing."
[61] Greene, "Broadening Understandings of Drought – The Climate Vulnerability of Farmworkers and Rural Communities in California (USA)."
[62] Ganesh and Smith, "Climate Change, Public Health, and Policy: A California Case Study."
[63] The County of Fresno Department of Agriculture an Weights and Measures, "Economic Contributions of Fresno County Agriculture."
[64] The County of Fresno Department of Agriculture an Weights and Measures, "Economic Contributions of Fresno County Agriculture."
[65] Fernandez-Bou et al., "Regional Report for the San Joaquin Valley Region on Impacts of Climate Change."
[66] Fernandez-Bou et al., "Regional Report for the San Joaquin Valley Region on Impacts of Climate Change."

Figure 22: Expected Annual Loss in Fresno County – Agriculture Value



The map above shows the expected annual loss from agriculture in Fresno County, as determined by the FEMA NRI. Expected annual loss is a metric calculated by multiplying exposure, annualized frequency, and an historic loss ratio. The final number represents the average dollar amount lost as a result of natural hazards each year.[67] This is a national dataset used to contextualize the comparative risk of Huron, but is not a substitute for localized data.

Further, the impacts of climate change in the agricultural sector are expected to disproportionately impact rural, disadvantaged communities with populations dependent on seasonal agricultural jobs.[68] In Huron, for example, fewer workers are hired when drought forces farmers to leave fields fallow or when heat dies up nearby lettuce crops.

Transportation

The two primary kinds of risk that climate change poses to the transportation sector are physical risks and transition risks. Physical risks include the people, assets, and income damaged as a result of climate change impacts such as extreme heat, storms, and flooding. Over time, these physical risks require transit infrastructure to adapt in order to remain durable in a changing climate. Transition risks include the financial costs incurred as a result of limiting GHG emissions in the transit sector.

[67] Federal Emergency Management Agency, "National Risk Index Data: Technical Documentation."
[68] Fernandez-Bou et al., "Regional Report for the San Joaquin Valley Region on Impacts of Climate Change."

Transition risks emerge when policies, technologies, or market shifts prioritize GHG emission reductions, and can require that more money be spent upfront for infrastructure upgrades.[69]

According to an FCRTA official, Huron's transit infrastructure is not typically affected by extreme weather such as heat, storms, or floods, although transit riders may be impacted by these climate change impacts. Therefore, transition risks may be more likely, especially under the California's Advanced Clean Fleet (ACF) regulation which seeks to introduce zero-emissions vehicles to the state's truck and bus fleets.[70]

Energy

The resiliency of the electric grid has become a more pressing issue under climate change. While Huron itself is not at a high risk for wildfires, California's electric grid is vulnerable to wildfire impacts. Climate change is projected to worsen the impacts of wildfires on electrical transmission and distribution assets, especially in Northern California.[71] where the Pacific Gas and Electric Company (PG&E) is based. PG&E is one of the largest utility companies in the United States[72] and services the Huron community.

Huron residents have reported rising utility costs. Between January 2023 and April 2024, PG&E has seen costs related to wildfire management, damage repairs, and damage prevention increase by 117%. Approximately 24% of PG&E's revenue requirement—the dollar amount that a utility is allowed to collect from ratepayers to cover costs—is attributable to wildfire-related costs.[73]

In September 2025, PG&E announced a five-year, $73 billion infrastructure investment plan focused on grid resiliency, including modernization, wildfire mitigation, and preparation for increasing electricity demand from data centers and statewide electrification.[74] However, ongoing natural disasters as a result of global climate change threaten grid stability and reliability, and Huron residents may continue to encounter the consequences of these climate threats.

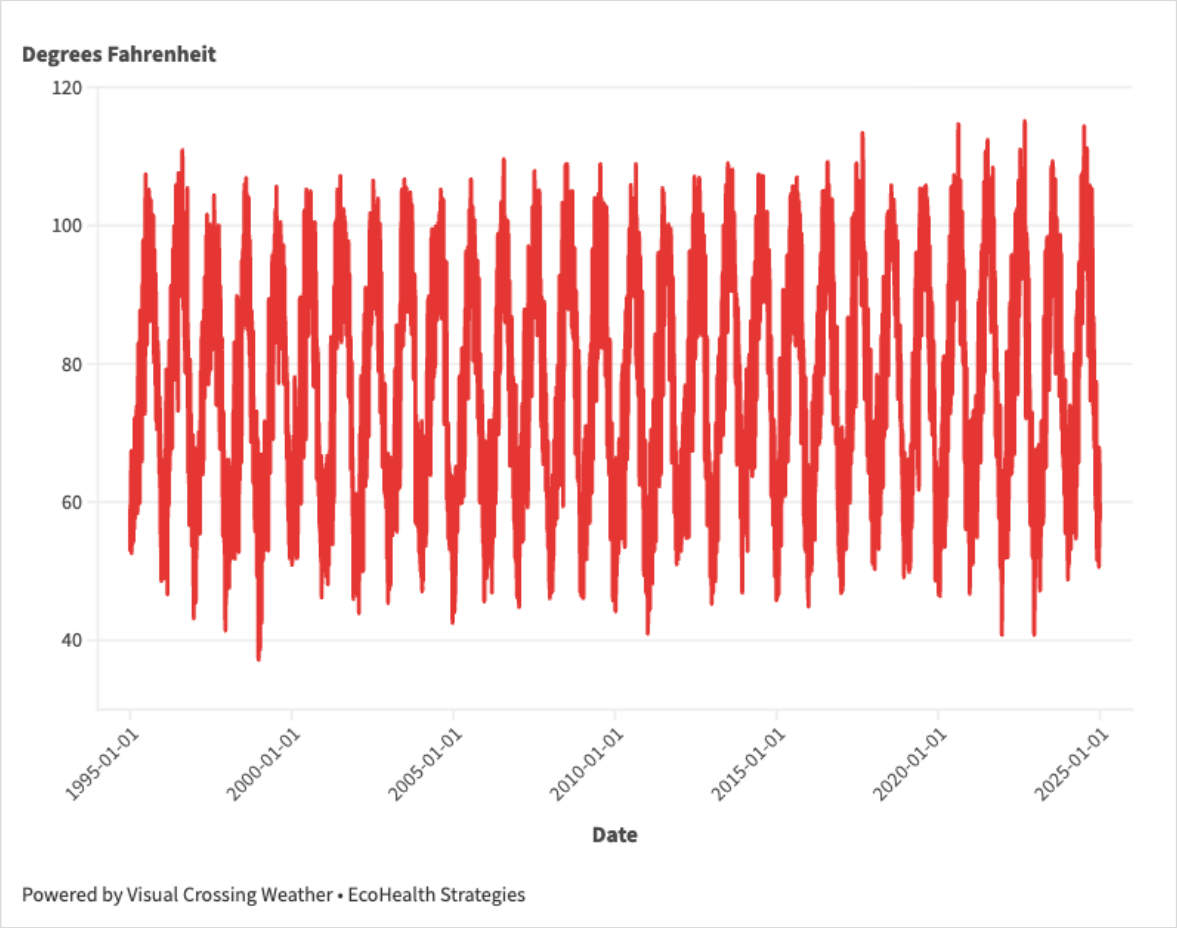
[69] Yousofi, "Climate Change Poses Risks to Neglected Public Transportation and Water Systems."
[70] California Air Resources Board, "Advanced Clean Fleets."
[71] Dale et al., "Assessing the Impact of Wildfires on the California Electricity Grid."
[72] Pacific Gas and Electric Company, "Company Profile."
[73] The Public Advocates Office, "2023-2024 Wildfire-Related Cost Increases of California's Three Major Investor-Owned Electric Utilities."
[74] Power Systems Technology, "PG&E Plans $73B Investment to Boost Grid Resilience, Support Load Growth."

Extreme Heat

Overview and Extent

Extreme heat is a relative term, often defined by unusual levels of heat and humidity for a given geographic area. Every year, extreme heat kills hundreds in the United States and causes many more serious illnesses. Heat waves, defined as extended periods of extreme heat, are becoming more frequent in major cities, lasting longer, and becoming more severe.[75] Huron is no exception to this shift; temperatures are rising in the City, and the number of days over 100 degrees Fahrenheit are increasing too.

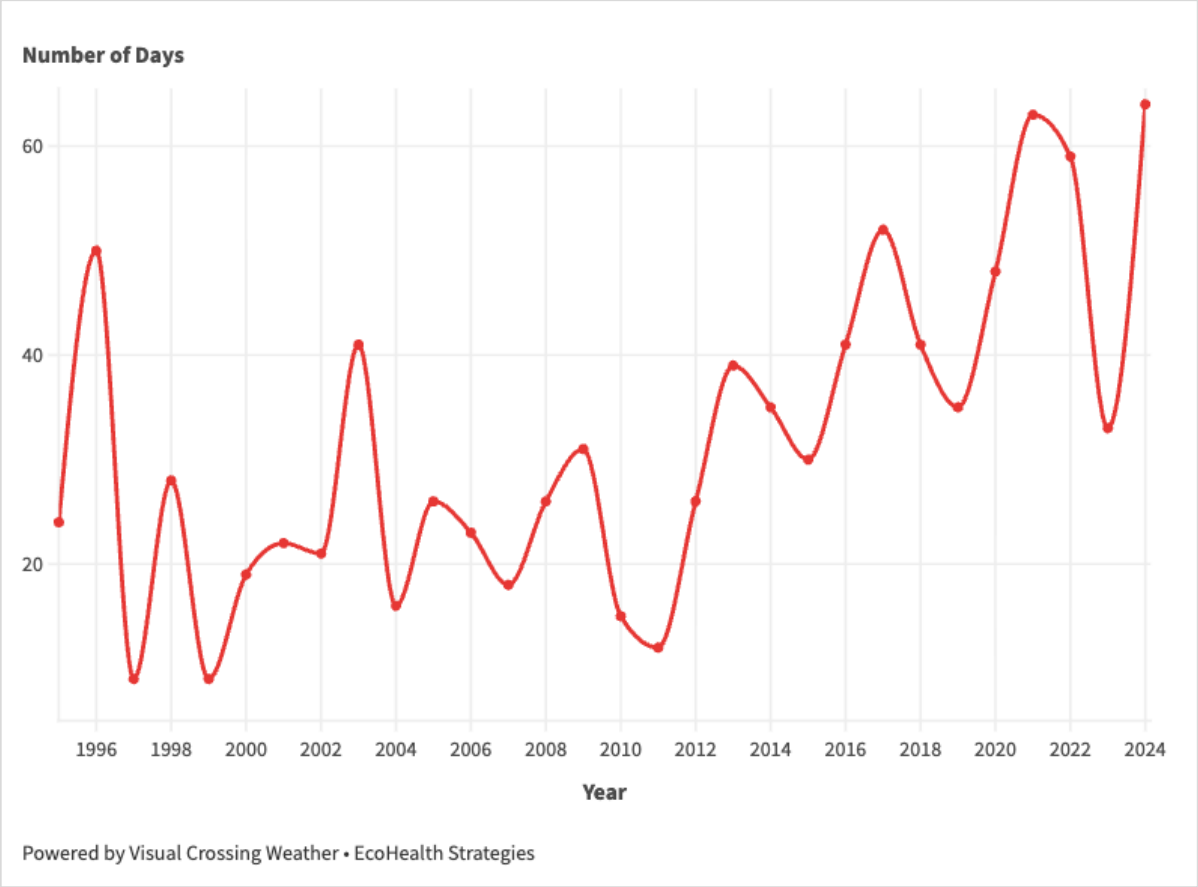
Figure 23: Maximum Daily Temperatures in Huron (1995-2024)



The chart above shows average daily temperatures for the last 30 years in Huron. The trendline shows an increase in temperatures over time. The chart includes data for the last 30 years, as this is the time period used to calculate Climate Normals. Climate Normals are 30-year averages calculated for variables such as temperature and precipitation, allowing sufficient time to determine baseline numbers.[76]

[75] United States Environmental Protection Agency and Centers for Disease Control and Prevention, "Climate Change and Extreme Heat: What You Can Do to Prepare."
[76] NOAA, "What Are Climate Normals?"

Figure 24: Number of Days at or Above 100º Fahrenheit per Year in Huron (1995-2024)



The chart above shows the number of days with a maximum daily temperature at or above 100 degrees Fahrenheit. The overall trend shows that these extreme heat days have been increasing in Huron in the last 30 years.

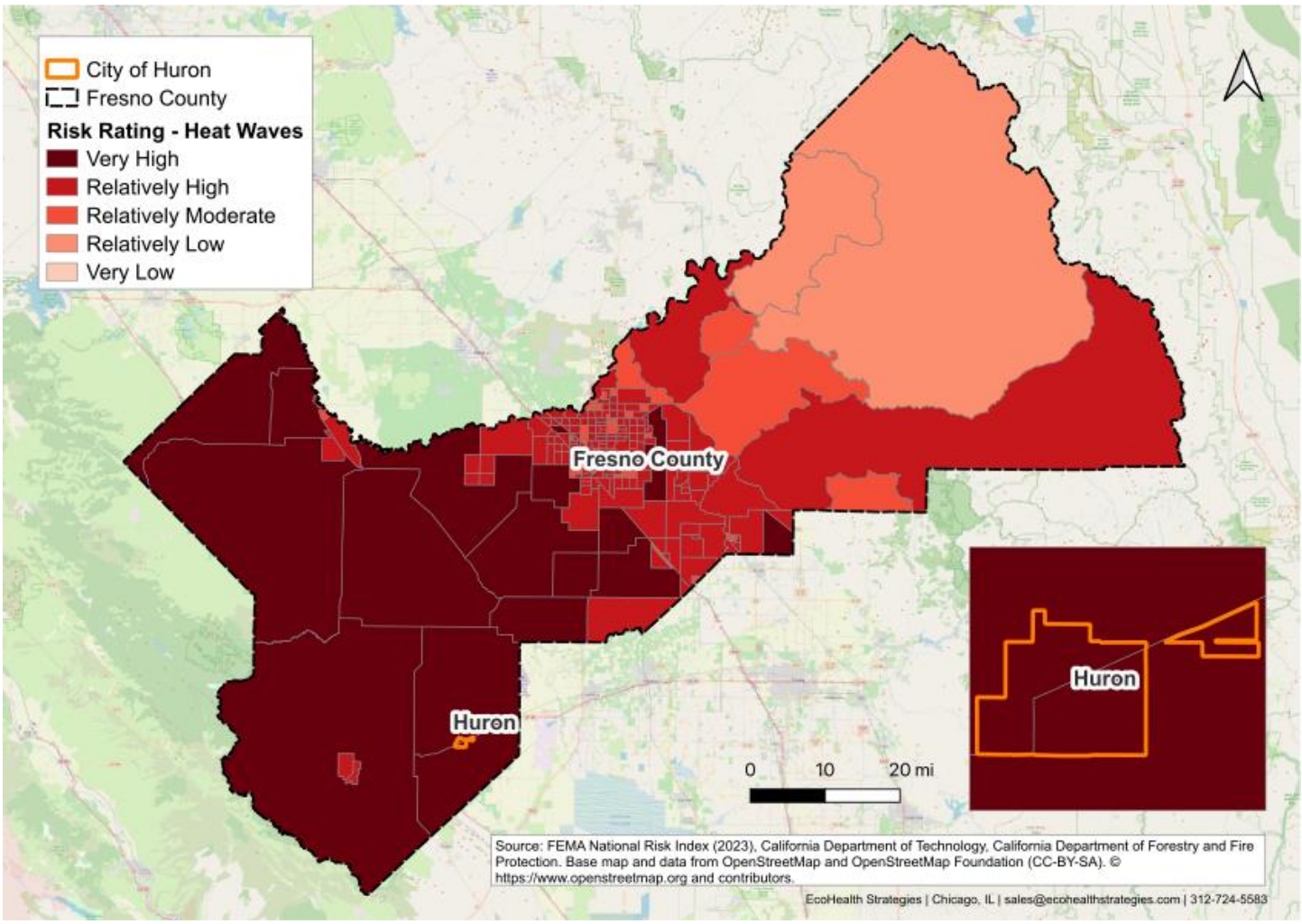
The urban heat island effect refers to a phenomenon where cities are generally hotter than their surrounding areas. This occurs because urban infrastructure such as buildings and roads absorbs and re-emits heat from the sun more than vegetation and bodies of water. In cities lacking green spaces, temperatures can range anywhere from one degree to seven degrees higher than surrounding areas during the day, and two degrees to five degrees higher at night.[77]

Risks and Projections

The City of Huron has a “very high risk” rating for heat waves, according to FEMA’s National Risk Index (NRI). This rating considers Expected Annual Losses, Social Vulnerability, and Community Resilience for heat to calculate and categorize risk.

[77] United States Environmental Protection Agency, “Learn About Heat Island Effects.”

Figure 25: Fresno County Risk Rating by Census Tract – Heat Waves



The map above visualizes FEMA's National Risk Index (NRI) risk rating for heat waves, which represents census tracts' relative risk for experiencing heat waves compared to the rest of the United States.[78] The census tracts within Huron both have "very high" heat wave risk. To learn more about the methodology underscoring FEMA's risk ratings, see Understanding Scores and Ratings. This is a national dataset used to contextualize the comparative risk of Huron, but is not a substitute for localized data.

In the San Joaquin Valley, extreme heat days are projected to grow from 5 days annually in 2021 to up to 68 days annually by the end of the century, and warm nights are projected to grow from 5 to 64.[79]

Impacts

Public Health and Safety

Extreme heat is a top health concern in the San Joaquin Valley, as it can lead to respiratory, nervous, and cardiovascular system impacts, as well as heat stroke, dehydration, and negative health outcomes from lack of sleep during warm nights.[80]

[78] Federal Emergency Management Agency, "National Risk Index Data: Technical Documentation."
[79] Fernandez-Bou et al., "Regional Report for the San Joaquin Valley Region on Impacts of Climate Change."
[80] Fernandez-Bou et al., "Regional Report for the San Joaquin Valley Region on Impacts of Climate Change."

Huron's farmworker community is especially at risk of experiencing health complications from extreme heat. Mortality from heat-related illness is 20 times higher among U.S. farmworkers than in private and non-federal government sectors. This discrepancy is due to elevated heat exposure, as well as unique vulnerabilities that increase heat risk such as low wages, social and cultural isolation, barriers to accessing medical care, substandard housing, and insufficient regulatory standards.[81]

In conversations with Huron community members, many referenced the extreme heat, noting that "It's too hot to do anything outside," "Heat makes it difficult for kids to play sport in warm months." and "105-degree weather causes heat strokes for workers," among other things.

Agriculture

Huron's agricultural sector is also at risk due to rising temperatures and heatwaves. Huron is situated within California's Area 3, a USDA region spanning the San Joaquin Valley and western Sierra Nevada Foothills. The primary crops in Area 3 include almonds, pistachios, stone fruit, wine and table grapes, and tomatoes, all of which will face impacts from hotter summers, warmer winters, and fewer chill hours.

- **Almonds** are vulnerable to increasing summer heat, warmer winter weather, water stress, and declining bee populations. Further, warmer temperatures can increase pest pressure on the crops. Considering the high market value of almonds, low-chill, self-pollinating, and insect resistant almond varieties will likely need to be considered for development as temperatures rise.
- **Tomatoes** thrive between 75- and 96-degree Fahrenheit temperatures during the day and 55- and 70-degree Fahrenheit temperatures at night. While mitigation strategies, such as shade and cooling, can be implemented for extreme heat, rising temperatures may push many Area 3 locations outside of the optimal range for tomato production. The outcome of this shift may be transitioning to heat-tolerant varieties or new crops altogether.
- **Pistachios** are vulnerable to increasing winter temperatures, as they have a high chill requirement. Pistachios may also experience increased pest pressure under warming temperatures, similar to almonds. Lower chill pistachio varieties are a viable option, along with managing for uniform maturity timing to mitigate pest pressure in the summers.
- **Stone fruits** are sensitive to high summer temperatures, extreme heat events, and warmer winter temperatures. Impacts include smaller fruit sizes and sunburn. Extreme heat can also lead to extreme evaporation, stressing irrigation systems and damaging fruit. New, low-chill varieties will likely have to be considered.
- **Wine and table grapes** experience flavor and quality impacts under rising temperatures. These high value commodities may need to be replaced with more heat-tolerant varieties. Other adaptive approaches to canopy misting, irrigation, trellising, canopy management, partial shading, reflective materials spray, and taller vine training height could be useful as well. Planting new varieties would require strategic marketing and consumer buy-in.[82]

[81] Holst et al., "Heat Stress Threatens Agricultural Workers' Health as U.S. Temperatures Rise."
[82] United States Department of Agriculture, "Climate Vulnerabilities of California Specialty Crops."

Transportation

According to information provided by the FCRTA, ridership is highest in Huron during the Spring and late Summer/early Fall seasons, which are also the hottest times of year. In March, April, and May, ridership averages almost 1,200 riders monthly. In August, September, and October, ridership is almost as high as in Spring. Early mornings and mid-afternoons are the busiest times of day, with ridership typically peaking during the hour of 2:00 pm at 1,603 riders out of an almost 10,000 total riders. The second busiest time of day spans 7:00 am to 9:00 am, averaging around 1,200 total riders.

Extreme heat in the summer months does not interfere with transit operations, and transit usage is typically high during this time of year. However, Huron residents have reported challenges with public transit due to heat. The bus stops at the Post Office and Dollar General store do not have shelters, and the Dollar General stop also lacks a bench. With ridership peaking during the hottest times of the year and day, standing outside without shade or sun can increase community risk to heat-related impacts. Further, Huron residents have reported incidents of buses driving by people waiting at bus stops without picking them up, lengthening outdoor wait times and increasing risk exposure.

Energy

Heat waves can impact grid reliability, leading to occasional power outages as demand for cooling increases.[83] During the hottest months and times of day, increased usage of air conditioning places stress on the electric grid.[84] Furthermore, solar energy is common within Huron and the region due to the high prevalence of sunny days. Within Huron, solar panels power the water treatment plant, wastewater treatment plant, and old City Hall building. However, extreme heat can impact the efficacy of solar energy, as high temperatures can make solar panels operate less efficiently. When nights are warmer, solar panels do not have the opportunity to cool down, causing further stress to the system's infrastructure.[85]

Flooding

Overview and Extent

Flooding occurs when water overflows onto land that is typically dry.[86] A community's risk of severe flooding can increase as a result of heavy rains, poor drainage systems, and even nearby construction.[87] In Huron, localized flooding is a common issue. Localized flooding occurs as a result of heavy rains running off impervious surfaces, such as sidewalks and roads, and can be coupled with inadequate drainage systems. Flash floods occur when localized flooding happens in high volumes during short periods of time.[88]

[83] Pacific Gas and Electric Company, *2024 Annual Electric Reliability Report*.
[84] Cho, "How Climate Change Impacts Renewable Energy."
[85] Cho, "How Climate Change Impacts Renewable Energy."
[86] National Oceanic & Atmospheric Administration, "Severe Weather 101."
[87] Federal Emergency Management Agency, "Flood Maps."
[88] The County of Fresno, "Fresno County Hazard Mitigation Plan."

