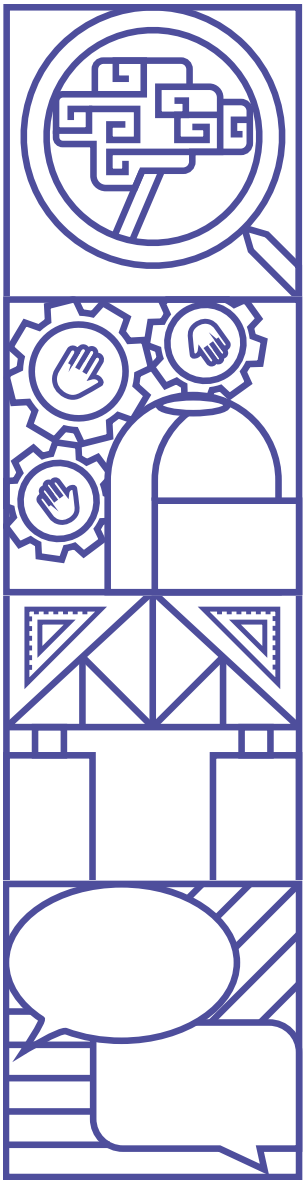

CITY OF SAN JOSE

Climate Adaptation & Resilience Plan

Adoption Draft

January 2026

CLIMATE SMART SAN JOSE
LIVING BETTER TODAY FOR TOMORROW

CITY OF SAN JOSE
CAPITAL OF SILICON VALLEY

MESSAGE FROM THE MAYOR

Matt Mahan

Dear Neighbors,

As the heart of Silicon Valley and the largest city in Northern California, we have long been pioneers of innovation and technological advancement. Today, we must channel that same spirit of innovation toward one of the most pressing challenges of our time: building resilience against the impacts of climate change. This is why we created the City's first Climate Adaptation and Resilience Plan.

Our community is already experiencing the effects of a changing climate. We've witnessed unprecedented wildfires that have threatened our neighborhoods and filled our skies with smoke. We've endured extreme heat events that strain our infrastructure and endanger our most vulnerable residents. We've seen atmospheric rivers bring both life-giving water and destructive flooding. These are not distant threats—they are our present reality, and they demand immediate, comprehensive action.

This Climate Adaptation and Resilience Plan represents our commitment to protecting every resident, every neighborhood, and every community that calls San José home. It is built on the understanding that climate resilience is not just about preparing for future challenges, but about creating a more equitable, sustainable, and prosperous city for all.

This plan charts a course toward a San José that not only survives the challenges of climate change but thrives in spite of them. It envisions green infrastructure that reduces flood risk while creating beautiful community spaces. It promotes proactive planning for climate change in our City departments and in collaboration with our region. The Climate Adaptation and Resilience Plan also recognizes that we cannot build a resilient San José without ensuring that all residents have access to climate resilience resources and current information on climate vulnerabilities and the actions being taken to address them. The work ahead will not be easy, and it cannot be accomplished by government alone. It will require partnerships across all sectors of our community.

I have tremendous faith in San José's ability to meet this challenge. We have the diversity of perspectives, the technological expertise, and the community spirit necessary to build a climate-resilient future. Let us seize this moment with the urgency it demands and the hope it deserves.

Together, we will build a more resilient San José.

Matt Mahan
Mayor, City of San José

MESSAGE FROM THE CITY MANAGER

Jennifer Maguire

The City of San José's dedication to environmental stewardship and climate action spans many years of thorough planning, policy development, and program implementation. This Climate Adaptation and Resilience Plan marks the next essential phase in San José's leadership in tackling the complex challenges of climate change adaptation.

The Climate Adaptation and Resilience Plan builds on the foundation set by our Climate Smart San José plan adopted in 2018. It is guided by technical analysis and stakeholder input and provides a strategic framework to strengthen our community's ability to withstand, adapt to, and recover from climate-related impacts. City staff led this planning effort in collaboration with multiple city departments, regional agencies, community organizations, and technical consultants. This cooperative approach ensures that our resilience strategies are based on the best available science while addressing the diverse needs and priorities of our community.