Slow rise flooding is another risk to Huron, wherein waterways are overwhelmed with heavy precipitation.[89] This type of flooding occurred when Arroyo Pasajero, the largest drainage area in the western San Joaquin Valley, was flooded in 1995.[90]

In California, many large-magnitude floods occur as a result of atmospheric rivers, long corridors of water vapor that are formed by high-powered winds dragging across the Pacific Ocean.[91] Atmospheric river storms account for the majority of precipitation in California during winter and early spring rainy seasons. While this is a statewide threat, the San Joaquin Valley is at higher risk of climate-driven flooding than the rest of California due to its economic and political disadvantages compared to other regions. These disadvantages limit their ability to make significant flood-control investments.[92]

Finally, the San Joaquin Valley faces elevated flood risk because the Sierra Nevada mountains are taller in the south than the north, leading more rain to fall at higher elevations of the southern Sierra as temperatures rise and posing a threat to the region's reservoirs.[93]

Risks and Projections

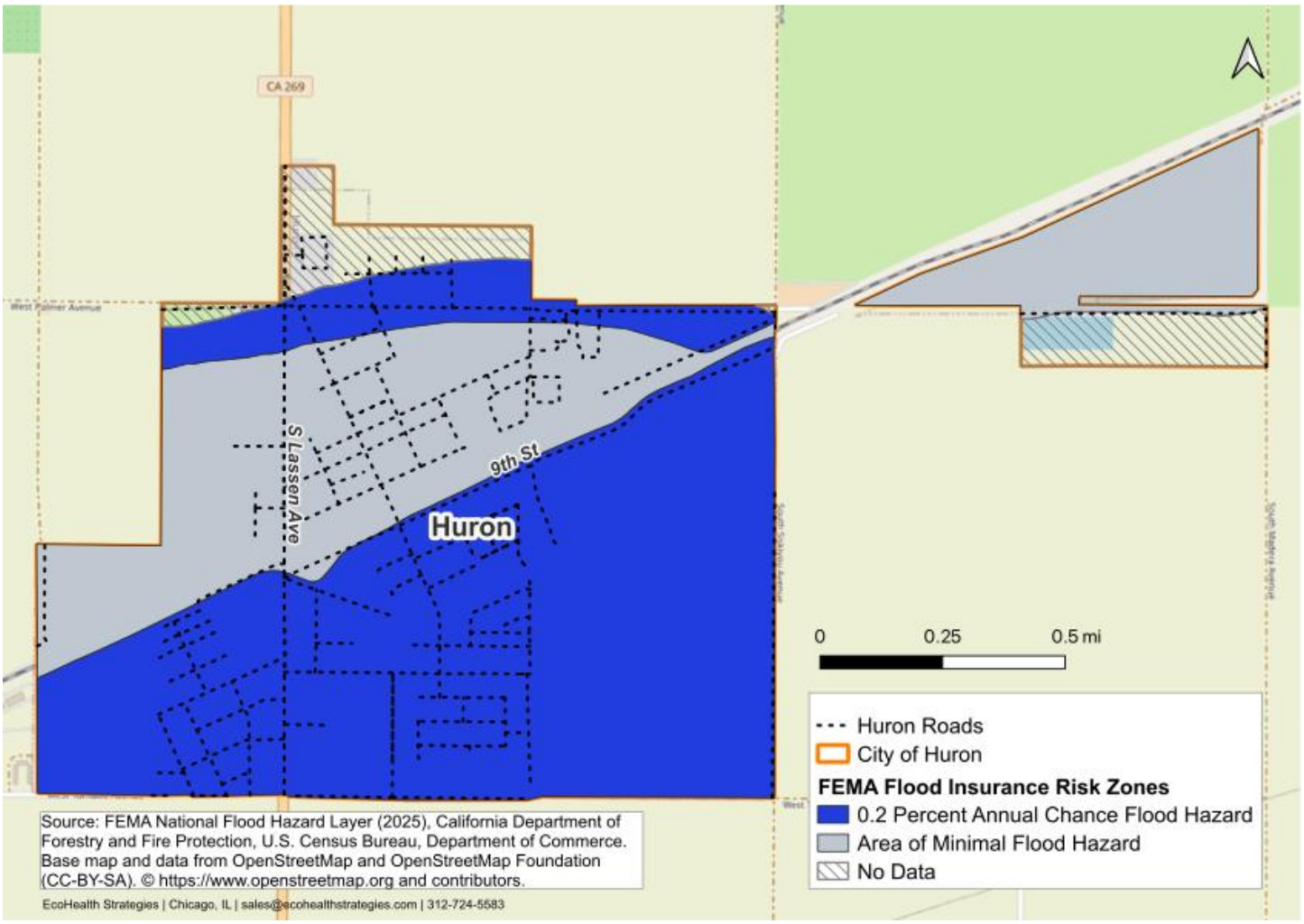
Climate change has already made the risk of catastrophic flooding in California twice as likely, and future warming is projected to worsen flood risk. By the end of the 21st century, certain atmospheric rivers in the state could produce up to four times as much rain as any storm has in recorded history.[94]

FEMA is a key agency tracking flood risk and identifying flood hazard areas. Per FEMA's categorization, Special Flood Hazard Areas (SFHAs) have a 1% chance of flooding in a given year. These are also known as 100-year floodplains. Moderate flood hazard zones fall in between the SFHA and zones having a 0.2% chance of flooding in a given year, also known as 500-year floodplains. Areas of minimal flood hazard are outside of the SFHA and have an elevation higher than 0.2% chance annual flood zones.[95]

The western part of Fresno County is prone to flooding during storms, and Arroyo Pasajero is prone to flooding Lassen Avenue leading into Huron.[96] Much of Huron is situated within a 500-year floodplain, including the areas below 9th Street and parts of Lassen Avenue. According to conversations with City officials, Lassen Avenue below 9th Street is the most prone to flooding during heavy rains.

[89] California Department of Water Resources, *Glossary*.
[90] The County of Fresno, "Fresno County Hazard Mitigation Plan"; Abc30 Action News, "New Bridge on Hwy 269 to Make Roadway Safer for Drivers."
[91] Ecosystems Land Change Science Program, "Causes and Consequences of Flooding in California's Central Valley"; Sabalow and Kasler, "California Is at Risk of a Mega-Flood. Are Central Valley Communities Prepared for It?"
[92] Sabalow and Kasler, "California Is at Risk of a Mega-Flood. Are Central Valley Communities Prepared for It?"
[93] Sabalow and Kasler, "California Is at Risk of a Mega-Flood. Are Central Valley Communities Prepared for It?"
[94] Huang and Swain, "Climate Change Is Increasing the Risk of a California Megaflood."
[95] FEMA, "Flood Zones."
[96] The County of Fresno, "Fresno County Hazard Mitigation Plan."

Figure 26: FEMA Flood Insurance Risk Zones in Huron



The map above shows FEMA's flood insurance risk zones. 0.2% Annual Chance Flood Hazard zones are areas having a 0.2% chance of flooding in a given year, also known as 500-year floodplains.[97] The areas below 9th Street and on the north end of the City are within a 500-year floodplain.

Overall, 27 out of 1,141 properties in Huron are at risk of flooding in the next 30 years, which accounts for 2.4% of all properties within the City's boundaries.[98]

Impacts

Public Health and Safety

Statewide, floodwaters could pose serious threats to the lives of Californians, displace millions, and close major roadways, leading to $1 trillion in economic losses.[99] Standing water can also be a breeding ground for bacteria, mold, and viruses, and floodwaters containing sewage can carry

[97] FEMA, "FEMA Flood Map Service Center: Search By Address."
[98] First Street, "Huron Flooding Risk."
[99] Sabalow and Kasler, "California Is at Risk of a Mega-Flood. Are Central Valley Communities Prepared for It?"

infectious diseases,[100] which can impact human health as well as the stray dogs within Huron. Finally, intense flooding can impact the ability of students to attend school and access education.[101]

Agriculture

Flooding can impact agricultural production, as well as the distribution channels for agricultural produce. In the San Joaquin Valley, crops in flood-prone farmland must be able to withstand weeks of standing water, and sometimes even months.[102] Statewide, flooding fields can damage produce and disrupt supply chains.[103] Since the local economy is primarily based in agriculture and related businesses, flooding poses a major risk for the city's economy.

Drainage Systems

Intense flooding can overwhelm municipal stormwater management systems, leading to system backups. Localized flooding or contaminated runoff can occur as a result. Stormwater runoff can also carry sediment, nutrients, or other pollutants into bodies of water, leading to impaired water quality.[104]

Transportation

In 2017, Caltrans and the CHP shut down Lassen Avenue due to flash flooding. With Lassen Avenue being the main road in and out of Huron, its repetitive flooding challenges residents and others moving through the City. Lassen Avenue is also the primary truck route, transporting goods such as produce and nuts from farms,[105] making its use vital for Huron's economy.

Energy

Heavy precipitation, including from atmospheric rivers, could threaten transmission system assets within floodplains. Much of the Central Valley sits within floodplains, and extended periods of water exposure can cause chronic and acute damage to transmission equipment. Some potential risks include:

- **Erosion** surrounding the bases of transmission poles or towers that can challenge structural integrity.
- **Water intrusion and capture** in structural elements above the ground, causing harm over time due to corrosion or freeze-thaw cycles.
- **Obstacles to accessing and repairing structures**, due to blocked roads or flooded ground conditions.
- Decreased distance between the surface (standing water) and the above-ground electrical source, also known as a **clearance violation**.[106]

[100] The County of Fresno, "Fresno County Hazard Mitigation Plan."
[101] Fernandez-Bou et al., "Regional Report for the San Joaquin Valley Region on Impacts of Climate Change."
[102] Vad, "Climate Change Is Pushing More San Joaquin Valley Farmers to Buy Crop Insurance as Losses Mount."
[103] Burke, "Barrage of Severe Storms Devastates California Businesses and Impacts the Nation's Food Supply."
[104] NOAA, "Understanding Stormwater Inundation."
[105] Abc30 Action News, "Main Roadway to Huron Flooded after Storm."
[106] Pacific Gas and Electric Company, "PG&E Climate Adaptation and Vulnerability Assessment."

Drought

Overview and Extent

Drought is a prominent issue in the Central Valley. Defined as "a deficiency in precipitation over an extended period," droughts can last weeks, months, or years, and can exacerbate many other climate hazards including wildfires, groundwater depletion, or issues with agricultural production.[107]

Droughts can be classified in the following ways:

- **Meteorological drought** is defined as a period of diminished precipitation.
- **Agricultural drought** is defined by insufficient soil moisture to meet crop needs.
- **Hydrological drought** is defined by deficient surface and groundwater supply.
- **Socio-economic drought** occurs when drought impacts on human and economic wellbeing.[108]

Hydrological drought is a prominent issue in the San Joaquin Valley. With limited surface water availability during drought periods, growers turn to groundwater pumping.[109] As a result of over-pumping, the ground can begin to sink. This is a phenomenon called land subsidence.[110] In the Central Valley, land subsidence is increasing, with the potential of damaging key infrastructure and permanently compacting groundwater storage.[111]

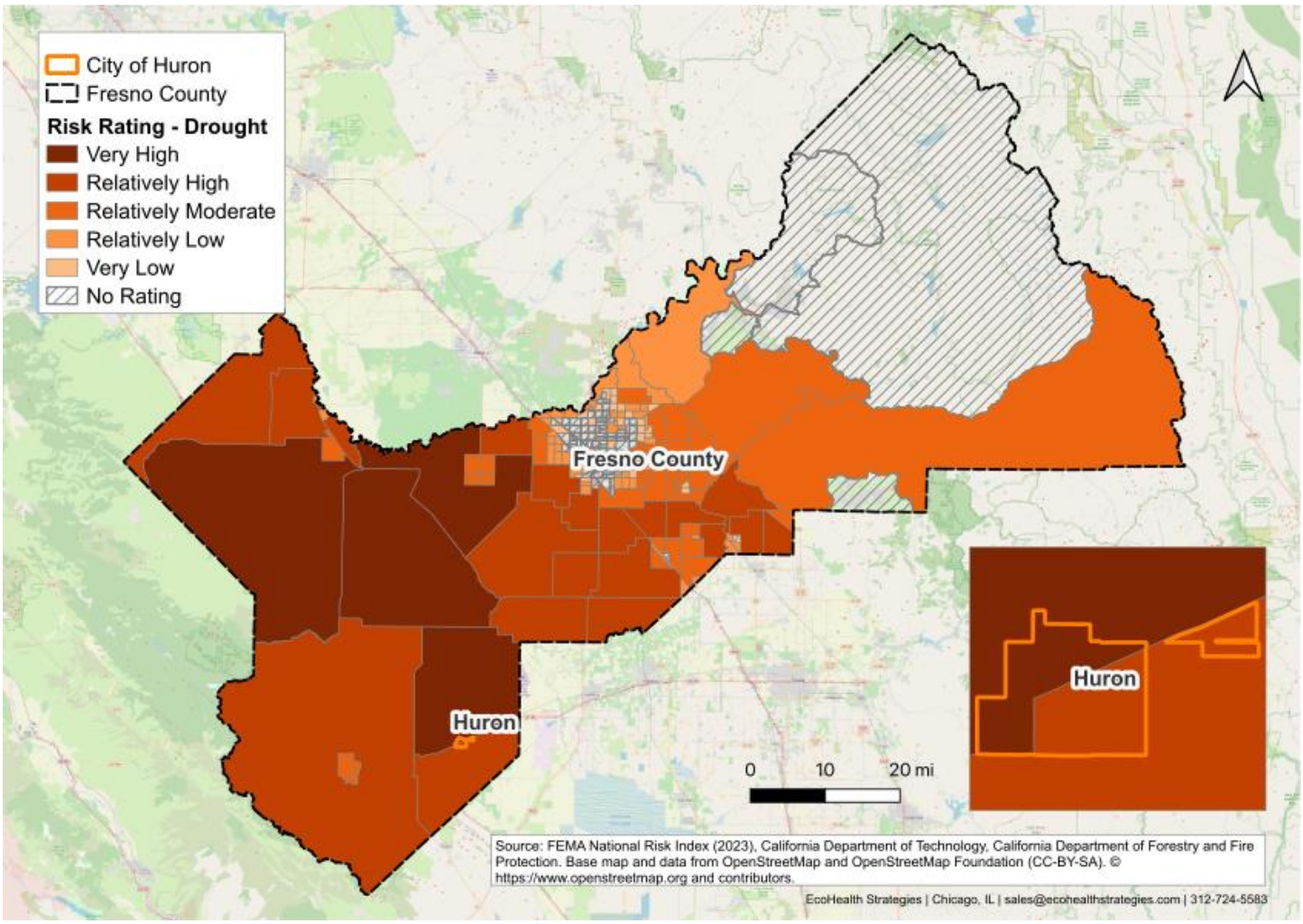
Huron relies primarily on surface water for municipal use. There is one well that has yet to come online, at which point the City will be on Westland Water District Groundwater Sustainability Plan (GSP). Huron is also working on a new surface water treatment plant.

Risks and Projections

Per the FEMA NRI, the census tracts within Huron are at a relatively high or very high risk of drought compared to the rest of the county.

[107] National Weather Service, "Understand Drought and Know How to Respond."
[108] The County of Fresno, "Fresno County Hazard Mitigation Plan."
[109] Escriva-Bou et al., "Drought and California's Agriculture."
[110] California Department of Water Resources, "California Aqueduct Subsidence Program."
[111] Fernandez-Bou et al., "Regional Report for the San Joaquin Valley Region on Impacts of Climate Change"; Barringer, "To Save Crops, Farmers Took Groundwater. Then the Land Sank."

Figure 27: Fresno County Risk Rating by Census Tract – Drought



The map above visualizes FEMA's National Risk Index (NRI) risk rating for drought, which represents census tracts' relative risk for experiencing drought compared to the rest of the United States.[112] *The census tracts within Huron have been assigned "relatively high" or "very high" drought risk. To learn more about the methodology underscoring FEMA's risk ratings, see Understanding Scores and Ratings. This is a national dataset used to contextualize the comparative risk of Huron, but is not a substitute for localized data.*

While drought is a natural component of the state's climate, drought periods are becoming more intense due to climate change and associated warming.[113] The quantity of water needed for large-scale agricultural production, especially water-intensive crops such as almonds and pistachios, further stresses the Central Valley's water supply and puts Huron and nearby areas at elevated risk.[114]

[112] Federal Emergency Management Agency, "National Risk Index Data: Technical Documentation."
[113] State of California Office of Environmental Health Hazard Assessment, "Drought."
[114] DeLonge, "In California's Central Valley, Drought Is a Growing Threat to Farms, Food, and People."

Impacts

Public Health and Safety

Drought conditions in the San Joaquin Valley cause dry, dusty soils, which can contribute to diseases such as Valley Fever, a fungal infection that can lead to fever, cough, and fatigue. In fact, the San Joaquin Valley is the California region with the highest occurrence of Valley Fever.[115] Due to the nature of the disease, farmworkers and outdoor workers are disproportionately impacted.

Agriculture

During drought periods, the agricultural sector is significantly impacted. Key crops such as almonds and stone fruits are water intensive, making water stress and scarcity particularly challenging.[116]

In Huron, extended periods of drought have contributed to an increase in agricultural fields left fallow or out of production. During California's driest three years on record—2020 to 2022—farmworkers reported difficulty finding agricultural jobs and being financially impacted as a result. The state's 2014 Sustainable Groundwater Management Act (SGMA), which seeks to protect groundwater supply, has resulted in even less water for agriculture.[117] In conversations with Huron residents, many expressed concerns over the economic impact of drought on agricultural jobs. Farmworkers noted that water scarcity, and the related decisions to let fields go fallow, have led to decreased work opportunities.

Energy

Land subsidence associated with groundwater depletion can pose a risk to energy infrastructure by exposing wood support structures to decay. However, land subsidence does not currently threaten any of PG&E's transmission assets.[118]

Water Quality

Though Huron primarily relies on surface water, the impacts of drought on groundwater quality may become relevant into the future. A study of 30-year data from the Central Valley found the groundwater quality worsened during drought periods. This is likely because increased groundwater pumping draws shallow, contaminated groundwater to wells used for public drinking water.[119]

[115] Fernandez-Bou et al., "Regional Report for the San Joaquin Valley Region on Impacts of Climate Change."
[116] United States Department of Agriculture, "Climate Vulnerabilities of California Specialty Crops."
[117] Montalvo, "How This Valley City Plans on Surviving Historic Drought."
[118] Pacific Gas and Electric Company, "PG&E Climate Adaptation and Vulnerability Assessment."
[119] Levy et al., "Critical Aquifer Overdraft Accelerates Degradation of Groundwater Quality in California's Central Valley During Drought."

Air Pollution

Overview and Extent

The San Joaquin Valley's topography traps pollution from vehicles, oil and gas production, agriculture, and wildfires, contributing to some of the worst air quality in the country.[120]

The American Lung Association (ALA) scores national county air quality based on high ozone days, short-term partial pollution, and annual particle pollution using weighted averages. For the former two metrics, the ALA calculates weighted averages to assign a grade of A, B, C, D, or F. For annual partial pollution, the ALA passes or fails a county based on the EPA's National Ambient Air Quality Standard. In the ALA's 2025 "State of the Air" scorecard, Fresno County received an F for high ozone days, an F for short-term particle pollution, and a Fail for annual partial pollution.[121] For more information on the ALA scoring methodology, see Statistical Methodology: The Air Quality Data.

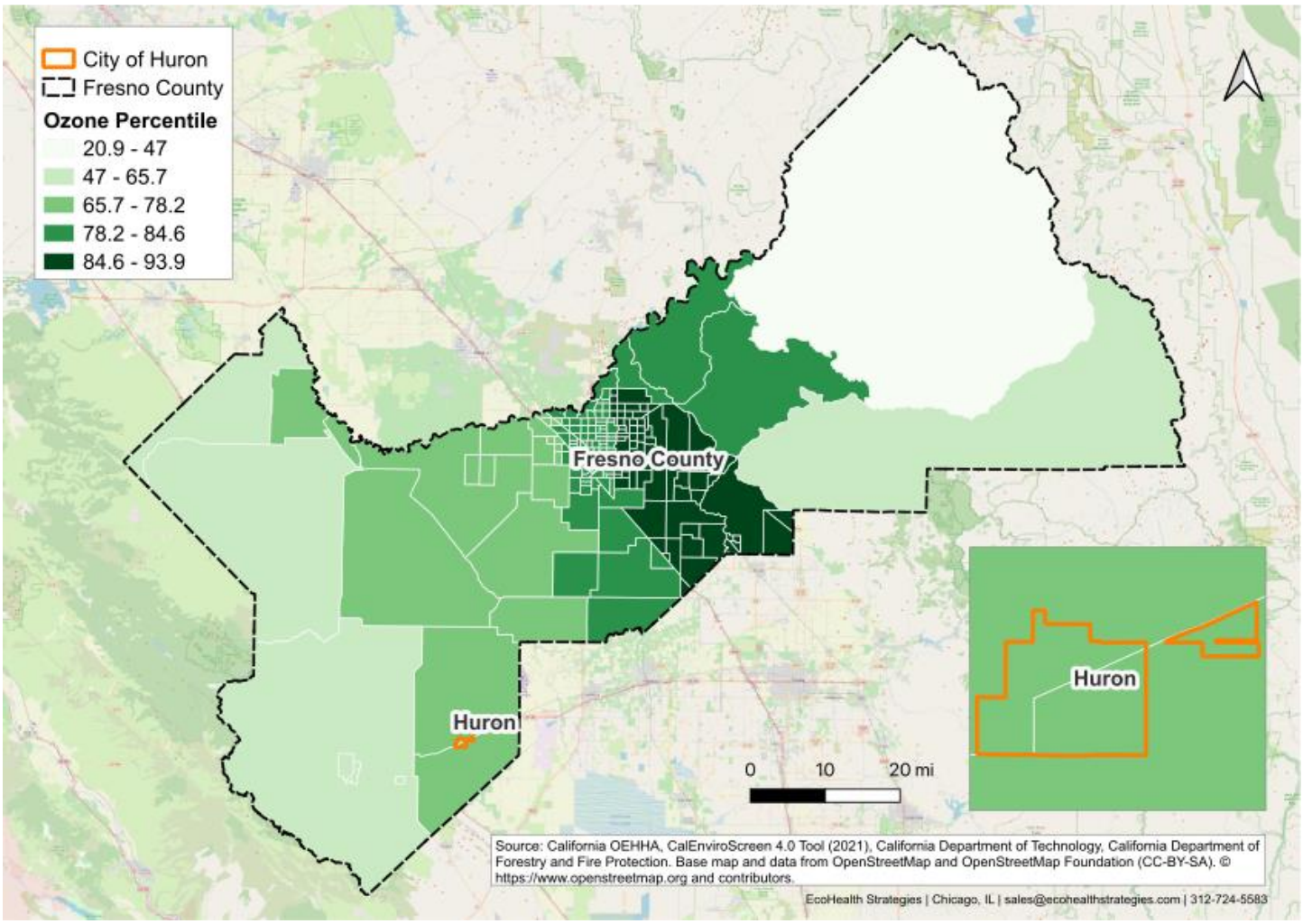
Ground-level ozone is formed when pollutants from cars, power plants, industrial boilers, refineries, chemical plants, and other sources react with sunlight, and can be harmful to human health.[122] Particle pollution is comprised of PM10 and PM2.5. PM10 is particulate matter with a diameter of 10 micrometers or smaller, and PM2.5 is particulate matter with a diameter of 2.5 micrometers or smaller. Sources of particle pollution are varied, including both direct pollutant emissions and chemical reactions in the air. Both PM10 and PM2.5 are small enough to inhale, and can cause serious health impacts.[123]

Risks and Projections

Per the FEMA NRI, the census tracts within Huron are in the 70.66th percentile and 75.35th percentile in ozone pollution, and the 48.77th percentile and 50.77th percentile in PM2.5 pollution. The center of the county, near the City of Fresno, rates highest in ozone and PM2.5 pollution.

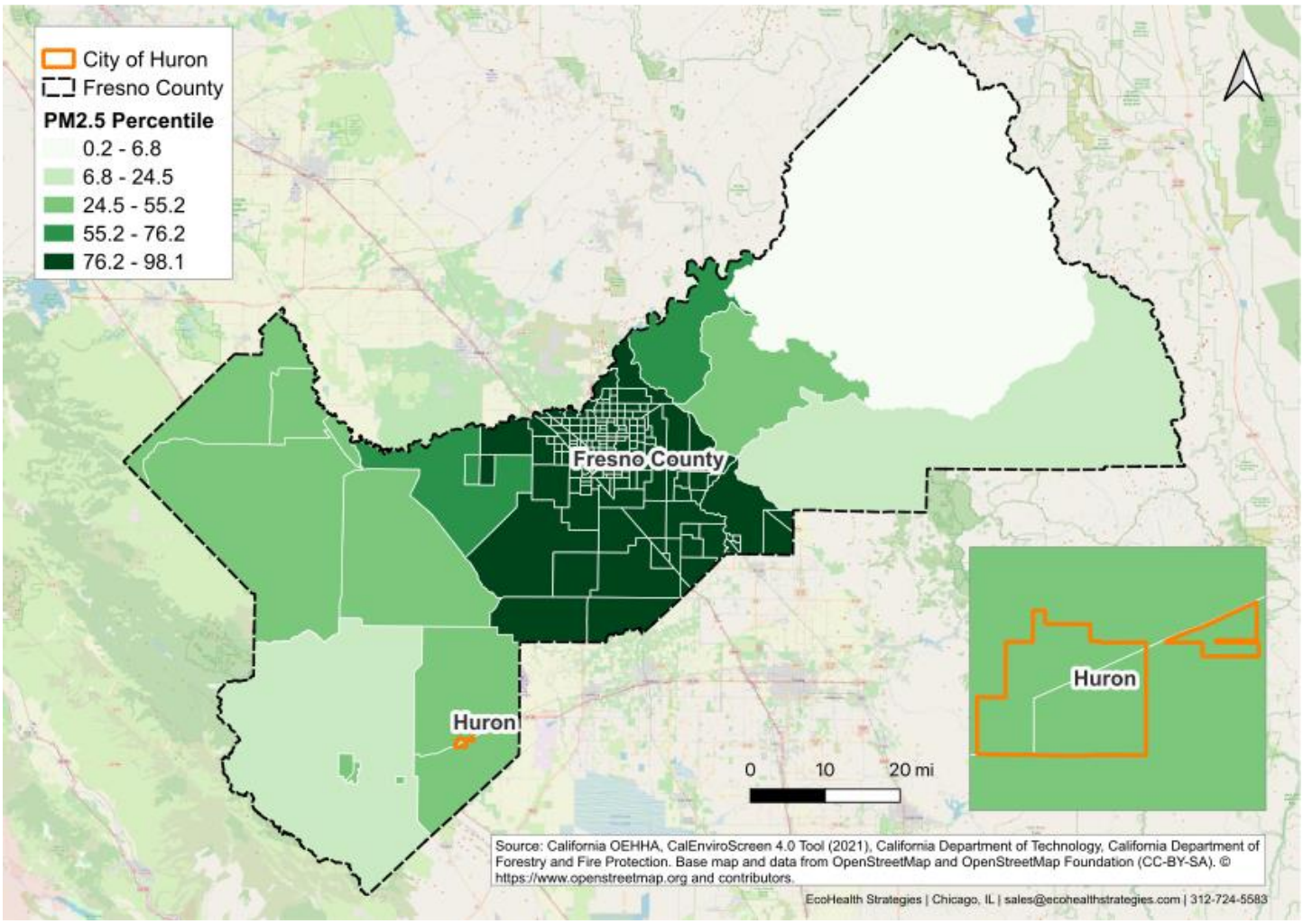
[120] Fernandez-Bou et al., "Regional Report for the San Joaquin Valley Region on Impacts of Climate Change."
[121] American Lung Association, "California: Fresno."
[122] United States Environmental Protection Agency, "Ground-Level Ozone Basics."
[123] United States Environmental Protection Agency, "Particulate Matter (PM) Basics."

Figure 28: Fresno County Ozone Percentile by Census Tract



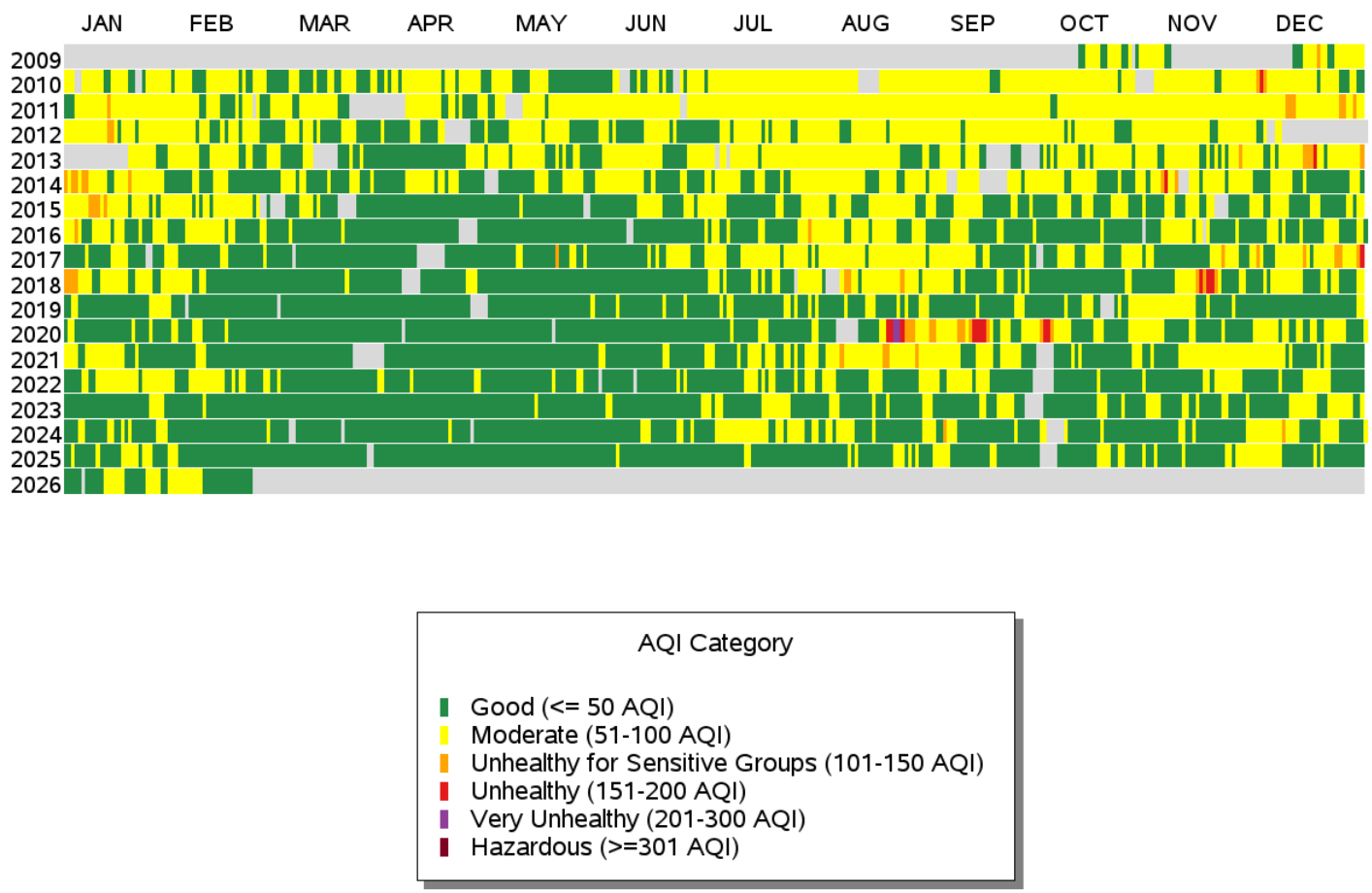
The map above shows the ozone percentile for each census tract in Fresno County, compared to ozone pollution nationally. The census tracts within the City of Huron are in the 70.66th percentile and 75.35th percentile in ozone pollution. The center of the county, near the City of Fresno, is in the highest percentile.

Figure 29: Fresno County PM2.5 Percentile by Census Tract



The map above shows the PM2.5 percentile for each census tract in Fresno County, compared to PM2.5 pollution nationally. The census tracts within the City of Huron are in the 48.77th percentile and 50.77th percentile in PM2.5 pollution. The center of the county, near the City of Fresno, is in the highest percentile.

Figure 30: Daily Air Quality Index (AQI) Values in Huron (2009-2026)



Source: U.S. EPA AirData <https://www.epa.gov/air-data>
Generated: February 23, 2026

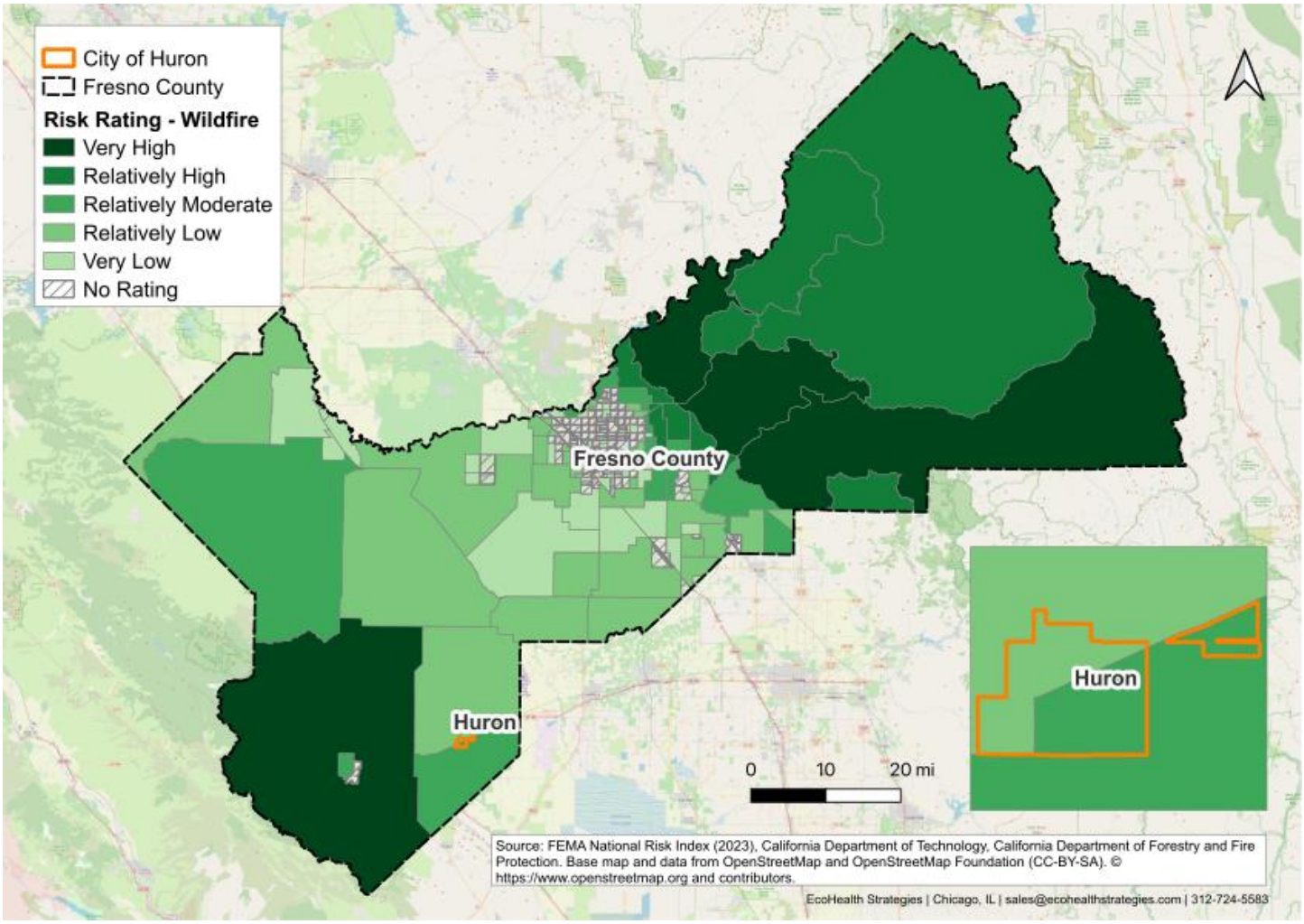
The chart above shows the daily air quality index (AQI) values in Huron from 2009 to 2026. Green boxes represent days where the air quality was good, yellow boxes represent moderate days, orange boxes represent days unhealthy for sensitive groups, red boxes represent days unhealthy for the general public, purple boxes represent very unhealthy days, and dark red boxes represent hazardous days. The majority of Huron's days in this time period were good or moderate, with several days marked as unhealthy for sensitive groups. The largest number of unhealthy days were concentrated in August and September 2020.

Impacts

Public Health and Safety

A significant public health and safety risk to outdoor workers is wildfire smoke. While Huron itself does not have high wildfire risk, neighboring communities do. Wildfire smoke can travel thousands of miles downwind, making Huron farmworkers especially susceptible.

Figure 31: Fresno County Wildfire Risk Rating by Census Tract

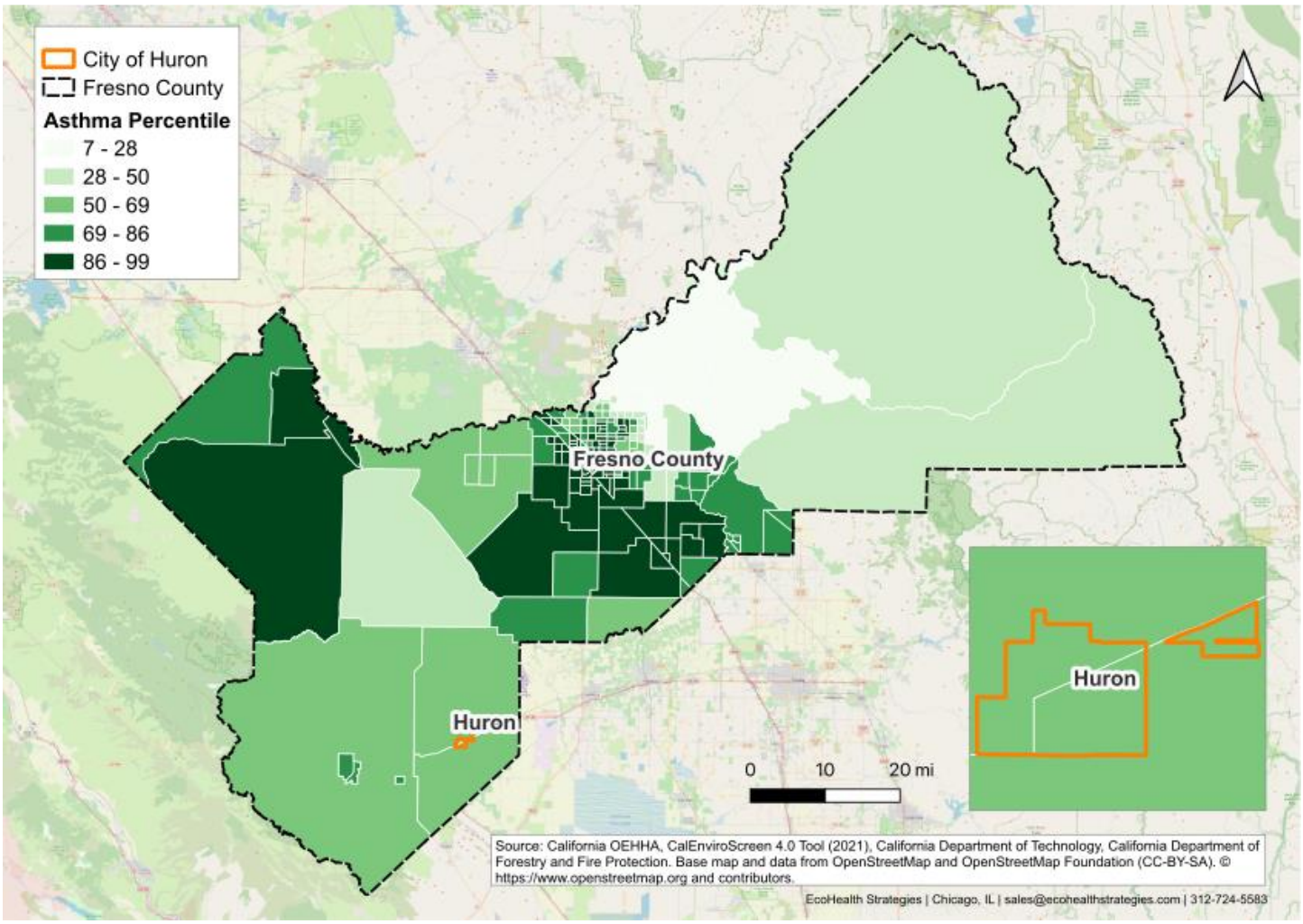


The map above shows a wildfire risk rating for each census tract in Fresno County. The City of Huron has relatively low to relatively moderate wildfire risk, but neighboring census tracts have very high wildfire risk. Smoke from wildfires in neighboring communities can drift over to Huron, impacting the air quality during these events.

Wildfire smoke is comprised of harmful particles and gases. PM2.5 is a primary concern from smoke, as it is small enough to enter the bloodstream through the lungs. Wildfire smoke exposure can lead to asthma attacks, heart attacks, and premature death. Impacts are worsened when homes lack adequate air filtration.[124]

[124] Reyes Becerra, "Farmworkers on the Front Lines of the Climate Crisis."

Figure 32: Fresno County Asthma Percentile by Census Tract



The map above shows the asthma percentile for each census tract in Fresno County, compared to asthma rates nationally. The census tracts within the City of Huron are in the 57.75th percentile and 57.76th percentile in asthma rates.

Agriculture

In addition to impacting public health and safety, air pollution can negatively affect crop yields. Nitrogen oxides (NOx) are gases polluted from car exhaust and industrial emissions,[125] and are among the most common pollutants globally. NOx have been found to directly harm crop cells and indirectly stunt crop growth by contributing to ozone (O3) and aerosol formation.[126]

[125] Jordan, "Less Air Pollution Leads to Higher Crop Yields, Study Shows."
[126] Lobell et al., "Globally Ubiquitous Negative Effects of Nitrogen Dioxide on Crop Growth."

Capability Assessment

Key Takeaways

1. The key departments and agencies in Huron include administration, the city engineer's office, public works, the Huron police department, Coalinga-Huron Recreation and Parks District (CHRPD), CAL FIRE Fresno County, Fresno County Office of Emergency Services (OES), and Fresno County Rural Transit Agency (FCRTA)
2. Huron has various existing programs and policies that can be leveraged to support climate adaptation efforts.
3. **Gaps exist in the City's capability to make all programs, policies, and services accessible to vulnerable populations**, including those without digital literacy.

This section details the current actions underway to address the identified climate impacts, as well as the capabilities of people, infrastructure, systems, and natural resources to address them. Existing programs were identified through interviews with key stakeholders, including representatives from the City and partner agencies. Existing policies and ordinances were identified through the City's municipal code.

Capabilities of Key Departments and Agencies

Table 5: Capabilities of Key Departments and Agencies

Department/Agency	Capabilities
Administration	The Mayor, City Manager, and City Council comprise the City administration. Mayor León is also the Executive Director of the LEAP Institute and serves on the boards of the FCRTA and the Fresno Economic Opportunities Commission.
City Engineer's Office	The City Engineer's Office oversees the planning, design, construction, and management of the City of Huron's public infrastructure.
Public Works	The Huron Public Works department oversees public infrastructure improvements, including filling potholes and bringing in sandbags during flood events. The Public Works department is short-staffed and occupied with day-to-day operations, limiting its capacity for climate-related projects. The City has a backup generator for Public Works.
Huron Police Department	The Huron Police Department employes 18 officers and oversees matters of public safety. They also have a mutual aid agreement with the CHP and the Fresno County Sherrif's office. The Police Department

Department/Agency	Capabilities
	has a high turnover rate, so most training covers critical incidents regarding law enforcement, rather than climate response. The Huron Police Department Sky Room serves as a cooling center on days at or above 100 degrees Fahrenheit. The Police Department also has a backup generator.
Coalinga-Huron Recreation and Parks District (CHRPD)	The CHRPD is responsible for the oversight of four parks within Huron and Coalinga, as well as the Keenan Community Center.
CAL FIRE Fresno County	CAL FIRE Fresno County operates as a separate standalone entity. Interagency coordination works through California's Office of Emergency Services, which provides umbrella oversight for resource allocation and communication up the chain. Staffing and funding are major barriers for CAL FIRE Fresno County. Huron does not have its own fire engine and relies on a two-person CAL FIRE station. Due to budget constraints and the city's low property tax base, a fire engine must be dispatched from the nearest city with a permanent truck in the event of a fire.
Fresno County Office of Emergency Services (OES)	The Fresno County OES typically steps in at the local level for extreme events, most often flooding. By ordinance, they are required to have a council that organizes the advisory committee. This committee meets quarterly and invites city managers and mayors to participate. Its purpose is to establish mutual aid in case of a disaster. The biggest challenge is funding, which covers staffing and equipment.
Fresno County Rural Transit Agency (FCRTA)	The FCRTA is responsible for installing bus stops, benches, and bus stop signs within Huron. They do not oversee roadway warning signs or associated safety equipment.

Global Climate Change

Current Capabilities

Huron has the capacity to implement localized solutions to address the impacts of global climate change. From an energy standpoint, Huron's hot and sunny climate makes it well suited for solar energy. The City currently relies on solar energy to power the water treatment plant, wastewater treatment plant, and old City Hall building. By utilizing renewable energy sources for City operations, Huron is able to curb its GHG emissions and therefore its contributions to global climate change. The Huron administration also seeks to address the intersectional impacts of climate change on residents with community-based solutions such as the *Huron Community Health and Empowerment Committee*. The committee meets monthly, bringing together local government entities, CBOs, school districts, and others to coordinate efforts and establish partnerships. Finally, through digital infrastructure such as the *Mi Huron* app, the City Manager can send out notifications to all residents with a smartphone regarding notices, resources, and emergency preparedness protocols.

A few local policies also touch on climate impacts. Huron's Ordinance 163 focuses on emergency preparedness, including establishing a disaster council, office of emergency services, and emergency plan. Ordinance 122 requires Environmental Impact Reports (EIR's) for all projects that would impact Huron's environment, and Ordinance 194 requires future developments to consider passive heating and cooling opportunities, which save on energy costs in the long-term.[127]

Capabilities Needed

An ongoing focus for Huron and Mayor León is promoting equity, affordability, and accessibility for all community members. Adaptation strategies will need to empower farmworkers to influence local policy, enable those without smartphones to be prepared for emergencies, and support renters interested in weatherizing their units and lowering their utility bills. Additional capability is needed in emergency preparedness, specifically in allocating funds to a dedicated emergency manager role.

Summary of Existing Programs and Policies

Table 6: Existing Programs and Policies Targeting Climate Change

Existing Programs	Description	Populations Served	Gaps/Consideration
Solar Energy	Huron utilizes solar energy to operate the water treatment plant, wastewater treatment plant, and old City Hall building.	All	Many residents are still facing high utility bills. Opportunities exist for more local energy solutions that lower costs for ratepayers.

[127] City of Huron, "Municipal Code."

Huron Community Health and Empowerment Committee	Huron's Mayor hosts a committee of local government entities, CBOs, and school districts to coordinate efforts and establish partnerships.	Government, local organizations, schools, and residents (farmworkers)	It would be valuable to consider including farm owners, managers, and workers in the committee to ensure alignment between public and private priorities.
City App	The City developed Mi Huron, a smartphone app available to IOS and Android users to communicate relevant information.	All community members with smartphones	Not all Huron residents have smartphones or are familiar with how to use them. Public agencies have identified this as an ongoing challenge when disseminating emergency preparedness resources and protocols.
Existing Policies	**Description**	**Populations Served**	**Gaps/Consideration**
Ord. 163 Emergency Preparedness	This ordinance establishes protocols for emergencies related to air pollution, fire, flood, storm, epidemic, riot or earthquake, or others. Protocols include establishing a disaster council, office of emergency services, and emergency plan.	All	The Huron emergency plan requires updating and reinforcement. Additionally, the emergency manager role is currently a tertiary responsibility—rather than a dedicated position—because staff have many other duties.
Ord. 122: Environmental Impact Reports	Per the Environmental Quality Act of 1970, "CEQA," EIR's are required for all projects which would impact Huron's environment.	Developers, Residents	N/A
Ord.194 § 844, 1983 Provision for future passive or natural heating or cooling opportunities	Future developments, when feasible, should consider passive heating and cooling opportunities.	Building owners and occupants of future developments	Huron residents have noted challenges for renters who want to make energy efficient improvements to existing developments. Opportunities exist to draft an ordinance

			focused on weatherization in rentals.