San José faces exposure to multiple climate hazards, including extreme heat events, wildfire and associated air quality impacts, flooding from both coastal and inland sources, and prolonged drought conditions. These hazards pose risks to critical infrastructure systems, public facilities, public health and safety, and economic stability.

Of particular concern are the impacts that could be experienced by communities with socioeconomic vulnerabilities.

The 19 measures and companion actions that are outlined in this plan were developed through a vulnerability assessment, input from staff, partner agencies, and community members. These measures are intended to maximize near-term risk reduction while building toward longer-term systemic change. The implementation framework outlined in this document incorporates metrics and key indicators. Regular progress reporting will inform future updates to our climate adaptation and resilience planning efforts.

We look forward to working with our municipal colleagues, regional partners, and community stakeholders to implement the comprehensive suite of adaptation measures contained within this plan to enhance our community's resilience and advance our broader sustainability objectives.

Jennifer A. Maguire
City Manager

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** Denotes members of the Climate Ready Working Group*

KEY

CMO: City Manager's Office

DOT: Department of Transportation

ED: Energy Department

ESD: Environmental Services Department

FIN: Finance Department

HSG: Housing Department

OEM: Office of Emergency Management

OEDCA: Office of Economic Development and Cultural Affairs

PBCE: Planning, Building & Code Enforcement

PRNS: Parks, Recreation & Neighborhood Services

PW: Public Works Department

List of Acronyms and Abbreviations

BCDC: San Francisco Bay Conservation & Development District

CAL FIRE: California Department of Forestry and Fire Protection

CARP: San José Climate Adaptation and Resilience Plan

City: City of San José

CBO: Community-based organization

CERT: Community Emergency Response Team

CIP: Capital improvement progam

Climate Smart: Climate Smart San José plan

CRWG: Climate Ready Working Group

EV: Electric vehicle

FEMA: Federal Emergency Management Agency

FHSZ: Fire Hazard Severity Zone

GHG: Greenhouse gas

GIS: Geographic information systems

GSI: Green stormwater infrastructure

HVAC: Heating, ventilation, and air conditioning

IPCC: Intergovernmental Panel on Climate Change

NWL: Natural and working lands

OPC: Ocean Protection Council

PGE: Pacific Gas & Electric

PM: Particulate matter

RCP: Representative Concentration Pathway

RSAP: Regional Shoreline Adaptation Plan

SB: Senate Bill

SC4: Santa Clara County Climate Collaborative

SFEI: San Francisco Estuary Institute

SLR: Sea level rise

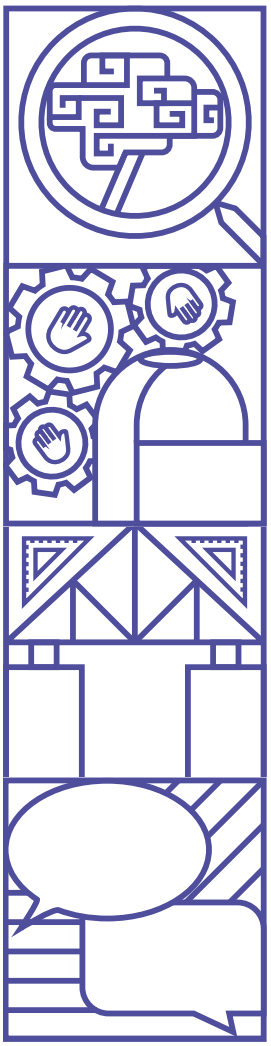
SPUR: San Francisco Bay Area Planning and Urban Research Association

Valley Water: Santa Clara Valley Water District

VTA: Valley Transportation Authority

Vulnerability Assessment: Climate Vulnerability Assessment

WUI: Wildland-urban interface




Vida
Abundante

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Executive Summary

The San José Climate Adaptation and Resilience Plan (CARP) is the roadmap for City of San José ("City") departments and staff to make changes in City policies and procedures, to increase the adaptive capacity of the built and natural systems of San José, and create a more resilient community.