Extreme Heat

Current Capabilities

Extreme heat is a top concern in Huron, with the City's cooling center being the most prominent program to address it. The cooling center is located in the Huron Police Department Sky Room and is open from noon to 7:00 pm when temperatures reach 100 degrees Fahrenheit or above. The cooling center also has a refrigerator, which can be used for emergency medicine storage, and an ice maker. Other strategies to mitigate heat include water refill stations around the City and some bus shelters offering shade to transit users.

Capabilities Needed

There are opportunities to make cooling centers more appealing and accessible during extreme heat events. This includes using non-digital communication methods like flyers, radio announcements, and word-of-mouth. Travel support can also help residents without reliable transportation reach these spaces. Once people arrive, providing basic resources and light activities can make cooling centers more appealing. Additionally, the City is lacking heat mitigation efforts for days below 100 degrees in which temperatures which can still threaten the health and safety of outdoor workers.

While some Huron bus stops have shelters to provide shade, two bus stops lack shelters, and one bus stop lacks a bench. Additional heat mitigation measures along Lassen Avenue would be beneficial, including installing the two additional bus shelters, considering cooling technology at bus stops, and planting more trees along Lassen Avenue.

Summary of Existing Programs and Policies

Table 7: Existing Programs and Policies Targeting Extreme Heat

Existing Programs	Description	Populations Served	Gaps/Consideration
Cooling Center	Huron's cooling center is located in the Huron PD Sky Room and is open from noon to 7:00 pm on days above 100 degrees Fahrenheit.	All	Opportunities exist to improve cooling center usage through non-digital promotion, travel support, and offering educational resources. Additional needs include fans, towels, reading materials, and games to help the cooling center feel more inviting and enjoyable for residents.
Water Refill Stations	There are 4 water bottle refill stations distributed throughout Huron.	All	Opportunities exist to communicate where water bottle refill stations are located, such as the Mi Huron app.

Bus Shelters	Huron's bus shelters have a small roof for shade and a small solar-powered light for those waiting at night.	Those using public transit	The bus stops at the Post Office and Dollar General store do not have shelters, and the Dollar General stop also lacks a bench. Additional benches and bus shelters are needed. Cooling shelters and/or additional trees along Lassen Avenue would be beneficial as well.
Existing Policies	**Description**	**Populations Served**	**Gaps/Consideration**
No local policies were found through research.			

Flooding

Current Capabilities

Lassen Avenue is prone to flooding, especially below 9th Street in the southern portion of the City. The Heart of the Valley Bridge was built in 2019 to mitigate major flooding on Lassen Avenue leading into Huron. Lassen Avenue is home to some vegetative medians, which can capture stormwater and prevent it from running off the road, however their raised nature makes this challenging.

Huron's stormwater system is not extensive; it is comprised of carbon gutter transports that go to drains and then basins. For major flood events, Huron's Public Works department will bring in sandbags to control the floodwaters. Typically, the community handles more minor flood events without intervention.

Some local ordinances also address flooding. Ordinance 178 (part), 1981 directs irrigation to trees planted in vacant lots, which can create more permeable surfaces to capture stormwater. Ordinance 332 § 5 (part), 2001 and Ordinance 194 § 823, 1983 regulate construction within areas of special flood hazards.[128]

Capabilities Needed

Additional methods are needed to capture and filter stormwater along Lassen Avenue, such as center median drainage. Additionally, Huron's vacant lots could be an asset to the community for stormwater capture and recharge. Bioretention basins, rain gardens, permeable pavement, and permeable pavers are all strategies that could mitigate flooding while also recharging groundwater. The Mi Huron app and roadway warning systems could alert residents to flooded roads, promoting safety through both digital and non-digital communication channels.

Summary of Existing Programs and Policies

Table 8: Existing Programs and Policies Targeting Flooding

Existing Programs	Description	Populations Served	Gaps/Consideration
Vegetative Medians	Portions of Lassen Avenue have vegetative medians planted with shrubs and trees.	All	Raised medians experience challenges capturing water running along the road. Inset options could be considered.
Existing Policies	**Description**	**Populations Served**	**Gaps/Consideration**
Ord. 178 (part), 1981 Service to	This ordinance directs irrigation to trees planted in vacant lots before	All	Vacant lots could be landscaped for more effective stormwater capture. Bioretention basins,

[128] City of Huron, "Municipal Code."

vacant lots for irrigation of trees and plants	permanent structures are built.		rain gardens, permeable pavement, and permeable pavers are all approaches that could mitigate flooding while also recharging groundwater.
Ord. 332 § 5 (part), 2001 Standards of construction	Specifies construction standards for structures built within areas of special flood hazards, including anchoring, construction materials and methods, and elevation and floodproofing.	Developers, construction teams	N/A
Ord. 194 § 823, 1983 Land subject to inundation	Land prone to flooding cannot be used for residential development or other uses that may endanger health, life, or property, but can be used for other purposes approved by the City Engineer.	Developers, construction teams	Construction can still occur in 100-year flood plains so long as the floor level of a building is a foot above flood elevation.[129]

[129] "Appendix 1F: City of Huron."

Drought

Current Capabilities

Huron has a wastewater recycling program that provides secondary wastewater treatment, meaning the water is not recycled to a potable standard but can be used for irrigation.[130] Currently, recycled water is being used to irrigate hemp fields. The City is also working on expanding graywater recycling, with displaced farmworkers receiving training on graywater systems installation. In 2018, Ordinance 374 was also introduced, ensuring that new developments have the capacity to be connected to graywater systems.[131] The first 47 homes have been built with graywater recycling infrastructure in Huron. Per the ordinance, graywater may only be used for subsurface irrigation for plants where no food touches the ground surface (i.e., trees and shrubs).

Capabilities Needed

Expansion of the water recycling program could allow for more irrigation using treated wastewater. Additionally, owners and renters of existing developments could be supported in connecting to graywater systems alongside new developments and conserving water generally.

Summary of Existing Programs and Policies

Table 9: Existing Programs and Policies Targeting Drought

Existing Programs	Description	Populations Served	Gaps/Consideration
Recycled Water Fields	The City has a recycled water field with storage ponds to conduct secondary wastewater treatment, removing nitrogen and making the water available for hemp irrigation.	Farmers	Opportunities exist to expand wastewater recycling infrastructure. Considerations include how to best collaborate with farmers on using recycled water for irrigation.
Graywater Installation Training	The City is working on training displaced farm workers on graywater systems installation.	Residents, Displaced Farmworkers	N/A
Existing Policies	**Description**	**Populations Served**	**Gaps/Consideration**

[130] United States Environmental Protection Agency, “Secondary Treatment Standards.”
[131] City of Huron, “Municipal Code.”

Ord. No. 374 , § 3, 6-20-2018 Ordinance Amending the City of Huron Municipal Code Regarding the Installation or Retrofit of Graywater Systems	New developments must be built with the capacity to be connected to graywater systems.	Residents, gardeners and farmers	Opportunities exist to connect existing developments to graywater systems and/or support owners and renters of existing developments who would like to make these updates.
Ord. 178 (part), 1981 Wasting water prohibited	No individual is permitted to willfully waste City water.	All	N/A

Air Pollution

Current Capabilities

Huron has many programs targeting air pollution, and partnerships have been valuable in this effort. With the support of a Caltrans grant, the City was able to acquire four EVs for use by the Huron PD. There are four city-owned EV chargers in Huron to support this fleet. In addition, the LEAP Institute, which has operations within Huron, has a fleet of around 30 EVs in 11 counties to take farmworker families to medical appointments via a ride share service and additional EV chargers. The LEAP Institute also unveiled a new e-bike lending library in August 2025 which the consulting team attended, allowing individuals and families to borrow e-bikes for local transportation needs. Huron has already installed many dirt alleyways to reduce dust particles and is applying for state and federal funding to complete the project. The LEAP Institute also conducts air quality monitoring in Fresno County and others.

Local policies regulate air pollution from trash burning, industrial processes, and agricultural process, among others.[132] While no ordinances specifically regulate emissions from cars, California's state-level EV policies are strong (e.g., Advanced Clean Cars Program), and, as of 2023, California was leading the county in EV ownership.[133]

Capabilities Needed

While there are some bike lanes along Lassen Avenue, Huron residents reported that bike lanes are not always respected, and safety regarding bike infrastructure is a concern. To maximize the effectiveness of e-bike programs, bike lane safety should be addressed. Connected transportation systems could also be considered to encourage residents to utilize low-emissions transportation options (e.g., bike sharing options near bus stops).

Additionally, while Huron cannot regulate private farms, encouraging and/or incentivizing the use of zero-emission off-road vehicles and agricultural equipment could be an effective approach to improving local air quality. More education around state-level programs could support this effort (e.g., Clean Off-Road Equipment Voucher Incentive Project (CORE)), and existing programs such as the Huron Community Health and Empowerment Committee could aid in this collaboration.

Summary of Existing Programs and Policies

Table 10: Existing Programs and Policies Targeting Air Pollution

Existing Programs	Description	Populations Served	Gaps/Consideration
Huron PD EVs	The Huron PD has four electric vehicles.	Police Officers	A representative from the Huron PD noted that it is not feasible for the entire police fleet to be electric,

[132] City of Huron, "Municipal Code."
[133] United States Department of Energy, "TransAtlas."

			given that the need to charge EVs results in a slower response time. Additionally, gas-powered vehicles are more reliable in all weather conditions. However, non-emergency municipal vehicles could be considered for electrification, including in the departments of Public Works, Parks and Recreation, and Administration.
EV Chargers	There are four city-owned EV chargers in Huron, with additional chargers owned by nonprofits and individuals.	Drivers with EVs	The City could consider how to best support residents in purchasing EVs.
LEAP EV Fleet	The LEAP Institute has a fleet of around 30 EVs to take farmworker families to their medical appointments.	Farmworker families	N/A
LEAP Institute E-Bike Lending Library	The LEAP Institute oversees an e-bike lending library for the Huron community.	All	Older adults and residents with disabilities may be unable to fully use the e-bike lending library due to mobility and accessibility limitations.
Dirt Alleyways	The City has begun installing dirt alleyways to reduce dust particles.	All	Funding is needed to complete this project.
Bike Lanes on Lassen Avenue	Some bike lanes exist along Lassen Avenue.	All	Huron residents noted that bike lanes are not always respected, and safety regarding bike infrastructure is a concern.
Air Quality Monitors	The LEAP Institute has 20 grant-funded air quality	All	More capacity, support, and funding are needed to continue air quality monitoring.

	monitors on the west side of Fresno County and throughout Kings County.		
Existing Policies	**Description**	**Populations Served**	**Gaps/Consideration**
Ord. 114 §7, 1971 Burning garbage	Burning garbage is prohibited per air pollution laws, rules and regulations.	All	N/A
Ord. No. 379, § 2, 9-18-2019 Public nuisances relating public health and welfare	This ordinance establishes public health and welfare public nuisances including air pollution from smoke, soot, cinders, noxious acids, fumes, gasses, fly ash, industrial dust or other atmospheric pollutants, plowing, unpermitted burning, disturbing, or cultivating of a field.	All	N/A

Recommendations

Key Takeaways

1. Strategies were developed through **community engagement, stakeholder interviews, and research.**
2. Strategies can be classified as:
    a. Operational
    b. Plans, regulations, and policy development
    c. Capital improvement/infrastructure projects
    d. Education/outreach/coordination
    e. Evaluation
3. This section outlines 17 strategies to **enhance Huron's resilience to climate impacts.**

This section proposes climate adaptation and mitigation strategies for Huron, grounded in the analyses conducted throughout the project period. The goal of these strategies is to improve community, City-wide, and infrastructure resilience to the climate hazards explored in the Vulnerability Assessment. To develop these strategies, the consulting team conducted multi-media research on best practices in climate adaptation and mitigation to understand how communities across the state, country, and world are adapting to the same climate hazards that Huron faces. These strategies fall in the categories of "near-term" and "long-term" planning, which range from zero to 20 years.[134]

Strategy Development Methodologies

The structure for these recommendations has been adapted from the United States Environmental Protection Agency (US EPA) Regional Resilience Toolkit and NOAA's Office for Coastal Management Quick Reference Guide: *Assessing the Feasibility of Adaptation Options*.[135] Each recommendation will contain the following information to best support the City of Huron in implementing its chosen strategies and understanding their feasibility.

Table 11: Strategy Development Methodologies

Topic	Central Question	How Answers Were Determined
Objective	What does the strategy seek to accomplish?	Community engagement, Stakeholder interviews
Strategy Type	How is the strategy categorized?	US EPA Regional Resilience Toolkit

[134] Brechwald et al., "Regional Resilience Toolkit: 5 Steps to Build Large Scale Resilience to Natural Disasters."
[135]

Topic	Central Question	How Answers Were Determined
Impact(s) addressed	What climate impacts are addressed by this strategy?	Literature Review
Relevant Departments	Which City departments may be involved in implementing this strategy?	Stakeholder interviews
Potential Partners	Which other government agencies, groups, or CBOs may be able to support the implementation of this strategy?	Stakeholder interviews, Literature Review
Resources to Leverage	What resources does the City already have that can be leveraged to implement this strategy?	Stakeholder interviews, Literature Review
Priority	How urgent is the implementation of this strategy?	Community engagement, Stakeholder interviews
Timeframe	What is the expected timeframe to implement this strategy?	Community engagement, Stakeholder interviews
Cost Estimate	How much is this strategy estimated to cost?	Literature Review, Stakeholder interviews
Potential Funding Sources	What are some potential funding sources for this strategy?	Literature Review
Replicability	How have other cities and communities implemented similar strategies?	Literature Review
References	What sources support the value and viability of this strategy?	Literature Review

Based on how key stakeholders and community members prioritized strategies, the timeframes below were assigned:

Table 12: Strategy Priorities and Associated Timeframes

Priority	Timeframe
High	1-3 years
Medium-High	4-6 years
Medium-Low	7-9 years
Low	10+ years

Additionally, the cost matrix below shows how costs were estimated for each strategy.

Table 13: Cost Estimate Key

Cost Estimate	Cost Range
Low-Cost	> $100,000
Medium-Cost	$100,000 - $250,000
High-Cost	< $250,000

Finally, the "strategy types" were pulled directly from the EPA Regional Resilience Toolkit as a way to categorize each recommendation and understand the approach required for implementation. The strategy types include:[136]

Table 14: Strategy Types

Strategy Type	Description
Operational	Related to governance and operations
Plans, regulations, and policy development	Related to updates made to plans, regulations, policies, and guidelines
Capital improvement/infrastructure projects	Related to improvements made to built and natural environments
Education/outreach/coordination	Related to communication and education, building awareness, and partnerships
Evaluation	Related to data analysis, input and feedback

The strategies detailed in this section have been organized to help facilitate the City's decision making and implementation of climate adaptation interventions.

[136] Brechwald et al., "Regional Resilience Toolkit: 5 Steps to Build Large Scale Resilience to Natural Disasters."

Global Climate Change

Strategy 1.1: City-Wide Mutual Aid Network

Strategy 1.1 seeks to address the breadth of climate impacts by strengthening the resiliency of the Huron community and the utilization of existing resources. A mutual aid network facilitated by the City could be a low-cost intervention that leverages and distributes existing resources such as air conditioning, air purification, and shelter. The mutual aid network could include City facilities, residents, and businesses in Huron. In the event of a climate disaster, community members would already be connected via a Facebook group or the City app. Special attention would need to be paid to vulnerable populations, such as individuals experiencing homelessness and seniors, and outreach to those without cell phones or digital literacy would be necessary.

Strategy 1.1 **City-Wide Mutual Aid Network**	
Objective	Utilize community resources and connections to promote low-cost climate adaptation strategies.
Description	Establish a mutual aid network via the City's app and/or Facebook group where residents and businesses can connect around climate-related needs such as swamp coolers, air purifiers, shelter, etc.
Type	Programmatic, Education/outreach/coordination
Hazard(s) Addressed	All
Relevant Departments	Mayor, City Manager
Potential Partners	Business Owners
Resources to Leverage	City App, City Facebook Group
Priority	Medium-High
Timeframe	4-6 years
Cost Estimate	Low-Cost
Potential Funding Sources	N/A
Replicability	As Emergency Response Subsides, Local Communities Lead Fire Relief
References	How to Make Your Community More Resilient to Climate Disasters

Strategy 1.2: Digital Marquee Alerts

Climate hazards, especially flooding, can impact roadway safety. To ensure that warnings are accurate and timely, Huron's digital marquee can be leveraged to notify drivers of dangerous conditions coming in and out of the City. In collaboration with the Fresno County Office of Emergency Services, these systems can reduce accidents and improve safety on major roads. Strategy 1.2 proposes utilizing the digital marquee like a Road Weather Information System (RWIS), which can alert drivers and pedestrians to the conditions of pavement, water levels, air quality, extreme heat, and so on.[137] This approach allows the City to avoid installing a RWIS, which can be costly.

Strategy 1.2 **Digital Marquee Alerts**	
Objective	Mitigate climate-related accidents on the roads by implementing a roadway warning system.
Description	Leverage Huron's digital marquee on Lassen Avenue to notify drivers of dangerous conditions coming in and out of the City.
Type	Capital improvement/infrastructure projects
Hazard(s) Addressed	All
Relevant Departments	Public Works
Potential Partners	Fresno County OES, CalTrans
Resources to Leverage	Existing relationships with Fresno OES and Caltrans
Priority	High
Timeframe	1-3 years
Cost Estimate	Low-Cost
Potential Funding Sources	T Mobile - Hometown Grants Climate Smart Communities Initiative (CSCI) Grants
Replicability	The total cost to purchase and implement a road weather information system in Abilene, Texas was $42,010. Detailed costs of road weather information systems deployed at several sites north of Spokane, WA.
References	Road Weather Information System in Finland

Strategy 1.3: Huron Public Library Sustainability Programming

The role of community education surrounding sustainability should not be overlooked in long-term climate adaptation planning. Best practices in water conservation, programs to support energy efficiency and bill savings, recycling education, and protocols for evacuation are just some of the

[137] United States Department of Transportation Federal Highway Administration, “Frequently Asked Questions.”

topics that the public should be aware of. As a community hub and center for knowledge exchange, the Huron public library has a role to play in intergenerational climate education. Strategy 1.3 proposes sustainability programming at the Huron public library for youth and adults, enhancing resiliency by building an empowered and invested community of climate advocates.

Strategy 1.3 **Huron Public Library Sustainability Programming**	
Objective	Empower residents of all ages to participate in climate adaptation.
Description	Host regular, intergenerational sustainability programming at the Huron Public Library.
Type	Education/outreach/coordination
Hazard(s) Addressed	All
Relevant Departments	Huron Public Library Staff
Potential Partners	Mid Valley Disposal, PG&E, Huron PD, CAL FIRE Fresno County, Fresno County OES
Resources to Leverage	Library staff and events calendar, engaged community and partners
Priority	Medium-Low
Timeframe	7-9 years
Cost Estimate	Low
Potential Funding Sources	CA State Library 2025-2026 Sustainable California Libraries
Replicability	Step Up Your Library's Green Programming
References	Environmental education in public libraries

Strategy 1.4: Emergency Preparedness Plan

Huron lacks a comprehensive preparedness plan to ensure that community members and City staff are prepared in the event of an emergency. Strategy 1.4 proposes that the City adhere to and distribute an emergency preparedness plan to all residents and City staff, and should include information such as contact names and phone numbers for various types of emergencies, evacuation routes (including maps), safety protocols, and procedures to report emergencies.[138] The plan should be an accessible resource for the community. It could be summarized in a flyer that is posted in community hubs around the City.

[138] Centers for Disease Control and Protection, "Emergency Action Plan (Template)."

Strategy 1.4 **Emergency Preparedness Plan**	
Objective	Prepare residents and staff for emergency scenarios.
Description	Adhere to and distribute an emergency preparedness plan to all residents and City staff.
Type	Education/outreach/coordination
Hazard(s) Addressed	All
Relevant Departments	Administration, Huron Police Department
Potential Partners	CAL FIRE Fresno County, Fresno County OES
Resources to Leverage	City App, Fresno County Emergency Preparedness Council, Mutual Aid Networks for Emergency Response
Priority	High
Timeframe	1-3 years
Cost Estimate	Low
Potential Funding Sources	BRIC (FEMA), EMPG (FEMA), General Fund
Replicability	CDC?
References	N/A

Extreme Heat

Strategy 2.1: Promote Trees and Green Spaces

Trees and green spaces are one of the simplest yet most effective strategies for cooling cities, and provide many other co-benefits, including improving air quality, promoting safety and quality of life, decreasing energy use, increasing permeability during flood events, and reducing pesticide drift, among others.[139] In workshops with Huron community members, trees and green spaces were the top priority of all the climate adaptation recommendations shared. Strategy 2.1 proposes expanding the planting and maintenance of native and drought-tolerant trees throughout the City, but especially along Lassen Avenue. Additional shade along the main thoroughfare could provide respite for people waiting for buses, using the bikeways, and walking down the sidewalk. They would also provide a buffer between the main truck route and other facilities such as homes, schools, and City buildings.

Strategy 2.1 **Promote Trees and Green Spaces**	
Objective	Mitigate extreme heat in areas of highest need.
Description	Expand the planting and maintenance of native and drought-tolerant trees along Lassen Avenue to provide cooling functions, increase permeability, reduce pesticide drift, and block fertilizers and dust.
Type	Capital improvement/infrastructure projects
Hazard(s) Addressed	Extreme Heat, Air Quality, Global Climate Change
Relevant Departments	Public Works
Potential Partners	Tree People
Resources to Leverage	Water Recycling Irrigation Programs
Priority	High
Timeframe	1-3 years
Cost Estimate	High-Cost
Potential Funding Sources	California Governor's Office of Land Use and Climate Innovation (LCI) - Extreme Heat and Community Resilience Program
Replicability	How UC Davis Is Growing a Tree Canopy for Tomorrow's Climate Oregon awarded more than $58M to reduce extreme heat risks with trees
References	Protecting Californians From Extreme Heat Watch: Mitigating Extreme Heat in a Changing Climate

[139] United States Environmental Protection Agency, "Benefits of Trees and Vegetation."

Strategy 2.2: Shaded and/or Cooling Bus Shelters

FCRTA ridership in Huron peaks during the hottest times of the year and day. For those waiting for buses, standing outside without shade or sun can increase risk of heat-related illness. Huron residents have also reported incidents of buses driving by people waiting at bus stops without picking them up, lengthening outdoor wait times and increasing risk exposure. Two bus stops in Huron lack shelter, and one bus stop lacks a bench. Strategy 2.2 proposes adding bus shelters to the two bus stops without them and considering adding cooling technology as well to help mitigate extreme heat. A bench should also be added to the bus stop without one. These interventions would require collaboration with the FCRTA who oversees public transit infrastructure in the county.