Climate adaptation refers to strategies aimed at minimizing risks and vulnerabilities from climate-related hazards by adjusting our infrastructure, the way we live, and how we care for people in our community.

In 2018, the City of San José adopted its climate action plan, Climate Smart San José (Climate Smart). Climate Smart provided strategies to reduce greenhouse gas emissions (GHGs) in alignment with the Paris Climate Agreement goals and to prevent or reduce the occurrence of climate-related impacts. The City's committment was affirmed by the an official Climate Emergency Declaration in 2019.

However, San José is already experiencing the effects of a changing climate and anticipates future increases in intensity due to continued worldwide GHG emissions. In response, the City developed this Climate Adaptation and Resilience Plan (CARP) with a focus on reducing the impact of climate-related threats, such as wildfires, flooding, sea level rise, and extreme heat, on the community, infrastructure, and natural environment. The CARP identifies the foundational measures, policies, and procedures necessary to achieve this goal, while enhancing equity by addressing the unique needs of vulnerable communities that can be disproportionately affected by climate change.

The CARP is the product of a detailed analysis of climate hazards and vulnerabilities, community engagement, and internal engagement among the many City departments and collaborating agencies whose work touches climate resilience. The CARP is organized in a way that outlines the background, approach, and the measures the City will need to implement to adapt to climate change. It is important to note that the CARP provides guidance on the programs and policies the City should implement, but as a planning document, it does not undertake actual program development.

The CARP is organized into six chapters:

- **Chapter 1: Introduction** explains the key concepts, the City's approach for developing the CARP, and equity considerations that informed the process and outcomes of the CARP.
- **Chapter 2: Climate Hazard and Vulnerability Assessment** describes how climate change will impact San José.
- **Chapter 3: Framework for Climate Resilient San José** lays out the vision, principles, and framework that were the basis of developing the CARP.
- **Chapter 4: Measure Development** describes how the CARP measures and strategies were developed.
- **Chapter 5: Measures** contains 19 measures detailing strategies for City departments to adapt to climate change. The measures are organized into four categories: Knowledge, Governance and Policy, Structural, and Communications.
- **Chapter 6: Implementation** provides guidance for tracking and monitoring the programs and other outcomes called for in the measures.

The CARP establishes a resilience planning framework for the City that serves as a jumping off point for the City to integrate climate adaptation issues in its procedures, such as improving infrastructure and creating programs and policies to increase resilience. Factors within the City's control and those outside of the City's control (such as federal and state policy) may affect CARP implementation and require flexibility.