Strategy 2.2 **Shaded and/or Cooling Bus Shelters**	
Objective	Mitigate heat risk for residents taking public transit.
Description	Expand the use of shaded bus shelters and consider air conditioning in shelters as well.
Type	Capital improvement/infrastructure projects
Hazard(s) Addressed	Transit Security, Extreme Heat
Relevant Departments	Public Works
Potential Partners	FCRTA
Resources to Leverage	Existing relationship with the FCRTA
Priority	Medium-High
Timeframe	4-6 years
Cost Estimate	Medium- to High-Cost
Potential Funding Sources	Caltrans - Caltrans FTA 5310 2025 Call for Projects
Replicability	Under the Phoenix sun: How to fix deadly-hot bus stops Boyle Heights gets its first $35,000 bus shelter in city's push for shade equity
References	Heat stress mitigation by trees and shelters at bus stops

Strategy 2.3: Cool Roof Ordinance

Air conditioning is an expensive intervention that is not available to all Huron community members. Interventions that passively reduce energy demand and burden for residents would result in cooler homes and bill savings. One approach to reducing energy burden is through cool roofs. Cool roofs are roofs painted with reflective white paint or installed with reflective tiles. According to researchers at the Department of Energy's Lawrence Berkeley National Laboratory (Berkeley Lab), installing cool roofs on every home in California could reduce the number of annual heat wave exposures from 80 million to 45 million.[140] Strategy 2.3 proposes that the Mayor write an ordinance, modeled after the City of Atlanta, Georgia, requiring all new builds and roof replacements to follow certain cool-roof reflectivity standards. This strategy is structured as an ordinance, rather than an optional program, because cool roofs are more effective when there are more of them.[141]

Strategy 2.3 **Cool Roofs**	
Objective	Mitigate extreme heat and reduce air conditioning costs in the residential sector.
Description	Write an ordinance requiring that new builds and roof replacements be considered for high-albedo cool-roof paint to keep homes cooler and reduce air conditioning costs. The ordinance may also identify city labor workforce that would implement the strategy, thereby leading to job opportunities for the City.
Type	Capital improvement/infrastructure projects Plans, regulations, and policy development
Hazard(s) Addressed	Extreme Heat, Energy Security
Relevant Departments	Mayor, City Manager
Potential Partners	Local developers and roofing contractors
Resources to Leverage	Engaged City Council
Priority	High
Timeframe	1-3 years
Cost Estimate	Medium-Cost
Potential Funding Sources	California Governor's Office of Land Use and Climate Innovation (LCI) - Extreme Heat and Community Resilience Program
Replicability	New Atlanta Law Requires 'Cool Roofs' City of Atlanta Georgia Ordinance 25-O-1310
References	Watch: Mitigating Extreme Heat in a Changing Climate Cool Roofs Cool Roofs Can Help Shield California's Cities Against Heat Waves Cool roofs offer a salve for hot cities — and the climate, too

[140] Runwal, "Cool Roofs Can Help Shield California's Cities Against Heat Waves."
[141] Runwal, "Cool Roofs Can Help Shield California's Cities Against Heat Waves."

Strategy 2.4: Cool Pavement

Similar to cool roofs, reflective paint can be used to cover dark pavement and reflect sunlight, keeping the City cooler overall. While cool pavement is less effective than shade in reducing urban temperatures, the two can be effective when paired together.[142] In a study in the Pacoima neighborhood of Los Angeles, California, cool pavement contributed to ambient air temperature reductions up to 3.5 degrees Fahrenheit during heat waves compared to an adjacent neighborhood.[143] Strategy 2.4 proposes installing cool pavement in City-owned lots and on major sidewalks to bolster the heat mitigating impacts of trees and green spaces in Huron.

Strategy 2.4 **Cool Pavement**	
Objective	Mitigate extreme heat in the City.
Description	Consider painting pavement with high-albedo paint in City-owned parking lots and major sidewalks.
Type	Capital improvement/infrastructure projects
Hazard(s) Addressed	Extreme Heat
Relevant Departments	Public Works
Potential Partners	Caltrans, Fresno Council of Governments (FCOG)
Resources to Leverage	N/A
Priority	Medium-Low
Timeframe	7-9 years
Cost Estimate	Medium-Cost • $0.60 to $0.80 per square foot (Schmidt, 2025)
Potential Funding Sources	California Governor's Office of Land Use and Climate Innovation (LCI) - Extreme Heat and Community Resilience Program
Replicability	Results are in for a Los Angeles cool pavement experiment
References	Protecting Californians From Extreme Heat Life-Cycle Assessment and Co-Benefits of Cool Pavements

[142] Kempe, "Results Are in for a Los Angeles Cool Pavement Experiment."
[143] Taha, "Micrometeorological Effects and Thermal-Environmental Benefits of Cool Pavements: Findings from a Detailed Observational Field Study in Pacoima, California."

Flooding

Strategy 3.1: Center Median Drainage Along Lassen Ave

Lassen Avenue in the southern portion of Huron has raised vegetative medians, which provide many climate-related benefits, but do not always effectively capture water flowing along the road. Strategy 3.1 proposes installing inset center median drainage on Lassen Avenue, and landscaping with trees and other plants that provide shade, mitigate heat, and absorb CO2. Medians also offer safety for pedestrians crossing the four-lane road, [144] and can even be habitat corridors for insects and birds.[145] Further, selecting plants that can tolerate varying levels of irrigation and soils and rocks that allow for quicker infiltration will reduce maintenance needs and maximize flood absorption.[146]

Strategy 3.1 **Center Median Drainage Along Lassen Ave**	
Objective	Increase groundwater recharge and mitigate urban flooding.
Description	Install center median drainage along Lassen Ave to intercept stormwater and reduce flooding on the major thoroughfare.
Type	Capital improvement/infrastructure projects
Hazard(s) Addressed	Flooding, Extreme Heat, Air Quality
Relevant Departments	Public Works
Potential Partners	Tree People
Resources to Leverage	Medians on Lassen Avenue
Priority	High
Timeframe	1-3 years
Cost Estimate	High-Cost
Potential Funding Sources	California Department of Water Resources Grants: • Flood Corridor Program • Floodplain Management, Protection, and Risk Awareness Grant Program • Small Communities Flood Risk Reduction Infrastructure and Economic Development Bank - Infrastructure Revolving Fund Program
Replicability	Make the City Bloom with a Habitat Corridor ($75,000) Median Stormwater Management Practices
References	Benefits of Urban Vegetation

[144] "Appendix 1F: City of Huron."
[145] City of Cambridge, "Make the City Bloom with a Habitat Corridor ($75,000)."
[146] New York City Department of Transportation, "Sidewalk Stormwater Management Practices."

Strategy 3.2: Permeable Pavement/Pavers

Paved surfaces can be replaced with pervious asphalt, pervious concrete, interlocking pavers, and/or plastic grid pavers, all of which allow rainwater to be absorbed into the ground instead of running off the surface. These types of pavements can also filter pollutants as groundwater is recharged.[147] Strategy 3.2 proposes retrofitting City property with permeable pavement or pavers, starting with the City Hall and Police Department parking lot, which is located near Lassen Avenue.

Strategy 3.2 **Permeable Pavement/Pavers**	
Objective	Increase groundwater recharge and mitigate extreme flood events.
Description	Retrofit City-owned parking lots and sidewalks along Lassen Ave with permeable pavement or pavers to capture and treat polluted stormwater and prevent runoff.
Type	Capital improvement/infrastructure projects
Hazard(s) Addressed	Flooding, Water Quality
Relevant Departments	Public Works
Potential Partners	California Department of Water Resources
Resources to Leverage	N/A
Priority	Medium-High
Timeframe	4-6 years
Cost Estimate	High-Cost
Potential Funding Sources	State Water Resources Control Board - Storm Water Grant Program (SWGP) California Department of Water Resources Grants: • Flood Corridor Program • Floodplain Management, Protection, and Risk Awareness Grant Program • Small Communities Flood Risk Reduction Infrastructure and Economic Development Bank - Infrastructure Revolving Fund Program
Replicability	Pervious Concrete A Success for Lakeside Neighborhood
References	Permeable Pavers CONCRETE PAVEMENT GUIDE

[147] United States Environmental Protection Agency, “Soak Up the Rain: Permeable Pavement.”

Strategy 3.3: Low-Cost Flood Sensors

Floodwater sensors can be a valuable tool in preparing for and understanding floods. In Chicago, a city also plagued with increased incidence of climate-related flooding, a network of flood sensors will soon be deployed to provide information to data analysts and emergency response teams. The data collected by the sensors can share information about the scope and scale of flood events, as well as the impact to critical facilities and vulnerable populations. When combined with analytics, flood sensors can help a community better prepare for and respond to flooding.[148] These sensors can also be relatively low-cost, especially when implemented on a smaller scale. Strategy 3.3 proposes installing low-cost flood sensors along Lassen Avenue to collect accurate, real-time data on flood patterns, anticipate flooding areas, and enhance flood mitigation efforts.

Strategy 3.3 **Low-Cost Flood Sensors**	
Objective	Mitigate infrastructure damage from extreme flood events.
Description	Utilize low-cost flood sensors to collect accurate, real-time data on flood patterns, anticipate flooding areas, and enhance flood mitigation efforts.
Type	Capital improvement/infrastructure projects
Hazard(s) Addressed	Flooding
Relevant Departments	Public Works
Potential Partners	California Department of Water Resources
Resources to Leverage	N/A
Priority	Medium-Low
Timeframe	7-9 years
Cost Estimate	Low-Cost $12,500–$37,000 to set up $3,000/year–$9,000/year to maintain[149]
Potential Funding Sources	California Department of Water Resources Grants: • Flood Corridor Program • Floodplain Management, Protection, and Risk Awareness Grant Program • Small Communities Flood Risk Reduction Infrastructure and Economic Development Bank - Infrastructure Revolving Fund Program
Replicability	Can Verizon's Flood Tech Protect Against Extreme Weather?

[148] Descant, "Chicago Flooding Gets a Closer Look With New Sensor Project."
[149] Rose et al., "Benefit–Cost Analysis of Low-Cost Flood Inundation Sensors."

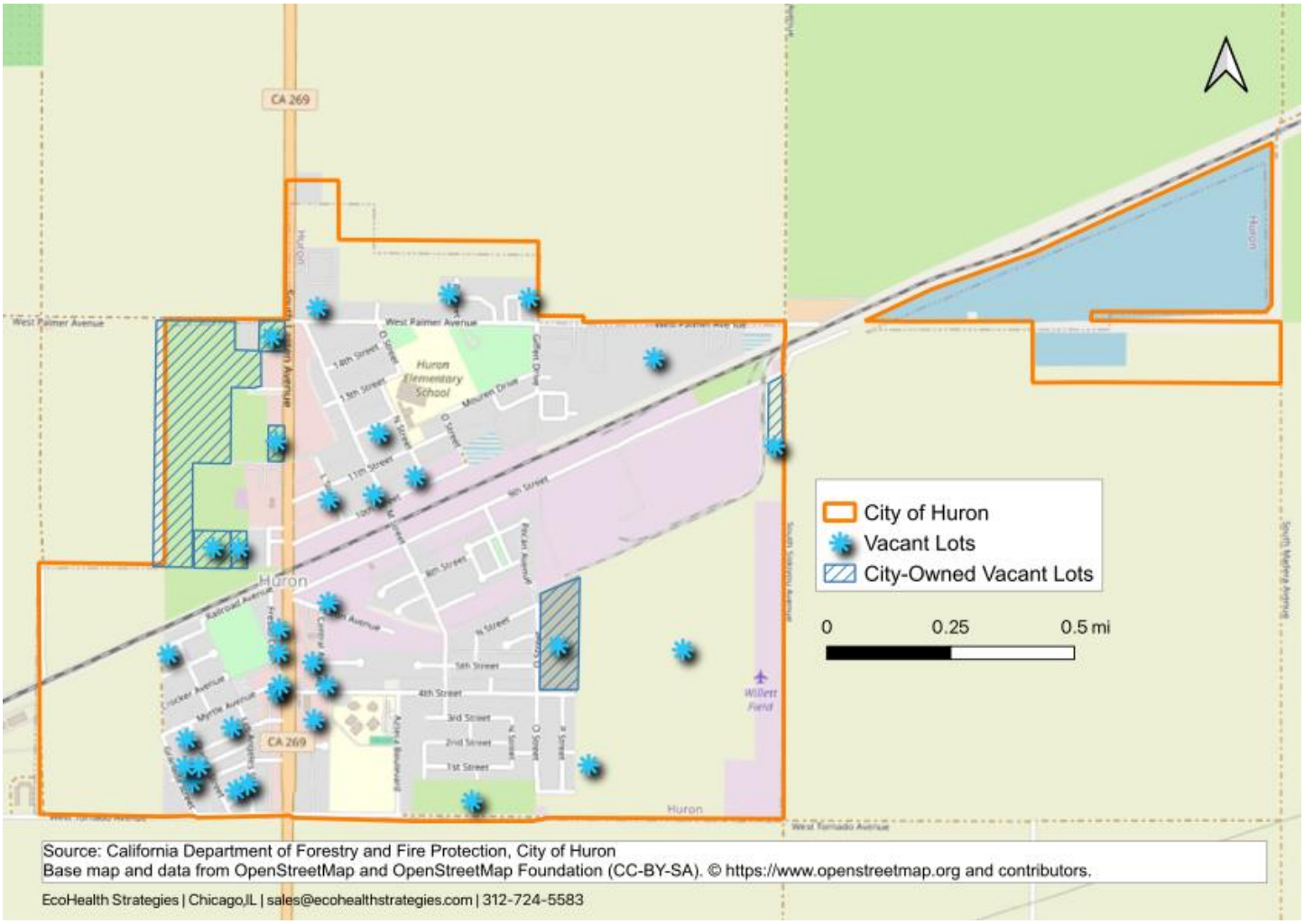
Strategy 3.3 **Low-Cost Flood Sensors**	
	Chicago Flooding Gets a Closer Look With New Sensor Project
References	Benefit–Cost Analysis of Low-Cost Flood Inundation Sensors

Drought

Strategy 4.1: Bioretention Basin

Huron has many vacant lots, with around seven being City-owned.

Figure 33: Vacant Lots in Huron



The map above shows the location of vacant lots in Huron. The blue stars indicate vacant lot locations, and the blue shaded areas are City-owned. There are 33 vacant lots, all distributed around the City, with around seven being City-owned.

City-owned vacant lots along Lassen Avenue, especially on the North Side where there are no vegetative medians, could be converted to bioretention basins, landscaped areas designed to capture and filter water. In an analysis of 50 existing bioretention system performance studies, stormwater runoff was reduced by 63%, peak flows by 74%, total suspended solids by 80%, total nitrogen loads

by 55%, and total phosphorous loads by 62%,[150] making them a viable option for mitigating flooding, recharging groundwater, and beautifying vacant lots. The City owns a vacant lot next to Dollar General along Lassen Avenue on the north side of Huron that could serve as a pilot bioretention basin project.

Strategy 4.1 **Bioretention Basin**	
Objective	Increase groundwater recharge.
Description	Select and retrofit one or two vacant lots to serve as bioretention basins to capture, filter, and recharge stormwater.
Type	Capital improvement/infrastructure projects
Hazard(s) Addressed	Drought, Flooding, Water Quality
Relevant Departments	Public Works
Potential Partners	California Department of Water Resources, Local landscaping companies
Resources to Leverage	Vacant city-owned lots
Priority	Medium-Low
Timeframe	7-9 years
Cost Estimate	High-Cost
Potential Funding Sources	California Department of Water Resources Grants: • Flood Corridor Program • Floodplain Management, Protection, and Risk Awareness Grant Program • Small Communities Flood Risk Reduction Infrastructure and Economic Development Bank - Infrastructure Revolving Fund Program
Replicability	Turning to nature to fight flooding: How cities are using bio-retention basins, rain gardens
References	Urban stormwater bioretention reduces runoff and improves water quality: A global meta-analysis of field studies

[150] Sabbagh et al., "Urban Stormwater Bioretention Reduces Runoff and Improves Water Quality: A Global Meta-Analysis of Field Studies."

Air Quality

Strategy 5.1: Non-Emergency City Vehicle Electrification

In addition to the air quality benefits of EVs, transitioning municipal fleets has provided cost savings and reduced maintenance to other cities.[151] The Huron Police Department acquired four EVs with the support of a Caltrans grant, but noted that transitioning the entire fleet is not feasible due to concerns about extreme weather conditions and response delays as a result of vehicle charging. However, transitioning other municipal vehicles could support the City in reducing emissions and improving air quality. Strategy 5:1 proposes a long-term transition of public works, sanitation, parks and recreation, and other City vehicles to EVs. This will likely be a slow transition, as vehicles should only be replaced once they are no longer functional.

Strategy 5.1 **Non-Emergency City Vehicle Electrification**	
Objective	Reduce air pollution from cars.
Description	Transition the fleet of non-emergency city vehicles (e.g., public works and sanitation, parks and recreation, general administration) to EVs, and install additional EV chargers as needed.
Type	Operational
Hazard(s) Addressed	Air Quality, Energy Security
Relevant Departments	Public Works & Sanitation, Parks and Recreation, City Council
Potential Partners	Caltrans, PG&E
Resources to Leverage	Existing EV Charging Stations
Priority	Medium-Low (But dependent on the lifespan of current City vehicles)
Timeframe	10+ years
Cost Estimate	High-Cost
Potential Funding Sources	California Clean Vehicle Rebate Project Charging and Fueling Infrastructure Program (CFI)
Replicability	Iowa City looks toward full electrification of municipal vehicles
References	Public Health and Climate Benefits and Trade-Offs of U.S. Vehicle Electrification

[151] Woolard, “Iowa City Looks toward Full Electrification of Municipal Vehicles.”

Strategy 5.2: Clean Off-Road Equipment

While not under the jurisdiction of the City, off-road vehicles on nearby farms often run on diesel and contribute to poor air quality. In an effort to improve local air quality, both within Huron and for farmworkers operating machinery, Strategy 5.2 proposes supporting farm owners and managers with accessing state vouchers to switch to low-emission and electric off-road vehicles. These programs exist but identifying and navigating the upgrade process can be daunting. One avenue for executing this strategy is to collaborate with farmers via the Huron Community Health and Empowerment Committee, bringing guest speakers to help farmers navigate the voucher process. While California CORE funding is currently closed, opportunities may open back up within the 7 to 9-year timeline.

Strategy 5.2 **Clean Off-Road Equipment**	
Objective	Mitigate air pollution in the agricultural sector.
Description	Work with farm owners and managers to obtain funding for low-emission and electric off-road farm equipment.
Type	Education/outreach/coordination
Hazard(s) Addressed	Air Quality, Agriculture
Relevant Departments	City Administration
Potential Partners	California Farmworkers Foundation, SEEN
Resources to Leverage	Huron Community Health and Empowerment Committee
Priority	Medium-low
Timeframe to Implement	7-9 years
Cost Estimate	Medium-cost
Potential Funding Sources	California Air Resources Board Clean Off-Road Equipment Vouchers
Replicability	Port of Los Angeles Reduces Emissions with CORE Incentives
References	A Market and Technology Assessment for Off-Road Vehicle & Equipment Energy and Emissions Innovation

Strategy 5.3: Distributed Energy Storage Systems (DESS) for EV Charging

The adoption of EVs will increase electricity demand and require sufficient charging infrastructure. Distributed energy storage systems (DESS) are an efficient solution to meet these requirements. DESSs store energy in multiple de-centralized locations, rather than one central location. During a period of abundant electricity, DESSs can store excess energy and use it later during periods of high demand.[152] This can be useful in the case of EV charging, as it allows for more consistency and

[152] Ahmed Halepoto et al., "12 - Distributed Energy Storage Systems for EV Charging Stations."

resiliency in EV charging systems. The lithium-ion batteries that are typically found alongside solar panels can become "virtual power plants"[153] that, when paired with EV charging stations, could reduce electricity costs and make EVs a more viable option.

Strategy 5.3 **Distributed Energy Storage Systems (DESS) for EV Charging**	
Objective	Develop affordable, resilient infrastructure for EV charging.
Description	Utilize the City's existing batteries as a distributed energy storage system (DESS) for EV charging.
Type	Capital improvement/infrastructure projects
Hazard(s) Addressed	Air Quality
Relevant Departments	City Administration, Public Works
Potential Partners	PG&E
Resources to Leverage	Existing solar energy systems
Priority	Medium-low
Timeframe	7-9 years
Cost Estimate	Medium-Cost
Potential Funding Sources	CAL eVIP: Fast Charge California Project
Replicability	N/A
References	Transforming decentralized energy systems: Flexible EV charging and its impact across urbanization degrees 12 - Distributed energy storage systems for EV charging stations

Strategy 5.4: Classroom Air Purification Ordinance

Strategy 5.4 proposes that the Mayor collaborate with the Coalinga-Huron Unified School District to draft an ordinance requiring HEPA filter air purifiers in all district classrooms. In a recent study of 17 Los Angeles Unified School District elementary schools with existing HVAC systems, adding HEPA filter air cleaners reduced average PM2.5 pollution by 39.9%. Compared to classrooms without HEPA filters, the infiltration of PM2.5 from outside was 13.8-82.4% lower as well, depending on the school evaluated. Researchers concluded that environmentally disadvantaged communities in particular can improve classroom air quality using filtration.[154]

[153] St. John, "As Rooftop Solar Gets Hammered, Virtual Power Plants Offer a Way Forward."
[154] Simona et al., "Classroom Air Quality in a Randomized Crossover Trial with Portable HEPA Air Cleaners."

Strategy 5.4 **Classroom Air Purification Ordinance**	
Objective	Improve air quality for Huron youth.
Description	Draft an ordinance to install HEPA filter air purifiers in all classrooms in Huron's elementary and middle school.
Type	Plans, regulations, and policy development Programmatic
Hazard(s) Addressed	Air Quality
Relevant Departments	City Council
Potential Partners	Coalinga-Huron Unified School District, SEEN
Resources to Leverage	Engaged City Council
Priority	Medium-High
Timeframe	4-6 years
Cost Estimate	Low-Cost
Potential Funding Sources	Philanthropy CA: Clean Air for Kids
Replicability	Chicago Public Schools Invests $8.5 Million to Provide HEPA Air Purifiers for Every Classroom
References	Schools as Community Cleaner Air and Cooling Centers Clean air shelters: A climate-adaptive measure to protect children's respiratory health during wildfire events

Strategy 5.5: Clean Air Center

Strategy 5.5 proposes activating the John Palacios Community Center as a clean air center during poor air quality days. Assembly Bill 836 established the Clean Air Centers Pilot Program.[155] Activating a clean air center could support those without indoor air purifiers in seeking a safe place to be, especially seniors who are more vulnerable to the impacts of air pollution.

Strategy 5.5 **Clean Air Center**	
Objective	Protect vulnerable populations from poor air quality.
Description	Activate the John Palacios Community Center as a clean air center during poor air quality days.
Type	Programmatic

[155] San Joaquin Valley Air Pollution Control District, "AB 836 Clean Air Centers Program."

Strategy 5.5 **Clean Air Center**	
Hazard(s) Addressed	Air Quality
Relevant Departments	Administration, Community Center Staff
Potential Partners	SJV Air Pollution Control District
Resources to Leverage	John Palacios Community Center
Priority	High
Timeframe	1-3 years
Cost Estimate	Low-Cost
Potential Funding Sources	California Air Resources Board Wildfire Smoke Clean Air Center Grant AB 836 Clean Air Centers Program
Replicability	California Clean Air Centers
References	N/A

Feasibility Studies and Benefit-Cost Analyses

Key Takeaways

1. The City of Huron identified two priority areas of intervention: 1) **Flood mitigation and groundwater recharge**, and 2) **Evacuation and transportation planning alternatives. Both priority areas are feasible and cost-effective** per the analyses below.
2. **Traditional benefit-cost analyses do not consider non-quantifiable metrics**, including human safety and well-being, as well as the social, cultural, and religious significance of natural resources.

Feasibility Study Methodology

This feasibility study draws on guidance from Aschbrenner et al., whose 2022 journal article focuses on mixed-methods feasibility studies. Mixed-methods analysis refers to the combination of quantitative and qualitative data, which allows for triangulation (identifying areas of agreement and disagreement within data), completeness (ensuring an holistic view of the available information), and explanation (interconnecting information to reveal feasibility).[156]

The researchers recommend taking the following steps to develop a tailored feasibility study.[157] The list below explains how each step was followed for this analysis.

1. Identify the relevant feasibility domains – The consulting team discussed feasibility with City staff, including which components of a project would promote its implementation within Huron. City staff noted that resource availability and funding opportunities were the most important considerations, along with urgency and importance. Public acceptance is also a valuable consideration. Both priority projects analyzed in this section were identified as urgent and important by the City, so the feasibility domains focused on resource availability, ability to acquire resources, cost-effectiveness, and public acceptance.

2. Align quantitative and qualitative data sources – Resource availability, ability to acquire resources, and public acceptance are all sources of qualitative data. Cost effectiveness was determined using a benefit-cost ratio (BCR), which is explained below. The BCR is a source of quantitative data. Scoring methodology was adapted from the California State Hazard Mitigation Plan's prioritization methodology.[158] In response to each question, three points were assigned for "yes," one point for "somewhat" or "unknown," and zero points for "no." Out of a possible 12 points, a total score of seven or higher would be considered feasible, as it is above the halfway point.