CHAPTER 1

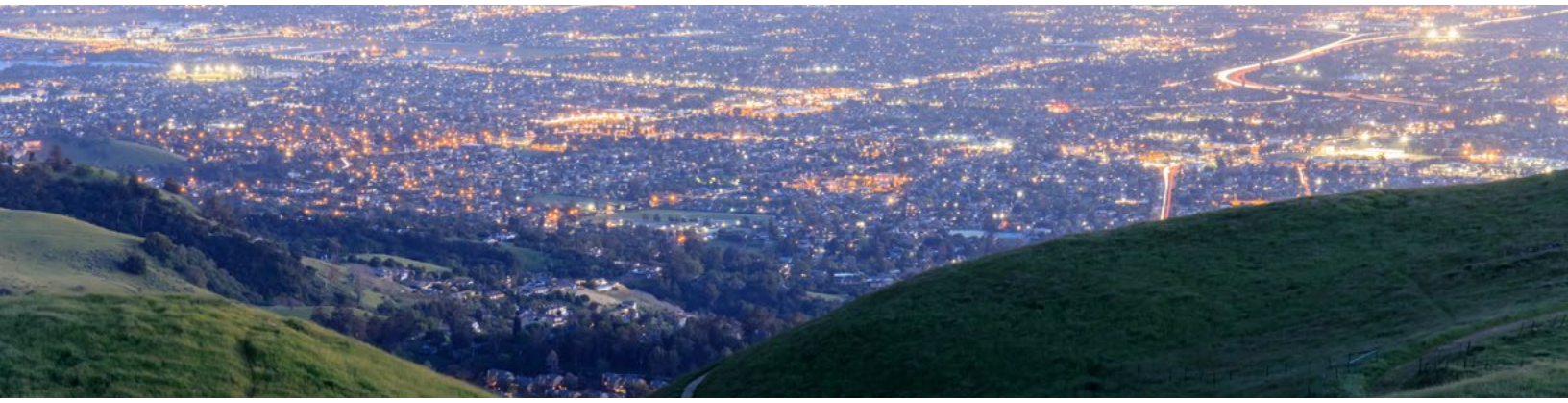
Introduction

Climate Adaptation and Resilience

The San José CARP is part of how the City is preparing for the impacts of climate change. According to the Intergovernmental Panel on Climate Change's (IPCC) Sixth Assessment,[1] it is "unequivocal" that human emissions of carbon dioxide and other GHG emissions are warming the atmosphere, ocean, and land. Human-induced climate change is already generating many weather and climate extremes in every region across the globe, with observed changes in the frequency and/or intensity of extreme heat, heavy precipitation, droughts, and hurricanes. These changes are already evident in San José. Dangerous heat waves, extreme storms that cause flooding of creeks and rivers and intrusion of smoke from nearby wildfires have occurred in the city in recent years.

The concepts of climate adaptation and resilience are distinct but interrelated, as defined by the California Adaptation Planning Guide (2020):

- **Adaptation:** An adjustment in natural or human systems to a new or changing environment that moderates harm or exploits beneficial opportunities brought about by the change. Adaptation actions contribute to resilience.[2]
- **Resilience:** The capacity of any entity–an individual, a community, an organization, or a natural system–to prepare for disruptions, to recover from shocks and stresses, and to adapt and grow from a disruptive experience. Resilience is a desired outcome or state of being.[3]



1. IPCC. (2019). Summary for Policymakers. In: IPCC Special Report on the Ocean and Cryosphere in a Changing Climate [H.-O. Pörtner, D.C. Roberts, V. Masson-Delmotte, P. Zhai, M. Tignor, E. Poloczanska, K. Mintenbeck, A. Alegría, M. Nicolai, A. Okem, J. Petzold, B. Rama, N.M. Weyer (eds.)]. https://www.ipcc.ch/site/assets/uploads/sites/3/2019/11/03_SROCC_SPM_FINAL.pdf.
2. CalOES. (2020). California Adaptation Planning Guide. https://www.caloes.ca.gov/wp-content/uploads/Hazard-Mitigation/Documents/CA-Adaptation-Planning-Guide-FINAL-June-2020-Accessible.pdf#search=adaptation%20planning%20guide.
3. Ibid.