3. Determine the timing of data collection – Feasibility data were collected over the course of the project period and assessed altogether. Questions about resource availability were answered through interviews with Huron officials and partner agencies. Questions about the potential to access

[156] Aschbrenner et al., "Applying Mixed Methods to Pilot Feasibility Studies to Inform Intervention Trials."
[157] Aschbrenner et al., "Applying Mixed Methods to Pilot Feasibility Studies to Inform Intervention Trials."
[158] California Governor's Office of Emergency Services, "California State Hazard Mitigation Plan."

resources were determined through research into funding and financing opportunities for each intervention. Cost-effectiveness was determined using the BCRs calculated below, and public support was determined through community workshop survey results (See *Figure 19: Priority Recommendations from November Community Workshops* on page 52). Any projects not discussed during the workshop were scored a 1 for "Unknown."

4. Plan integrative analyses – Cost-effectiveness was incorporated into the feasibility study table based on whether the BCR for the priority project was above or below 1. The scoring methodology allowed for standardized analyses across all feasibility domains.

5. Draw meta-inferences about feasibility – A score of 7 or higher was determined as feasible, incorporating scores from both qualitative and quantitative metrics.

Table 15: Feasibility Scoring System

Response	Points Assigned
Yes	3
Somewhat/Unknown	1
No	0
Considered Feasible	**7+**

Benefit-Cost Analysis Methodology

The Benefit-Cost Analysis utilizes a standard BCR, where benefits are divided by costs. If the resulting number is above 1, the intervention is considered cost effective.[159] Estimated benefits, or avoided losses, were determined in conjunction with Huron's historic data and additional research where needed. Estimated intervention costs were identified through literature reviews. The total cost estimate represents the highest end of the cost range, in order to account for indirect and unforeseen costs.

Priority Project 1: Flood Mitigation and Groundwater Recharge

Flood Mitigation and Groundwater Recharge
Flood mitigation and groundwater recharge along Lassen Avenue requires investment in infrastructure and vegetation. Key flood mitigation and groundwater recharge activities from the recommendations in the previous section include promoting trees and green spaces and installing center median drainage along Lassen Avenue, permeable pavement in nearby parking lots, bioretention basins in nearby vacant lots, and a network of low-cost flood sensors. In combination, these interventions could support flood mitigation and groundwater recharge along Huron's most flood-prone street, Lassen Avenue.

[159] United States Department of Transportation Federal Highway Administration, "What Is a Benefit-Cost Analysis (BCA)?"

Feasibility Study					
Strategy	Does Huron have the resources needed?	Could Huron acquire the resources needed?	Is this intervention cost-effective (See below)?	Does the public support this intervention?	Feasibility Score
2.1: Promote Trees and Green Spaces	1	3	3	3	10
3.1: Center Median Drainage Along Lassen Ave	1	3	3	3	10
3.2: Permeable Pavement/Pavers	0	3	3	1	7
3.3: Low-Cost Flood Sensors	0	3	3	1	7
4.1: Bioretention Basin	0	3	3	1	7

Benefit-Cost Analysis		
Estimated Benefits (Avoided Losses) In 2023, Lassen Avenue was flooded and property was destroyed. Below are estimates of the costs incurred, provided by the City: • Up to $50k to bring in sandbags and crews • Up to $100k in damages to buildings • Up to $1 million in local road damage • **Total: Up to $1,150,000**	Estimated Costs (Combined Interventions) • Up to $30k per 1,000 linear feet for trees along Lassen Avenue in direct and indirect costs[160] = $60k (2,000 linear feet) • Up to $151,000 for each landscaped[161] = $302k (2 medians) • Up to $1.50 per square foot for porous asphalt, Up to $9 per square foot for pervious concrete, and up to $14 per square foot for	BCR (Benefits/Costs; Above 1 = Cost-Effective) 1,150,000/679,000=**1.69**

[160] Fresno Council of Governments, *Fresno Climate Resiliency Plan*.
[161] Fresno Council of Governments, *Fresno Climate Resiliency Plan*.

	permeable pavers[162] = $195k (2 lots of 65,000 sq ft) • Up to $37k to set up and up to $9k/year to maintain for each flood sensor[163] = $92k (2 sensors) • Up to $30k for each bioretention basin in direct and indirect costs[164] = $30k • **Total: Up to $679k**	

Priority Project 2: Evacuation and Transportation Planning Alternatives

Evacuation and Transportation Planning Alternatives
Evacuation and transportation planning alternatives can similarly be achieved through a combination of activities that enhance community resilience in an emergency. Key evacuation and transportation planning activities from the recommendations in the previous section include implementing a City-Wide mutual aid network, developing an emergency preparedness plan, leveraging Huron's digital marquee for alerts, and utilizing distributed energy storage systems to support EV charging during emergency evacuations and routine operations.

Feasibility Study					
Strategy	Does Huron have the resources needed?	Could Huron acquire the resources needed?	Is this intervention cost-effective (See below)?	Does the public support this intervention?	Feasibility Score
1.1: City-Wide Mutual Aid Network	3	3	3	1	10
1.4: Emergency	1	3	3	1	8

[162] United States Environmental Protection Agency, "Permeable Pavements."
[163] Rose et al., "Benefit–Cost Analysis of Low-Cost Flood Inundation Sensors."
[164] Fresno Council of Governments, *Fresno Climate Resiliency Plan*.

Preparedness Plan					
1.2: Digital Marquee Alerts	3	3	3	1	10
5.3: DESS for EV charging	1	3	3	1	7

Benefit-Cost Analysis		
Benefits (Avoided Losses) • Every $1 invested in preparedness saves communities $13 in economic impact (including preserved jobs, income, and economic output), damages, and cleanup.[165]	Costs (Losses) • Low- to no-cost to start a Huron mutual aid network, as it will leverage existing community resources • Low- to no-cost to implement an emergency preparedness plan • Low- to no-cost to leverage Huron's digital marquee for climate-related alerts. • Up to $22k per 20 kWh solar battery and up to $2k for EV charger integration[166] = $48k (2 20 kWh solar batteries with EV charger integration) • **Total: Up to $48,000**	BCR (Benefits/Costs; Above 1 = Cost-Effective) ($48,000*13)/$48,000= **13**

Non-Quantifiable Benefits

It is important to note that standard benefit-cost analyses fail to consider non-quantifiable benefits, including human health, safety, and well-being. While many analyses seek to quantify the value of human life, this is a complex issue that we did not attempt here. In discussions of the environment,

[165] Lewis, "Unpacking the ROI of Disaster Preparedness."
[166] NRG Clean Power, "How Much Does a Solar Battery Cost? (2025–2026 Guide)."

benefit-cost analyses typically do not consider the gravity of irreparable loss and damage to natural resources, including social, cultural, and religious meaning. The BCRs above are meant to represent, to the best of this team's ability, the financial benefits and costs related to implementing these projects. However, so long as the interventions improve quality of life for Huron residents, they should be considered effective and impactful.

Implementation Plan

Key Takeaways
1. The 17 strategies were organized into an implementation plan, with **timeframes ranging from 1 to 10+ years.** 2. **Funding, staffing, and monitoring considerations** were also included in the implementation plan. 3. **Implementation partners will play a key role in monitoring success metrics.**

Implementation Plan

Based on City priorities, community preferences, and research into implementation considerations, the 17 strategies described in Recommendations on page 94 have been placed into the long-term implementation plan below. The City of Huron requested that the implementation plan address funding, staffing, and monitoring, which will guide City staff and implementation partners in the execution of climate adaptation strategies.

- **Funding:** How can this strategy be funded or financed?
- **Staffing:** Who is responsible for the implementation and maintenance of this strategy?
- **Monitoring:** How will the effectiveness of this strategy be evaluated?

Without a dedicated position for tracking and reporting on climate metrics, the monitoring component of implementation will rely heavily on implementation partners and creative approaches.

Table 16: Implementation Plan

Timeline	Strategy	Funding	Staffing	Monitoring
1-3 Years	Strategy 1.2: Digital Marquee Alerts	Grant Funding • T Mobile - Hometown Grants • Climate Smart Communities Initiative (CSCI) Grants	Public Works Implementation partners • Fresno County OES • Caltrans	Evaluate road safety metrics (e.g., number of accidents) on Lassen Avenue during flood events.
1-3 Years	Strategy 3.1: Center Median Drainage Along Lassen Ave	General Fund Grant Funding • Flood Corridor Program • Floodplain Management, Protection, and	Public Works Implementation Partners • Tree People • Caltrans	Evaluate flood metrics (e.g., number and intensity of flood events) after installation.

Timeline	Strategy	Funding	Staffing	Monitoring
		Risk Awareness Grant Program • Small Communities Flood Risk Reduction Financing • Infrastructure and Economic Development Bank - Infrastructure Revolving Fund Program		
1-3 Years	Strategy 2.1: Trees and Green Spaces	Grant Funding • California Governor's Office of Land Use and Climate Innovation (LCI) - Extreme Heat and Community Resilience Program	Public Works Implementation Partners • Tree People	• Track ambient air temperatures, air quality, and crime rates, in areas with added tree cover. • Consider conducting a tree inventory.[167]
1-3 Years	Strategy 2.3: Cool Roof Ordinance	No funding required to draft the ordinance. Grant funding for installation • California Governor's Office of Land Use and Climate Innovation (LCI) - Extreme Heat and Community Resilience Program	City Council Implementation Partners • Local developers and roofing contractors	Track home utility bills after cool roof installation.
1-3 Years	Strategy 5.5: Clean Air Center	Grant Funding	City Administration,	Track usage metrics (e.g., number, age,

[167] Elmendorf, "Conducting a Community Tree Inventory."

Timeline	Strategy	Funding	Staffing	Monitoring
		• California Air Resources Board Wildfire Smoke Clean Air Center Grant • AB 836 Clean Air Centers Program	John Palacios Community Center Staff	and profession of attendees).
1-3 Years	Strategy 1.4: Emergency Preparedness Plan	General Fund Grant Funding • BRIC (FEMA), • EMPG (FEMA),	City Administration, Huron Police Department, CAL FIRE Fresno County, Fresno County OES	Evaluate safety metrics in emergencey scenaiors (e.g., number of people successfully evacuated).
4-6 Years	Strategy 2.2: Shaded and/or Cooling Bus Shelters	FCRTA Funding Grant Funding • Caltrans - Caltrans FTA 5310 2025 Call for Projects	City Administration Implementation Partners • FCRTA	Evaluate ridership metrics (e.g., ridership numbers, times of day, and reported satisfaction with bus stops) within Huron.
4-6 Years	Strategy 1.1: City-Wide Mutual Aid Network	General Fund	City Administration Community Partners • CBOs, small businesses, schools, etc.	Evaluate participation in mutual aid network and resilience metrics during emergencies (e.g., number of requests sent and fulfilled via host platform).
4-6 Years	Strategy 3.2: Permeable Pavement/Pavers	Grant Funding • State Water Resources Control Board - Storm Water Grant Program (SWGP) • Flood Corridor Program	Public Works	Evaluate flood metrics (e.g., number and intensity of flood events) after installation.

Timeline	Strategy	Funding	Staffing	Monitoring
		• Floodplain Management, Protection, and Risk Awareness Grant Program • Small Communities Flood Risk Reduction Financing • Infrastructure and Economic Development Bank - Infrastructure Revolving Fund Program		
4-6 Years	Strategy 5.4: Classroom Air Purification Ordinance	No funding required to draft the ordinance. Grant Funding • Philanthropy CA: Clean Air for Kids	City Council Implementation Partners • Coalinga-Huron Unified School District • SEEN	Evaluating classroom air quality using air purifier reporting or indoor air quality monitors.
7-9 Years	Strategy 2.4: Cool Pavement	Grant Funding • California Governor's Office of Land Use and Climate Innovation (LCI) - Extreme Heat and Community Resilience Program	Public Works Implementation Partners • Caltrans • FCOG	Track ambient air temperatures in areas with cool pavement installed
7-9 Years	Strategy 3.3: Low-Cost Flood Sensors	Grant Funding • Flood Corridor Program • Floodplain Management,	Public Works Implementation Partners • Caltrans	Evaluate flood response metrics (e.g., response time to major flood events, damages

Timeline	Strategy	Funding	Staffing	Monitoring
		Protection, and Risk Awareness Grant Program • Small Communities Flood Risk Reduction Financing • Infrastructure and Economic Development Bank - Infrastructure Revolving Fund Program	• California Department of Water Resources	incurred and avoided).
7-9 Years	Strategy 4.1: Bioretention Basin	Grant Funding • Flood Corridor Program • Floodplain Management, Protection, and Risk Awareness Grant Program • Small Communities Flood Risk Reduction Financing • Infrastructure and Economic Development Bank - Infrastructure Revolving Fund Program	Public Works Implementation Partners • California Department of Water Resources • Local landscaping companies	Track groundwater recharge metrics (e.g., well water data, frequency and intensity of flood events) near the site of the bioretention basin.
7-9 Years	Strategy 5.3: Distributed Energy Storage Systems (DESS) for EV Charging	Grant Funding • CAL eVIP: Fast Charge California Project	City Administration Implementation Partners: • California Energy Commission	Evaluate energy metrics (e.g., utilization rate, GHG reductions, EV adoption) and air quality metrics (e.g.,

Timeline	Strategy	Funding	Staffing	Monitoring
			• Local contractors	ground-level ozone, PM2.5 and 10).
7-9 Years	Strategy 5.2: Clean Off-Road Equipment	State Vouchers • California Air Resources Board Clean Off-Road Equipment Vouchers	City Administration Implementation Partners • California Farmworker Foundation • SEEN	Evaluate farmworker health and safety (e.g., incidents of Valley Fever reported).
7-9 Years	Strategy 1.3: Huron Public Library Sustainability Programming	Grant Funding • CA State Library 2025-2026 Sustainable California Libraries	Huron Public Library Staff	Track educational metrics via post-programming knowledge surveys.
10+ Years	Strategy 5.1: Non-Emergency City Vehicle Electrification	Grant Funding • California Clean Vehicle Rebate Project • Charging and Fueling Infrastructure Program (CFI)	City Council, Public Works, Sanitation, and Park and Recreation Implementation Partners: • Caltrans • PG&E	Evaluate energy metrics (e.g., GHG emissions reduced) and financial metrics (e.g., savings due to electrification)

Funding and Financing

Key Takeaways

1. Grant opportunities can be identified at the **local, state, or federal level, as well as from philanthropic sources.**
2. **Braiding, blending, and stacking funds** are ways to maximize funding for a project.
3. **Centering local contexts, voices, and priorities** will ensure that funding is aligned with community needs.

Identifying how to fund or finance a project and resilience initiative are ongoing challenges for most jurisdictions. This plan outlines various relevant public and private grant opportunities for Huron to explore as it seeks to adapt to the impacts of climate change. While the list is comprehensive, please note that it is not exhaustive. In an effort to support Huron in continuing to fund climate adaptation and mitigation efforts, this section also details some best practices in identifying grant opportunities and combining funding sources.

Identifying Grant Opportunities

Huron can seek out local, state, and federal funding, as well as philanthropic grant opportunities. Each funding type has opportunities and limitations, as seen in the table below. Combining public and private grants is a recommended strategy for small communities like Huron that are seeking to maximize funding for climate adaptation.[168]

Table 17: Funding Opportunity Types

Funding Type	Opportunities	Limitations	Where to Look
Local	Local grants may be more tailored to the local context and are often less competitive than federal grants.	These grants are often smaller than state or federal grants.	Local websites and agencies (i.e., Central Valley Community Foundation, San Joaquin Valley Air Pollution Control District)
State	State grants may have more aligned	These grants may be especially competitive in a	California Grants Portal CA State Agency Webpages:

[168] Zemaitis, "Unlocking Community Resilience: Innovative Strategies to Access Climate Adaptation Funding: Lessons from Colorado."

Funding Type	Opportunities	Limitations	Where to Look
	and/or targeted priorities than federal grants, and are often larger than local grants.	large state like California.	• https://www.energy.ca.gov/funding-opportunities • https://water.ca.gov/work-with-us/grants-and-loans • https://www.conservation.ca.gov/dlrp/grant-programs • https://ww2.arb.ca.gov/funding-opportunities
Federal	Federal grants often offer the largest amount of funding.	These grants are susceptible to changing priorities under different administrations, and some require communities to match a percentage of the funds.	www.grants.gov
Philanthropic	Philanthropic grants are less susceptible to changes under different political administrations.	These grants may be tied to specific funder interests.	Individual organization websites (I.e., Robert Wood Johnson Foundation, Climate Smart Communities Initiative)

Combining Funds

Combining funds from various sources can be a valuable strategy for small communities seeking to take on larger-scale projects. This can be done by braiding, blending, or stacking funding streams.

- **Braiding funds** is a strategy that consists of combining funding from various sources to support a common goal or idea. With braided funds, each funding source is tracked and reported independently and can be done without statutory authority, meaning it does not require new legislation or formal legal approval.[169]
- **Blending funds** also consists of combining funding from various sources to support a common goal or idea. However, with blended funds, each funding source loses its specific

[169] National Association of County & City Health Officials, "Braided and Blended Funding."

identity and requires statutory authority. The agency or coalition reports on the total funds used, rather than each individual funding source.[170]

- **Stacking funds**, also called sequencing, consists of using various funding sources sequentially while tracking and reporting on each source independently.[171]

Scaling Investments

The Nature Conservancy spotlights "Investing in Community-Driven Climate Solutions" in its 2025 *Playbook for Climate Finance: Investing in a Thriving Planet*. In this playbook, communities are encouraged to build capacity, overcome shared barriers, and utilize innovative tools that promote self-determination, sustainability, and equity. By relying on community leadership and aligning finances with local value systems, communities can co-create solutions that are widely and equitably beneficial.[172]

Some key tips for scaling investments include:

- **Combining financing with local capacity building**, while promoting authentic community engagement, participatory governance, and indigenous rights.
- **Centering local contexts** in financial planning.
- **Directing funding** to the community, rather than relying on intermediaries.
- **Centering local and indigenous voices** in policy decisions.[173]

Summary of Potential Funding and Financing Opportunities

The table below summarizes the grants included in the Recommendations section, which begins on page 94. Each funding opportunity has distinct application processes, requirements, and timelines. While some grant opportunities may not be active at the time of this document's submission, they were still included in this CVAAP should the opportunity re-open in subsequent years or a new opportunity is shared from the same organization or entity. This decision was made considering the long-term timeline of this CVAAP. Please note, EcoHealth Strategies is not affiliated with any funding organization. This list is based on research alone.

Table 18: Summary of Potential Funding and Financing Opportunities

Hazard	Organization	Funding Opportunity	Source
All	Robert Wood Johnson Foundation	Exploring Equitable Futures	https://www.rwjf.org/en/grants/active-funding-opportunities/2025/exploring-equitable-futures.html

[170] National Association of County & City Health Officials, "Braided and Blended Funding."
[171] United States Department of Energy Office of State and Community Energy Programs, "State Energy Office (SEO) Guide to Braiding and Stacking Federal Funds ."
[172] The Nature Conservancy, "Playbook for Climate Finance: Investing in a Thriving Planet."
[173] The Nature Conservancy, "Playbook for Climate Finance: Investing in a Thriving Planet."

Hazard	Organization	Funding Opportunity	Source
All	T Mobile	Hometown Grants	https://www.t-mobile.com/brand/hometown-grants
All	Climate Smart Communities Initiative (CSCI)	Climate Smart Communities Initiative Grants	https://climatesmartcommunity.org/accepting-grant-applications-2025/
All	CA State Library	2025-2026 Sustainable California Libraries	https://www.grants.ca.gov/grants/2025-2026-sustainable-california-libraries/
Air Quality	Caltrans	Caltrans FTA 5310 2025 Call for Projects	https://www.grants.ca.gov/grants/caltrans-fta-5310-2025-call-for-projects/
Air Quality	Caltrans	Active Transportation Program (ATP)	https://dot.ca.gov/programs/local-assistance/fed-and-state-programs/active-transportation-program
Air Quality	California State Treasurer	California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA)	https://www.treasurer.ca.gov/caeatfa/
Air Quality	Center for Sustainable Energy and the California Air Resources Board	California Clean Rebate Project	https://cleanvehiclerebate.org/en
Air Quality	Caltrans	Charging and Fueling Infrastructure Program (CFI)	https://dot.ca.gov/programs/local-assistance/fed-and-state-programs/charging-and-fueling-infrastructure
Air Quality	California Air Resources Board	Community Air Grants	https://ww2.arb.ca.gov/capp/fund/cag/community-air-grants
Air Quality	California Air Resources Board	Wildfire Smoke Clean Air Center Grant	https://ww2.arb.ca.gov/our-work/programs/wildfire-smoke-clean-air-center-grant

Hazard	Organization	Funding Opportunity	Source
Air Quality	California Air Resources Board	Clean Off-Road Equipment Vouchers	https://ww2.arb.ca.gov/our-work/programs/clean-off-road-equipment-voucher-incentive-project
Air Quality	CAL eVIP	Fast Charge California Project	https://calevip.org/fast-charge-california-project
Air Quality	Philanthropy CA	Clean Air for Kids	https://climatecapacity.philanthropyca.org/funding-opportunity/clean-air-for-kids/
Air Quality	San Joaquin Valley Air Pollution Control District	AB 836 Clean Air Centers Pilot Program	https://www.valleyair.org/grants
Drought	Infrastructure and Economic Development Bank	Infrastructure Revolving Fund Program	https://www.grants.ca.gov/grants/infrastructure-state-revolving-fund-isrf-program/
Extreme Heat	California Governor's Office of Land Use and Climate Innovation (LCI)	Extreme Heat and Community Resilience Program	https://www.caclimateinvestments.ca.gov/extreme-heat-and-community-resilience-program
Flooding	Verizon	Verizon Disaster Resilience - Flood Sensor Initiative	https://www.verizon.com/about/responsibility/verizon-disaster-resilience
Flooding	State Water Resources Control Board	Storm Water Grant Program (SWGP)	https://www.waterboards.ca.gov/water_issues/programs/grants_loans/swgp/
Flooding	California Department of Water Resources	Flood Corridor Program	https://water.ca.gov/Work-With-Us/Grants-And-Loans/Flood-Corridor-Program
Flooding	California Department of Water Resources Grants:	Floodplain Management, Protection, and Risk Awareness Grant Program	https://water.ca.gov/Work-With-Us/Grants-And-Loans/Flood-Corridor-Program

Hazard	Organization	Funding Opportunity	Source
Flooding	California Department of Water Resources Grants:	Small Communities Flood Risk Reduction	https://water.ca.gov/Work-With-Us/Grants-And-Loans/Flood-Management-Protection-Risk-Awareness-Program
Global Climate Change	The Switch Is On	Grants	https://incentives.switchison.org/residents/incentives?state=CA
Global Climate Change	California Department of Community Services and Development	Low-Income Weatherization Program	https://www.csd.ca.gov/Pages/Low-Income-Weatherization-Program.aspx
Global Climate Change	California Utilities Commission	Energy Efficiency and Demand Response programs	https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/demand-side-management/energy-efficiency
Global Climate Change	California Public Utilities Commission	Self-Generation Incentive Program	https://www.cpuc.ca.gov/sgipinfo
Global Climate Change	Administration for Children and Families	Low-Income Home Energy Assistance Program	https://www.acf.hhs.gov/ocs/programs/liheap
Global Climate Change	California Department of Community Services and Development	Weatherization Assistance Program	https://www.csd.ca.gov/Pages/Residential-Energy-Efficiency.aspx
Global Climate Change	California Conservation Corps	California Conservation Energy Corps Program	https://ccc.ca.gov/what-we-do/conservation-programs/energy-corps/joining-the-ccc-energy-corps/
Global Climate Change	PG&E	Community microgrids	https://www.pge.com/en/save-energy-and-money/rebates-and-incentives/community-microgrids.html?vnt=mip
Global Climate Change	US EPA	Commercial Property Assessed Clean Energy	https://www.epa.gov/statelocalenergy/commercial-property-assessed-clean-energy

Hazard	Organization	Funding Opportunity	Source
Global Climate Change	California Energy Commission	Demand Side Grid Support Program	https://www.energy.ca.gov/programs-and-topics/programs/demand-side-grid-support-program
Global Climate Change	California Public Utilities Commission	Customer-Sited Renewable Energy Generation	https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/demand-side-management/customer-generation
Global Climate Change	California Public Utilities Commission	Self-Generation Incentive Program (SGIP)	https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/demand-side-management/self-generation-incentive-program

Future Considerations

Given Huron's limitations related to finances, staffing, and capacity, some recommendations may not be feasible within this plan's timeline, however they are worth memorializing for future considerations. Below are some considerations for future iterations of this plan:

1. **Office of Environment and Sustainability:** Climate change is an ongoing and worsening issue, and Huron already faces disproportionate climate impacts. For the City's future consideration, the consulting team recommends creating an office of environment and sustainability, dedicated to tracking climate data and implementing climate adaptation efforts. This office could be staffed by 1 to 3 people to ensure the ongoing health and safety of the Huron community.
2. **Community Investment Cooperative (CIC):** A CIC was not recommended in the body of the report, as it would be considered a much longer-term community investment. However, this unique cooperative model is gaining traction in small communities as a way to revitalize the economy and support sustainable projects. Participating community members can make a small investment in a community fund to support local ventures such as affordable housing, renewable energy, sustainable agriculture, and local business development.[174]
3. **School Bus Electrification:** The San Joaquin Valley Air Pollution Control District's Zero-Emission School Bus Replacement Incentive Program is no longer accepting applications due to overwhelming interest in the program.[175] However, the Coalinga-Huron Unified School District may want to stay informed of future opportunities to transition its school bus fleet to electric buses.

[174] Canadian CED Network, "Community Investment Co-Ops: A Growing Co-Operative Sector in BC."
[175] San Joaquin Valley Air Pollution Control District, *Zero-Emission School Bus Replacement Incentive Program*.

Conclusion

This CVAAP seeks to enhance the City of Huron's resilience to the impacts of climate change. EcoHealth Strategies developed this plan with the Huron community at the center, aiming to address the City's greatest climate-related challenges with thoughtful, community-driven and cost-effective solutions. Throughout the implementation of this plan and beyond, it will be essential to continue maximizing accessibility for all residents, including youth, farmworkers, elders, individuals experiencing homelessness, and low-income families. This includes prioritizing equity by ensuring that those most vulnerable to climate impacts are protected and meaningfully included in decision-making. Additionally, limited technological literacy within the Huron community will continue to require diverse and creative communication infrastructure.

The recommendations and implementation plan put forth in this document are a starting point for Huron, meant to grow and evolve as the City's priorities and needs change over time.

For all those who call Huron home, we hope this plan offers relevant, practical solutions that make the City a safer, healthier, and more sustainable place to live, both now and into the future.

Glossary

Adaptation: Actions taken to help natural or human systems respond to new or shifting environmental conditions, reducing potential damage or making use of any positive effects.[176]

Agricultural Drought: Insufficient soil moisture to meet crop needs.[177]

Aquifer: A body or layer of rock, sand, or gravel that can hold and transmit groundwater.[178]

Atmospheric Rivers: Long corridors of water vapor that are formed by high-powered winds dragging across the Pacific Ocean.[179]

Benefit-Cost Analysis: A structured process for identifying, measuring, and comparing expected benefits and costs of an investment, action, or policy. [180]

Blackout: A large-scale power failure affecting many electricity consumers for a significant period of time.[181]

Braiding Funds: A strategy that consists of combining funding from various sources to support a common goal or idea. With braided funds, each funding source is tracked and reported independently and can be done without statutory authority, meaning it does not require new legislation or formal legal approval.[182]

Blending Funds: Combining funding from various sources to support a common goal or idea. With blended funds, each funding source loses its specific identity and requires statutory authority. The agency or coalition reports on the total funds used, rather than each individual funding source.[183]

Brownout: A deliberate reduction in power where the utility lowers the voltage on electrical lines, resulting in a weaker current delivered to customers. Utilities may use brownouts when overall demand is higher than the available supply. Most households rarely notice the change.[184]

Climate Change: Often used to describe any shifts or irregularities in climate, though Earth's climate is always shifting to some degree. More accurately, it refers to major, longer-term shifts from one climate state to another. While some people use climate change interchangeably with global

[176] United States Environmental Protection Agency, *Glossary of Climate Change Terms*.
[177] The County of Fresno, "Fresno County Hazard Mitigation Plan."
[178] National Geographic, "Aquifers."
[179] Ecosystems Land Change Science Program, "Causes and Consequences of Flooding in California's Central Valley"; Sabalow and Kasler, "California Is at Risk of a Mega-Flood. Are Central Valley Communities Prepared for It?"
[180] United States Department of Transportation Federal Highway Administration, "What Is a Benefit-Cost Analysis (BCA)?"
[181] California Energy Commission, "Energy Glossary."
[182] National Association of County & City Health Officials, "Braided and Blended Funding."
[183] National Association of County & City Health Officials, "Braided and Blended Funding."
[184] California Energy Commission, "Energy Glossary."

warming, scientists generally use the term more broadly to include both human-driven and natural climate variations.[185]

Community Based Organization (CBO): An organization led by local residents, operates within the community, and centers resident-identified priorities through resident-driven program design and implementation. Click[186]

Dependent Variable: A variable representing the outcome or condition being measured that is expected to vary in response to changes in the independent variable.[187]

Electric Grid: A large, interconnected system of transmission and distribution lines, transformers, sensors, communication systems, and control equipment that links electricity generators to homes, businesses, and other end users to deliver power reliably. Click[188]

Extreme Heat: A relative term, often defined by unusual levels of heat and humidity for a given geographic area.[189]

Feasibility Study: A process for comparing different options in order to identify the approach that best meets applicable requirements and provides a basis for planning and carrying out the selected actions.[190]

Flash Floods: Flooding that occurs when localized flooding happens in high volumes during short periods of time.[191]

Flooding: Water overflowing onto land that is typically dry.[192]

Graywater: Untreated wastewater from household uses such as bathing, laundry, and hand washing that does not include water from toilets or other sewage sources. It is usually kept separate from more contaminated wastewater and may be reused for non-drinking purposes such as landscape irrigation.[193]

Greenhouse Gases (GHGs): Any substance in the atmosphere that traps infrared heat. Examples include water vapor, carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), ozone (O3), and several human-made compounds like halogenated fluorocarbons (HCFCs), perfluorinated carbons (PFCs), and hydrofluorocarbons (HFCs)[194]

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[185] California Energy Commission, “Energy Glossary.”
[186] University of Michigan School of Public Health, “What Is a CBO?”
[187] National Institutes of Health, “Dependent and Independent Variables.”
[188] United States Department of Energy, “Electric Grids.”
[189] United States Environmental Protection Agency and Centers for Disease Control and Prevention, “Climate Change and Extreme Heat: What You Can Do to Prepare.”
[190] United States Department of Energy, “Feasibility Study.”
[191] The County of Fresno, “Fresno County Hazard Mitigation Plan.”
[192] National Oceanic & Atmospheric Administration, “Severe Weather 101.”
[193] Los Angeles County Department of Public Health, “Graywater in Los Angeles County.”
[194] California Energy Commission, “Energy Glossary.”

Ground-Level Ozone: Formed when pollutants from cars, power plants, industrial boilers, refineries, chemical plants, and other sources react with sunlight, and can be harmful to human health.[195]

Groundwater: Water found below the Earth's surface in fully saturated layers of soil and rock. The top boundary of this saturated zone is known as the water table.[196]

Hydrological Drought: Deficient surface and groundwater supply.[197]

Independent Variable: A variable that researchers identify as the factor expected to influence or explain variation in another variable; it is selected or changed in a study to examine its potential effect.[198]

Land Subsidence: Sinking ground levels as a result of over-pumping groundwater.[199]

Localized Flooding: Flooding that occurs as a result of heavy rains running off impervious surfaces, such as sidewalks and roads, and can be coupled with inadequate drainage systems.[200]

Meteorological Drought: A period of diminished precipitation.[201]

Particle Pollution: Comprised of PM10 and PM2.5. PM10 is particulate matter with a diameter of 10 micrometers or smaller, and PM2.5 is particulate matter with a diameter of 2.5 micrometers or smaller. Sources of particle pollution are varied, including both direct pollutant emissions and chemical reactions in the air. Both PM10 and PM2.5 are small enough to inhale, and can cause serious health impacts.[202]

Percentile: A statistical value that marks a position in an ordered set of data such that a specified percentage of the data fall at or below that value and the remainder fall above it.[203]

Qualitative Data: Data that describes characteristics or categories and are represented by names, symbols, or codes rather than numeric values.[204]

Quantitative Data: Data that represents measured values or counts and are expressed using numbers, typically reflecting how much, how many, or how often something occurs.[205]

[195] United States Environmental Protection Agency, "Ground-Level Ozone Basics."
[196] United States Geological Survey, "What Is Groundwater?"
[197] The County of Fresno, "Fresno County Hazard Mitigation Plan."
[198] National Institutes of Health, "Dependent and Independent Variables."
[199] California Department of Water Resources, "California Aqueduct Subsidence Program."
[200] The County of Fresno, "Fresno County Hazard Mitigation Plan."
[201] The County of Fresno, "Fresno County Hazard Mitigation Plan."
[202] United States Environmental Protection Agency, "Particulate Matter (PM) Basics."
[203] National Institute of Standards and Technology, "7.2.6.2. Percentiles."
[204] Australian Bureau of Statistics, "Quantitative and Qualitative Data."
[205] Australian Bureau of Statistics, "Quantitative and Qualitative Data."

Representative Concentration Pathways (RCPs): Emissions scenarios based on the warming limit. RCPs range from scenarios limiting warming to 1.5°C to scenarios exceeding warming of 4°C, representing policies and actions taken in the near-term.[206]

Resilience: The ability to anticipate, prepare for, and recover from major hazards while maintaining minimal impacts on social well-being, the economy, and the environment.[207]

Secondary Wastewater Treatment: Water is not recycled to a potable level but can be used for irrigation.[208]

Shared Socioeconomic Pathways (SSPs): Future climate change scenarios based on actions taken in the near-term. The scenarios range from very high emissions to high, intermediate, low, and very low emissions.[209]

Slow Rise Flooding: Waterways are overwhelmed with heavy precipitation.[210]

Socio-Economic Drought: When drought impacts on human and economic wellbeing.[211]

Stacking Funds: Also called sequencing, stacking funds consists of using various funding sources sequentially while tracking and reporting on each source independently.[212]

Valley Fever: A respiratory illness caused by breathing in fungal spores found in soil and dust. People who work outdoors in dusty conditions, including farmworkers and construction workers, face higher risk of exposure.[213]

Zoning: A local government action that divides land into sections and sets rules for how each section can be used and developed, such as for residential, commercial, or industrial purposes.[214]

[206] Intergovernmental Panel on Climate Change, “Climate Change 2023 Synthesis Report: Summary for Policymakers.”
[207] United States Environmental Protection Agency, *Glossary of Climate Change Terms*.
[208] United States Environmental Protection Agency, “Secondary Treatment Standards.”
[209] Intergovernmental Panel on Climate Change, “Climate Change 2023 Synthesis Report: Summary for Policymakers.”
[210] California Department of Water Resources, *Glossary*.
[211] The County of Fresno, “Fresno County Hazard Mitigation Plan.”
[212] United States Department of Energy Office of State and Community Energy Programs, “State Energy Office (SEO) Guide to Braiding and Stacking Federal Funds .”
[213] Centers for Disease Control and Prevention, “Valley Fever.”
[214] Legal Information Institute, “Zoning.”

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Appendices

Appendix A: Summary of Community Outreach

Organization	Engagement Timeline	Description
CAL FIRE Fresno County Fire	August, 2025	EcoHealth Strategies met with CAL FIRE Fresno County Fire, to discuss emergency preparedness efforts for the City of Huron.
California Farmworker Foundation	July-August, 2025	A meeting was held to discuss possible areas of collaboration. No formal partnership was established.
Huron Police Department	August-September 2025	EcoHealth Strategies met with the Huron Police Department to discuss key aspects of the city's emergency response and coordination. The meeting provided valuable insights into local emergency operations and coordination needs.
City Engineer's Office	September, 2025	Discussions with covered topics related to public works, city operations, and general data needs to support ongoing planning and analysis efforts.
Huron Mayor	August, 2025	The Mayor of Huron hosted a Back-to-School event where EcoHealth Strategies tabled, engaging directly with residents and collecting numerous survey responses and recordings.
Fresno Council of Governments	August-September, 2025	EcoHealth Strategies connected with the Fresno Council of Governments to learn more about the Fresno County Extreme Heat Survey.
Líderes Campesinas	July, 2025	EcoHealth Strategies attempted to connect with Líderes Campesinas but was not successful.
Fresno County OES	September, 2025	EcoHealth Strategies was connected to the Fresno County Office of Emergency Services (OES) through CAL FIRE. The team held a meeting focused on emergency services and evacuation planning for the City of Huron, which provided valuable insights and coordination opportunities for future preparedness efforts.
The Latino Equity, Advocacy & Policy (LEAP) Institute	August 2025	EcoHealth Strategies connected with Ray León in his role as CEO of the LEAP Institute during the organization's e-bike fleet event. The team participated on-site, gathered a large number of

Organization	Engagement Timeline	Description
		community survey responses, and gained deeper insight into local initiatives and engagement efforts.
Woolf Farms	July, 2025	EcoHealth Strategies visited Woolf Farms, receiving valuable insights into the climate challenges and cost pressures affecting both the farm and its workers.
SocioEnvironmental and Education Network (SEEN)	July-September, 2025	SEEN provided invaluable on-the-ground support and co-led the Air Purifier Workshop Series, helping to distribute air purifiers and share EcoHealth's findings with residents.
Westside Family Preservation	August, 2025	Westside Family Preservation was engaged, and the organization took several workshop flyers to share at their office.

Appendix B: Comparative Analysis

City, County or State	Climate Impacts/ Exposure to Hazards?	Adaptation and Mitigation Strategies	State or federal funding received?	Documents Reviewed
Huron, Fresno County, CA	**Flooding:** The Huron General Plan outlines the objective of protecting the lives and property of residents from the hazards of flooding (City of Huron General Plan). (Huron Flooding Risk). **Water Quality and Availability:** Water issues outlined in the Huron General Plan include groundwater recharge and conservation of ground water resources (City of Huron General Plan). **Air Quality:** The Huron General Plan outlines measures that allow the San Joaquin Valley Air Pollution Control. District (SJVAPCD) to attain Federal and State air quality standards that will move toward a sustainable level of air quality (City of Huron General Plan). (Does Huron have risk?).	**Flooding**: Create a city-wide storm drainage master plan. **Groundwater:** Expand programs that enhance groundwater recharge and regularly monitor water resources with help from the Regional Water Quality Control Board. **Air quality:** The San Joaquin Valley Air Pollution Control District will be consulted to provide community planning guidance to help reduce potential air quality impacts. New construction activities shall comply with the standard and optional PM10 control measures as set forth by the San Joaquin Valley Air Pollution Control District's Guide for Assessing and Mitigating Air Quality Impacts. As part of the development review process, develop mitigation measures to minimize stationary and area source emissions. Develop transportation systems that minimize vehicle delay and air pollution Lead by example and integrate renewable energy generating systems at municipal facilities and on appropriate City land.	Not found	City of Huron General Plan Does Huron have Heat Risk? Does Huron have Wildfire Risk? Does Huron have risk? Huron Flooding Risk

City, County or State	Climate Impacts/ Exposure to Hazards?	Adaptation and Mitigation Strategies	State or federal funding received?	Documents Reviewed
	Agriculture: Agricultual issues outlined in the Huron General Plan include an orderly transition from agriculture to urban uses and conservation of agricultural lands by establishing a greenbelt around the City (City of Huron General Plan). **Fire**: Wildland and urban fires are identified as a safety hazard (City of Huron General Plan). (Does Huron have Wildfire Risk?). **Extreme Heat:** 100% of homes in Huron have what is considered a "Severe Heat Factor" (Does Huron have Heat Risk?).	**Biodiversity**: Promote biological diversity and the use of plant species compatible with the bioregion. **Waste**: Initiate and/or support local and regional recycling programs, and transfer station-based solid waste sorting programs. Update the water, wastewater and sewer master plans, and any other specific master plan related to infrastructure development on a periodic basis and determine spatial needs of public facilities that will create demand on land. Create a waste disposal reduction program to promote recycling. **Agriculture**: Conduct studies geared towards the creation, management, and proliferation of sustainable practices of the existing agriculture activity in the Planning Area. Foster agricultural activities that are in line with sustainable development criteria. **Energy:** Complete solar installation feasibility studies of City properties and consider participating in regional joint purchase program for solar energy generation where feasible and cost effective.		

City, County or State	Climate Impacts/ Exposure to Hazards?	Adaptation and Mitigation Strategies	State or federal funding received?	Documents Reviewed
		Land Use: Maintain the core area (Lassen Avenue from Palmer to Tornado Road) as the City's geographic center and main gateway feature. **Fire**: All new buildings must conform to state standards set forth in the Dangerous Building Code contained in the most current edition of the Uniform Building Code. (City of Huron General Plan).		
San Joaquin Valley (Region)	**Water Quality:** San Joaquin Valley (SJV) community members stress water quality as one of their top concerns. (Climate Change in the San Joaquin Valley). **Water Supply:** Agricultural production and population growth have stressed the region's water supply. (Climate Change in the San Joaquin Valley). **Flooding:** In some SJV communities, floods can occur following any amount of rainfall due to lack of sidewalks or basic sewage and sanitation systems. (Climate Change in	Proposed Solutions **Water Quality**: San Joaquin valley proposes addressing water quality concerns in the following ways (Climate Change in the San Joaquin Valley): Water testing, septic discharging, and water filters. Policy advocacy for better water quality oversight. **Flooding**: Flood-Managed Aquifer Recharge (Flood-MAR) is working to replenish groundwater aquifers in the state using groundwater. (Climate Change in the San Joaquin Valley). **Management of aquifer recharge** (Climate Change in the San Joaquin Valley). **Green wildlife corridors** (Climate Change in the San Joaquin Valley).	San Joaquin Valley Air Pollution Control District United States Environmental Protection Agency	San Joaquin Valley Region Report 2021 California Climate Adaptation Strategy San Joaquin Valley Regional Workshop Summary Climate Change in the San Joaquin Valley Case Study: Sustainable Agricultural Lands Conservation Program Technical Assistance

City, County or State	Climate Impacts/ Exposure to Hazards?	Adaptation and Mitigation Strategies	State or federal funding received?	Documents Reviewed
	the San Joaquin Valley). **Air Quality:** Air quality is another top concern of SJV residents, caused by sources such as vehicles, agriculture, wildfire smoke, pesticide drift, etc. (Climate Change in the San Joaquin Valley). **Agriculture:** Agricultural jobs are being impacted by climate hazards such as droughts, increased heat and dryness, sea level rise, increased water demand in cities, limits on groundwater pumping, and automation in the field (Climate Change in the San Joaquin Valley). **Heat Waves** (San Joaquin Valley Region Report). **Wildfires** (San Joaquin Valley Region Report).			
Firebaugh, Fresno County, CA	**Earthquakes**: Firebaugh is prone to earthquakes, but has a lower risk than other areas of Fresno County, particularly those west of Interstate 5	Current Measures **Groundwater contamination and drought:** The city is working with a consultant to replace a 750,000-gallon HUD (water) tank and install 3.0 MGD booster pump and 12-inch	All Potential Funding Sources Inflation Reduction Act programs via the State of California HOMES rebates HEEHRA Contractor Training Grants	2030 Firebaugh General Plan 2019 City of Firebaugh Mitigated Negative Declaration and Initial Environmental

City, County or State	Climate Impacts/ Exposure to Hazards?	Adaptation and Mitigation Strategies	State or federal funding received?	Documents Reviewed
	(2030 Firebaugh General Plan). **Groundwater Contamination**: Firebaugh sources its domestic water supply from groundwater, but has a shallow water table that is prone to degradation (2030 Firebaugh General Plan). **Drought**: The city has a similar drought risk as the rest of the county (2018 Fresno County Multi-Jurisdictional Hazard Mitigation Plan). **Flooding**: Due to a high water table, improper infrastructure and potential levee failure, flooding is a risk (2030 Firebaugh General Plan). **Dam Failure**: The city could flood as a result of Mendota Diversion dam or Friant Dam failure (2018 Fresno County Multi-Jurisdictional Hazard Mitigation Plan). **Wildfire:** There are 213 parcels of land at risk of wildfire in the city, mostly residential land along the San	transmission line (2019 City of Firebaugh Mitigated Negative Declaration and Initial Environmental Study for HUD Tank Project). The city is entering into a Groundwater Sustainability Plan (GSP) as mandated by the state to ensure the responsible management of groundwater (2018 Fresno County Multi-Jurisdictional Hazard Mitigation Plan). **Flooding**: The city is assessing levee systems in the San Joaquin River for improvements (2018 Fresno County Multi-Jurisdictional Hazard Mitigation Plan). Planned Measures Firebaugh proposes the following additional mitigation measures: **Incorporating water efficiency measures** by installing alternative types of residential water tanks (2024 Fresno County Hazard Mitigation Plan). **Energy Efficiency** (2024 Fresno County Hazard Mitigation Plan).: Promoting incentive programs for the purchase of certified energy-efficient appliances. Bundling on-site renewable energy generation.	Greenhouse Gas Reduction Fund loans IRA Tax Credits Energy efficient commercial building deduction Energy Efficient Home Improvement Credit Residential Clean Energy Credit State funding Equitable Building Decarbonization Program TECH Clean California Self-Generation Incentive Program (SGIP) Cap and trade programs and revenues Renewable Energy Aggregated Procurement (REAP) Program Clean Water State Revolving Fund (CWSRF) Urban Waters Small Grants 319 Grant Program for States and Territories Safe and Affordable Drinking Water Fund Water-Energy Grant Program (2024 Fresno County Hazard Mitigation Plan)	Study for HUD Tank Project 2024 Fresno County Priority Climate Action Plan 2018 Fresno County Multi-Jurisdictional Hazard Mitigation Plan 2024 Fresno County Hazard Mitigation Plan

City, County or State	Climate Impacts/ Exposure to Hazards?	Adaptation and Mitigation Strategies	State or federal funding received?	Documents Reviewed
	Joaquin River (2018 Fresno County Multi-Jurisdictional Hazard Mitigation Plan). **Extreme Heat/Severe Weather:** Firebaugh experiences severe weather, but not at a different than the rest of the county (2018 Fresno County Multi-Jurisdictional Hazard Mitigation Plan). **Agricultural Hazards**: Agricultural hazards, including pests, blight, and extreme weather can impact agricultural production (2018 Fresno County Multi-Jurisdictional Hazard Mitigation Plan).			
Mendota, Fresno County, CA	**Water Quality:** Mendota has three primary municipal wells and two backup wells. The backup wells do not meet Title 22 requirements due to iron and manganese, but this does not pose a health risk. (City of Mendota General Plan Update 2005-2025).	Current Measures **Floodplain Management Ordinance:** This ordinance requires that the appropriate permits be obtained before construction in an area at risk of flooding, among other things (2018 Fresno County Multi-Jurisdictional Hazard Mitigation Plan). **Water Conservation Ordinance:** This ordinance regulates water usage in the city (2018 Fresno	Property owner assessments State grant funding opportunities	City of Mendota General Plan Update 2005-2025 2018 Fresno County Multi-Jurisdictional Hazard Mitigation Plan 2024 Fresno County Hazard Mitigation Plan Final Delta-Mendota Subbasin Groundwater Sustainability Plan

City, County or State	Climate Impacts/ Exposure to Hazards?	Adaptation and Mitigation Strategies	State or federal funding received?	Documents Reviewed
	Air Quality: Increasing populations and vehicle traffic as proposed in the general plan will lead to poorer air quality (City of Mendota General Plan Update 2005-2025). **Agricultural hazards:** Agricultural losses can impact the economy of Mendota (2018 Fresno County Multi-Jurisdictional Hazard Mitigation Plan). **Flood/levee failure**: Heavy rains, urban runoff, and the potential for levee failures can lead to flooding (2018 Fresno County Multi-Jurisdictional Hazard Mitigation Plan). **Dam failure**: Mendota is in the mapped inundation areas for the two largest dams in the county (2018 Fresno County Multi-Jurisdictional Hazard Mitigation Plan). **Drought:** Mendota relies on groundwater, which	County Multi-Jurisdictional Hazard Mitigation Plan). **Emergency Operations Plan:** This plan coordinates the city's facilities and personnel in the event of an emergency (2018 Fresno County Multi-Jurisdictional Hazard Mitigation Plan). **Other Flood Mitigation Efforts:** The city installed an underground pipe along its major floodway and built humps into the streets to limit water flowing into residential streets (2018 Fresno County Multi-Jurisdictional Hazard Mitigation Plan). Planned Measures Mendota proposes the following additional mitigation measures: **Energy conservation efforts:** Mendota proposes encouragement programs for alternative transportation, green building, recycling programs and renewable energy (City of Mendota General Plan Update 2005-2025). **Building a stormwater detention/desilting basin** to capture and channel storm flows (2018 Fresno County Multi-Jurisdictional Hazard Mitigation Plan). **Sustainable Groundwater Management Act Compliance**: The city is		

City, County or State	Climate Impacts/ Exposure to Hazards?	Adaptation and Mitigation Strategies	State or federal funding received?	Documents Reviewed
	can be depleted during periods of drought (2018 Fresno County Multi-Jurisdictional Hazard Mitigation Plan). **Earthquake**: Mendota is situated in Seismic Zone 3 but close to the more hazardous Seismic Zone 4 (2018 Fresno County Multi-Jurisdictional Hazard Mitigation Plan). **Severe weather: extreme heat; windstorm:** Extreme heat threatens migrant farm workers and the elderly. Windstorms are common in the county (2018 Fresno County Multi-Jurisdictional Hazard Mitigation Plan). **Soil hazards**: expansive soils can cause problems for building foundations (2018 Fresno County Multi-Jurisdictional Hazard Mitigation Plan). **Wildfire**: Weedy vegetation poses a risk for wildfire (2018 Fresno County Multi-Jurisdictional	required to implement a Groundwater Sustainability Plan (GSP) (2018 Fresno County Multi-Jurisdictional Hazard Mitigation Plan).		

City, County or State	Climate Impacts/ Exposure to Hazards?	Adaptation and Mitigation Strategies	State or federal funding received?	Documents Reviewed
	Hazard Mitigation Plan).			
San Joaquin, Fresno County, CA	**Flooding (riverine, extreme precipitation, sea level rise:** San Joaquin County serves as the drainage basin for the San Joaquin River. Flooding leads to stressors on transportation assets such as: **Roads:** asphalt stripping, erosion, route closures & delays **Rails:** substructure erosion forced delays **Buses:** delays and route changes **Airports:** Damage to runways, delays **Port:** Flooding of electrical equipment **Extreme Temperature** leads to stressors on transportation assets such as: **Roads:** Asphalt-concrete cracking **Rails:** Track buckling, derailments **Buses:** Vehicles overheating **Airports:** Flight delays (planes cannot take off in extreme heat	Community Engagement Guiding Principles: Inclusivity Collaboration Communication Flexibility Empowerment Incorporate mitigation steps into safety and general plan updates Integrate fire planning, flood readiness, evacuation routes, and climate resilience into safety elements or general plan updates via references to tools like the OPR Fire Hazard Planning Technical Advisory (San Joaquin Hazard Mitigation) Address wildfire-specific hazards in high-risk zones In areas defined as State Responsibility Areas or Very High Fire Severity Zones, implement targeted wildfire mitigation policies as mandated by SB 1241 (2012) (San Joaquin Hazard Mitigation)	All Potential Funding Sources Inflation Reduction Act programs via the State of California HOMES rebates HEEHRA Contractor Training Grants Greenhouse Gas Reduction Fund loans IRA Tax Credits Energy efficient commercial building deduction Energy Efficient Home Improvement Credit Residential Clean Energy Credit State funding Equitable Building Decarbonization Program TECH Clean California Self-Generation Incentive Program (SGIP) Cap and trade programs and revenues Renewable Energy Aggregated Procurement (REAP) Program Clean Water State Revolving Fund (CWSRF) Urban Waters Small Grants 319 Grant Program for States and Territories Safe and Affordable Drinking Water Fund	2024 Fresno County Hazard Mitigation Plan) City of San Joaquin Safety Element San Joaquin Local Hazard Mitigation Plan San Joaquin Hazard Mitigation

City, County or State	Climate Impacts/ Exposure to Hazards?	Adaptation and Mitigation Strategies	State or federal funding received?	Documents Reviewed
	Port: Pavement deterioration for cargo storage Fresno County is one of the leading agricultural counties in the US. Agriculture accounts for the largest portion of the jobs in Fresno County. (City of San Joaquin Safety Element,		Water-Energy Grant Program (2024 Fresno County Hazard Mitigation Plan) The San Joaquin Council of Governments (SJCOG) and its partners in 2022 were awarded a $1.75 million California Strategic Growth Council (SGC) grant to form the San Joaquin Regional Climate Collaborative (SJRCC) to implement six strategies focusing on climate education and outreach in three communities of focus, Lodi, Stockton, and Tracy. (https://www.sjcog.org/646/San-Joaquin-Regional-Climate-Collaborati) In 2018, state Senate Bill 1072 established SGC's Regional Climate Collaboratives (RCC) program to fund climate mitigation and adaptation efforts in under-resourced communities.	
Immokalee, Collier County, FL	**Flood:** Coastal areas can flood due to ocean surges, and inland areas can flood due to rainfall in low, flat areas. **Tropical Cyclones**: Collier County is	Planned Measures Immokalee proposes the following measures to mitigate climate hazards: **Flood:** Reducing the number of repetitive loss properties in the region.	Federal Grants from: United States Environmental Protection Agency Office of Brownfields Cleanup and Redevelopment	Multi-Jurisdictional Local Mitigation Strategy 2025 CLIMATE RESILIENCE STRENGTH, COMMUNITY, & SURVIVAL

City, County or State	Climate Impacts/ Exposure to Hazards?	Adaptation and Mitigation Strategies	State or federal funding received?	Documents Reviewed
	vulnerable to hurricanes and tropical storms due to climatic factors. **Wildfire**: Collier County is vulnerable to wildfires due to drought conditions. **Drought**: Collier County and its various jurisdictions are prone to drought. **Sea Level Rise**: Global climate change contributes to sea level rise in Collier County. **Sinkholes**: Persistent erosion can lead to underground voids and drainage systems in carbonate rocks. **Winter Storms**: Snow, sleet, freezing rain, cold temperatures, and freezing can create dangerous conditions. **Earthquakes**: All of Florida, but especially the northwestern region, is vulnerable to earthquakes. **Tsunami**: Tsunamis on the East Coast can be triggered by landslides or earthquake-related	Acquiring repetitive loss properties. Utilizing financial incentive programs to elevate repetitive loss properties. Installing wind and/or waterproofing components for critical facilities Promoting agricultural practices that protect natural systems. All Hazards: Developing and maintaining evacuation plans. Expanding shelter spaces. Adopting the National Incident Management System (NIMS). Installing backup power to sewage lift stations. (Multi-Jurisdictional Local Mitigation Strategy 2025). **Flood**: Installing a new microwave tower, electronic equipment shelter, gas tank, generator, and underground electrical connections near Lake Trafford to facilitate communication during storm events (PUBLIC NOTICE February 7, 2025).	United States Department of Commerce United States Federal Emergency Management Agency United States Department of Housing and Urban Development United States General Services Administration United States Department of Agriculture United States Department of Transportation/Federal Highway Administration United States Department of Health and Human Services United States Fire Administration United States Department of the Interior State Grants from: Florida Department of Environmental Protection Florida Department of Community Affairs Florida Department of Agriculture and Consumer Services Florida Division of Emergency Management (Multi-Jurisdictional Local Mitigation Strategy 2025).	PUBLIC NOTICE February 7, 2025

City, County or State	Climate Impacts/ Exposure to Hazards?	Adaptation and Mitigation Strategies	State or federal funding received?	Documents Reviewed
	underwater slumping. **Major Transportation Incidents**: Impeded access to bridges, roads, and ferry crossings would cause disruptions. (Multi-Jurisdictional Local Mitigation Strategy 2025). **Extreme Heat**: Immokalee has about 40-60 days each year of temperatures over 95 degrees (CLIMATE RESILIENCE STRENGTH, COMMUNITY, & SURVIVAL).			
Pearsall, Frio County, Texas	**Fire:** Fires in Texas have increased in the past 30 years, fueled by natural vegetation and the built environment (Frio County 2018 Hazard Mitigation Plan). **Drought:** Drought threatens the water supply of Frio County, as precipitation is the only naturally renewable water supply for the area (Frio County 2018	**Drought:** Retrofitting existing plumbing fixtures and new structures with water-saving devices. Install water-saving devices (Frio County 2018 Hazard Mitigation Plan). **Extreme Heat/Flood/Wildfire**: Installing a permanent backup generator in the event of extended power loss for public facilities, including wastewater treatment facilities (Frio County 2018 Hazard Mitigation Plan). **Dam Failure, Drought, Earthquake, Extreme**	FEMA's Pre-Disaster Mitigation grant program (Frio County 2018 Hazard Mitigation Plan).	CLIMATE POLLUTION REDUCTION GRANTS PRIORITY ACTION PLAN FOR THE STATE OF TEXAS Chapter 4: LAND USE STUDY Chapter 5: WATER SUPPLY & DISTRIBUTION STUDY Chapter 8: THOROUGHFARES STUDY Frio County 2018 Hazard Mitigation Plan

City, County or State	Climate Impacts/ Exposure to Hazards?	Adaptation and Mitigation Strategies	State or federal funding received?	Documents Reviewed
	Hazard Mitigation Plan). **Extreme Heat**: Many areas in Texas, including Frio County, are susceptible to heat waves (Frio County 2018 Hazard Mitigation Plan). **Water Availability and Quality:** Pearsall gets its water from groundwater in the Carrizo-Wilcox Aquifer, with no alternative methods. Original water lines consist of cast iron and Asbestos Cement, PVC, and Steel (Chapter 5: WATER SUPPLY & DISTRIBUTION STUDY). **Flooding**: Inland or riverine flooding is the primary cause of flooding in Frio County (Frio County 2018 Hazard Mitigation Plan). Floodplain consists of the main channel of a river or stream, also called a floodway, as well as the land next to the floodway, also called the flood fringe (Chapter 4: LAND USE STUDY).	**Heat, Flood, Wildfire:** (Frio County 2018 Hazard Mitigation Plan). Dry-proofing public buildings for flooding Upgrading to higher standard insulation for extreme heat and winter storms Installing lighting rods and grounding systems on public Buildings Retrofitting to low-flow plumbing and replacing landscaping with drought and fire-resistant plants Creating stricter codes for hail and fire-resistant roofing and siding Implementing higher standards for building foundations. **Dam Failure/Flood**: Adhering to a bi-yearly schedule of clearing debris and cutting and mowing vegetation in drainage ditches (Frio County 2018 Hazard Mitigation Plan).		

City, County or State	Climate Impacts/ Exposure to Hazards?	Adaptation and Mitigation Strategies	State or federal funding received?	Documents Reviewed
	Soil: Soils in Pearsall are prone to flooding, shrink-swell, and depth to saturated zone (Chapter 4: LAND USE STUDY). **Agriculture**: Approximately 25.32% of Pearsall's land is undeveloped or used for agriculture. 49% of the floodplain is in this category of land (Chapter 4: LAND USE STUDY). **Dam Failure:** Dam failure poses a risk to Frio county. All dams in the county are privately owned (Frio County 2018 Hazard Mitigation Plan). **Earthquake:** Texas faces some earthquake risk, but less than many other states (Frio County 2018 Hazard Mitigation Plan). **City Planning:** Pearsall's main thoroughfares provide the opportunity to make a good first impression on potential residents and visitors (Chapter 8: THOROUGHFARES STUDY).			

Appendix C: Summary of Site Visits

Site	Date Visited	Location
John Palacios Community Center	8/6/2025	16846 4th St, Huron, CA 93234
Chestnut Park	8/6/2025	16501 Palmer Ave, Huron, CA 93234
Huron Elementary School	8/6/2025	36131 N St, Huron, CA 93234
Huron Middle School	8/6/2025	16875 4th St, Huron, CA 93234
Huron Public Library	8/6/2025	36050 O St, Huron, CA 93234
Huron City Hall / Lassen Ave	8/6/2025	36311 Lassen Ave, Huron, CA 93234
Huron Fire Station	8/6/2025	36421 Lassen Ave, Huron, CA 93234
Huron Farmer's Market	8/8/2025	Huron, CA
Keenan Community Center	8/8/2025	Huron, CA
Firebaugh Farmer's Market	8/7/2025	Firebaugh, CA
Firebaugh Community Garden	8/7/2025	Firebaugh, CA
Woolf Farms	8/8/2025	Huron, CA
Huron Community Garden	11/19/25	Huron, CA
LEAP Institute Headquarters	11/19/25	Huron, CA
"La Plazita”	11/19/25	Huron, CA

Appendix D: Exploratory Community Survey Questions

English

City of Huron – Climate Risks and Impact Community Survey

We want to hear your thoughts on the climate risks affecting your community and how they impact your daily life. Your responses will help us better understand local needs and propose more equitable and effective solutions to address climate change in Huron. Thank you for taking the time to share your thoughts with us.

1. What city do you reside in?
2. What are the most important needs in your community related to climate change? (Examples might include safe housing, clean water, cooling centers, flood protection, etc.)
3. We've identified these as the top climate-related issues in Huron in no particular order. Do you agree with this list?
    a. Extreme heat
    b. Flooding
    c. Drought
    d. Air quality
    e. Water quality
4. Optional: If you answered "no" to question 3. above – what would you add or remove from the list of climate-related issues?
5. Have you or your family experienced any of the above climate impacts directly?(For example: heat making it hard to work outside, flooding in your street, trouble with water access, etc.)
6. Please share any stories or examples—big or small— about how you or your family have experienced any climate impacts directly (For example: heat making it hard to work outside, flooding in your street, trouble with water access, etc.)
7. Optional: Please share your email and/or phone number if you would like to be informed of future opportunities for surveys (compensation will be provided)

Spanish

Ciudad de Huron – Encuesta Comunitaria sobre Riesgos e Impactos del Clima

Queremos conocer su opinión sobre los riesgos climáticos que afectan a su comunidad y cómo impactan su vida diaria. Sus respuestas nos ayudarán a entender mejor las necesidades locales y a proponer soluciones más justas y efectivas para enfrentar el cambio climático en Huron. Gracias por tomarse el tiempo para compartir con nosotros.

1. ¿En qué ciudad reside?

2. ¿Cuáles son las necesidades más importantes en su comunidad relacionadas con el cambio climático? (Ejemplos pueden incluir vivienda segura, agua limpia, centros de enfriamiento, protección contra inundaciones, etc.)
3. Hemos identificado los siguientes como los principales problemas relacionados con el clima en Huron (sin un orden específico). ¿Está de acuerdo con esta lista?
    a. Calor extremo
    b. Inundaciones
    c. Sequía
    d. Calidad del aire
    e. Calidad del agua
4. Opcional: Si respondió "no" a la pregunta 3 anterior, ¿qué agregaría o eliminaría de la lista de problemas relacionados con el clima?
5. ¿Usted o su familia han experimentado directamente alguno de los impactos climáticos mencionados anteriormente? (Por ejemplo: el calor que dificulta trabajar al aire libre, inundaciones en su calle, problemas con el acceso al agua, etc.)
6. Por favor, comparta cualquier historia o ejemplo—grande o pequeño—sobre cómo usted o su familia han experimentado impactos del clima de manera directa. (Por ejemplo: el calor que dificulta trabajar al aire libre, inundaciones en su calle, problemas con el acceso al agua, etc.)
7. Opcional: Comparta su correo electrónico o telophono si desea ser informado sobre futuras oportunidades para participar en encuestas (se ofrecerá una compensación).

Appendix E: August 2025 City Council Presentation

[LINK]

Appendix F: November 2025 Community Workshop Promotional Materials

[LINK]

[LINK]

Appendix G: November 2025 Community Workshop Presentation

[LINK]

Appendix H: November 2025 Community Workshop Feedback Survey Questions

¡Nos encantaría recibir sus comentarios! / We'd love your feedback!

Gracias por acompañarnos hoy y por compartir su tiempo y sus ideas. Acaban de escuchar una presentación sobre el borrador de las Recomendaciones de Adaptación Climática que EcoHealth Strategies está elaborando para la ciudad de Huron. Sus comentarios nos ayudarán a comprender qué es lo más importante para los residentes y a garantizar que el plan final refleje sus prioridades y experiencias de vida. / Thank you for joining us today and sharing your time and insights. You just heard a presentation on the draft Climate Adaptation Recommendations that EcoHealth Strategies is developing for the City of Huron. Your feedback will help us understand what matters most to residents and make sure the final plan reflects your priorities and lived experiences.

1. Nombre completo / Full name
2. Dirección de correo electrónico y/o número de teléfono / Email address and/or phone number
3. ¿Cuáles cinco recomendaciones considera más importantes para Huron? (Seleccione hasta 5 que crea que marcarían la mayor diferencia o tendrían el mayor impacto para usted). / Which five recommendations do you think are most important for Huron? (Select up to 5 that you believe would make the biggest difference or have the greatest impact for you)
    a. Grupo de trabajo de seguridad para trabajadores agrícolas / Farmworker Safety Task Force
    b. Promoción de técnicas agrícolas indígenas / Promotion of Indigenous Agricultural Techniques
    c. Árboles y espacios verdes / Trees and Green Spaces
    d. Techos y pavimentos frescos / Cool Roofs & Pavement
    e. Centro de enfriamiento móvil / Mobile Cooling Center
    f. Ayuda mutua para el calor / Mutual Aid for Heat
    g. Línea de llamada de calor extremo / Extreme Heat Call Line
    h. Vegetación a lo largo del avenida Lassen / Vegetation Along Lassen Ave
    i. Jardines de aguas pluviales / Stormwater Gardens
    j. Vegetación a lo largo de lagos y arroyos / Vegetation Along Bodies of Water
    k. Marquesinas de autobús sombreadas y/o refrigeradas / Shaded and/or Cooling Bus Shelters
    l. Transporte conectado / Connected TransportationMejoramientos en el carril para bicicletas / Bike Lane Improvements
    m. Mejoras para el hogar / Home Improvements
    n. Red de ayuda mutua de toda la ciudad / City-Wide Mutual Aid Network
    o. Sistemas de alerta vial / Roadway Warning Systems
    p. Plan de preparación para emergencias / Emergency Preparedness Plan
    q. Alertas tempranas a través de la aplicación de la ciudad / Early Warnings via City App
4. ¿Por qué elegiste estas como tus principales prioridades? (Puedes compartir qué las hace significativas para ti, cómo podrían ayudar a tu vecindario o comunidad, o por qué las

consideras urgentes). / Why did you choose these as your top priorities? (You can share what makes them meaningful to you, how they could help your neighborhood or community, or why they feel urgent.)

5. ¿Tienes algún otro comentario o idea que quieras compartir? (¿Falta algo en las recomendaciones? ¿Alguna sugerencia para mejorarlas o ideas que deberíamos considerar?) / Do you have any other feedback or ideas to share? (Is there anything missing from the recommendations? Any suggestions for improving them or ideas we should consider?)

Appendix I: February 2026 City Council Presentation

[LINK]

Appendix J: Stakeholder Interview Questions

City Engineer/Public Works

- What current public works projects are underway to address common climate hazards?
- What is the relationship between the City and the San Joaquin Valley Air Pollution Control District?
- How does the city currently respond to flooding?
- What are some current stormwater management procedures in place?
- Are there other areas of persistent flooding in the city, besides Lassen Avenue?
- What is the relationship between the City and the Regional Water Control Board?
- What current programs exist around groundwater recharge?
- Is any water recycling currently underway in Huron?
- What plans currently exist for water security in the event of power failure?
- What are the resources available at cooling centers? Are there any additional needs (e.g., refrigerators for medicine or water storage)?
- What are current recycling programs like in the city?
- How much control does the city have over agricultural practices on nearby farms?
- Are there opportunities for public/private partnerships around outdoor worker protection measures (e.g., task force, initiative)?
- Are there ways we can leverage the city's app to promote education or alerts to farmworkers?
- What capacity does Public Works have to take on new projects (workers, timeframes, finances, etc.)?
- How much solar energy is currently in use in the city?
- Is pollution from the transportation sector being tracked in Huron?
- What current policies and practices are implemented to comply with the Groundwater Sustainability Plan?
- What is the city's budget for flood response?
- Where are the current sewer pump stations in the city?

Huron Police Department

- What evacuation plans and procedures are currently in place?
- How does coordination work with fire and EMS during extreme events?
- How are especially vulnerable populations identified?
- Does City staff receive training on emergency preparedness?
- What are the resources available at cooling centers? Are there any additional needs?
- What challenges have been identified in past emergencies (e.g., communications, transportation for evacuation, language access)?
- Are there any recurring gaps you've identified in emergency preparedness, especially related to staffing or funding?
- How would you like to see the city app leveraged for emergency preparedness?

- What is the capacity of the PD to utilize its EV charging stations for backup power in the event of an energy outage?
- What community buildings are currently utilized during extreme flood events?
- What is your disaster response resource allocation (e.g., vehicles, shelters, officers, mutual aid agreements)?
- Do you have response data on the frequency, duration, and type of dispatch calls made during and after extreme weather events (e.g., heatwaves, severe storms, or floods)?
- Are there other ways that residents report on climate hazards?

CAL FIRE Fresno County Fire

- How does interagency coordination currently work between city, county, and state fire/emergency offices?
- What do current emergency preparedness plans look like, and how does the public learn about them?
- How does the city engage residents during emergencies?
- What are barriers related to staffing, funding, or equipment that limit fire or evacuation response capacity?
- What are some challenges or gaps in public knowledge of emergency preparedness procedures?
- What are some lessons learned from past wildfire seasons that could improve future evacuation protocols?
- Where are the current evacuation sites during emergencies?

Fresno County OES

- What are the primary hazards that necessitate OES intervention in Huron?
- At what point is extreme heat considered an emergency, and what strategies does OES implement to address this, if any?
- How does interagency coordination currently work between city, county, and state for emergencies?
- What do current emergency preparedness plans look like, and how does the public learn about them?
- How does the county engage residents during emergencies?
- What is the role of the emergency preparedness council in ensuring effective emergency response?
- What are barriers related to staffing, funding, or equipment that limit emergency response capacity, and how could these barriers be addressed to better equip cities like Huron?
- What are other challenges that exist from your perspective around county-wide emergency response?
- What approaches have you seen cities similar to Huron implement to enhance their emergency preparedness?

- How do residents report climate-related concerns? Are there certain hazards that may be underreported?
- What are some challenges or gaps in public knowledge of emergency preparedness procedures?
- What is your disaster response resource allocation (e.g., vehicles, shelters, staff)?
- Are you able to share any datasets regarding climate hazards and or emergency dispatch data in and around Huron?

Fresno County Rural Transit Agency

- Which bus stops and routes are most frequently used in Huron?
- What percent of Huron residents ride the bus?
- How many bus stops in Huron do not have bus shelters, and where are they?
- Do you have any data on what times of year or times of day public transit is most frequently used in Huron?
- Have any of the most frequently bus routes or other key transportation been impacted by severe weather over the past few years? Can you please provide information on this?
- What are the locations of roadway warning systems? Is there additional need for these systems to be installed?