CARP Approach

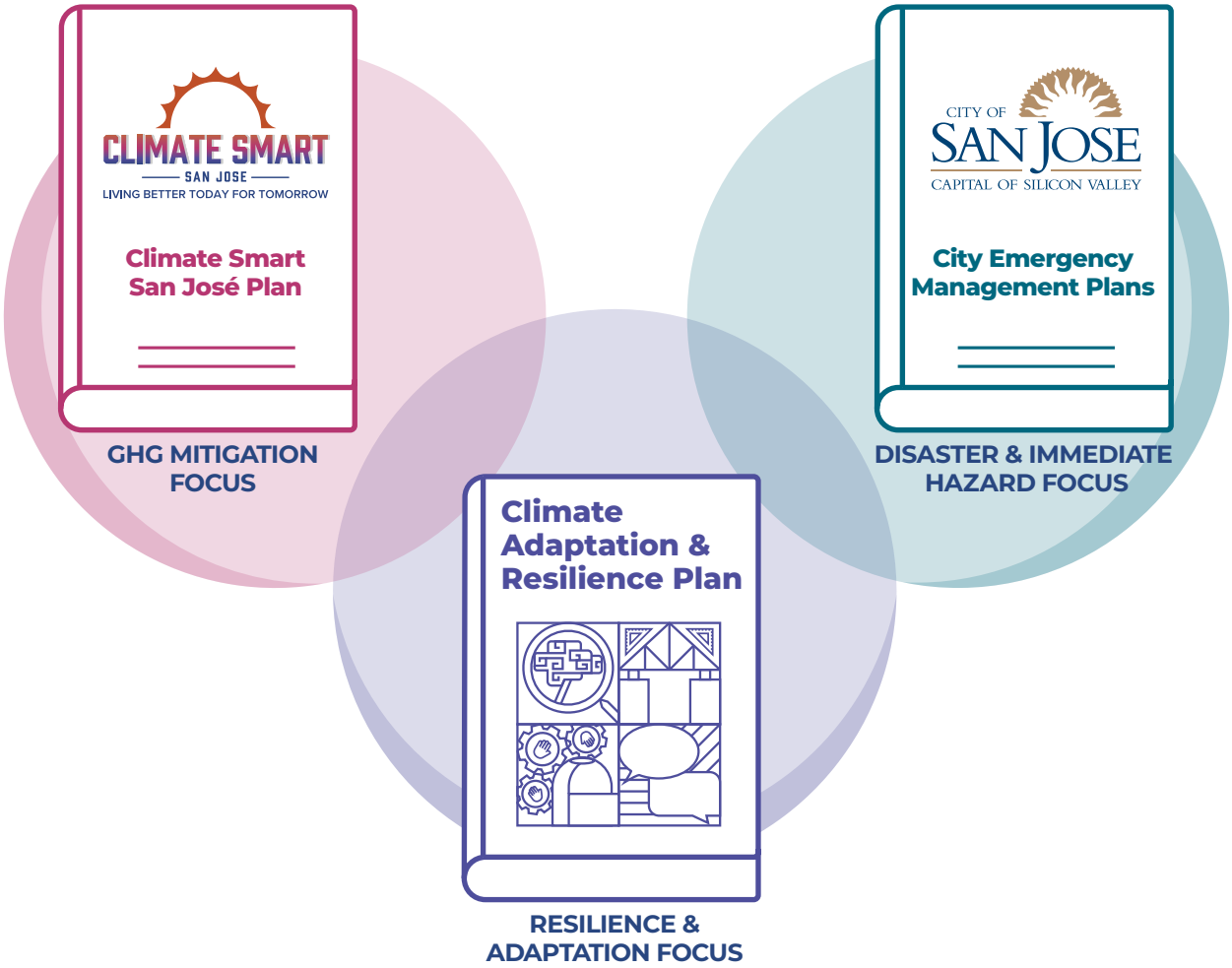
The CARP addresses how the City can prepare for and adapt to climate hazards. It outlines key measures and strategies for City departments and staff to adopt and implement to reduce community vulnerability to climate threats. The CARP is focused on the procedures and resources that the City has direct control or influence over, such as the policies and plans of City departments, the infrastructural assets owned and/or operated by the City, and the City's channels for communicating with collaborating agencies and the public.

The CARP complements other City planning documents, mainly Climate Smart and the City's emergency management plans.[4] These plans have distinct purposes, addressing different aspects of climate change and hazards. Climate Smart identifies strategies to reduce GHG emissions from communitywide sources—referred to as climate action or GHG mitigation.

Even with these efforts to reduce emissions, changes in the climate are already in motion. The CARP helps the City adapt to the impacts of climate change (such as more extreme heat, worsened flooding, and more frequent and intense wildfires) that are already occurring and projected to worsen through the end of the century. Emergency response and hazard mitigation plans outline strategies for responding to both climate-related and non-climate related disasters. The CARP bolsters the City and the community's resilience in these situations, but helps the City to prepare for climate-related impacts rather than an emergency response.

4. The City has a wide breadth of emergency plans. See all plans on the Emergency Management webpage: https://www.sanjoseca.gov/your-government/departments-offices/office-of-the-city-manager/emergency-management/emergency-plans.

Figure 1. CARP Relationship to Other City Plans



The CARP's target audience is the City departments who will be primarily responsible for implementing the measures and strategies. Like the City's Climate Smart plan, the CARP focuses on the role of City government combined with collaboration with regional agencies. While residents and community-based organizations (CBOs) can use the CARP to understand the City's efforts to increase resilience, the CARP is not intended to be a roadmap for individual or CBO action.

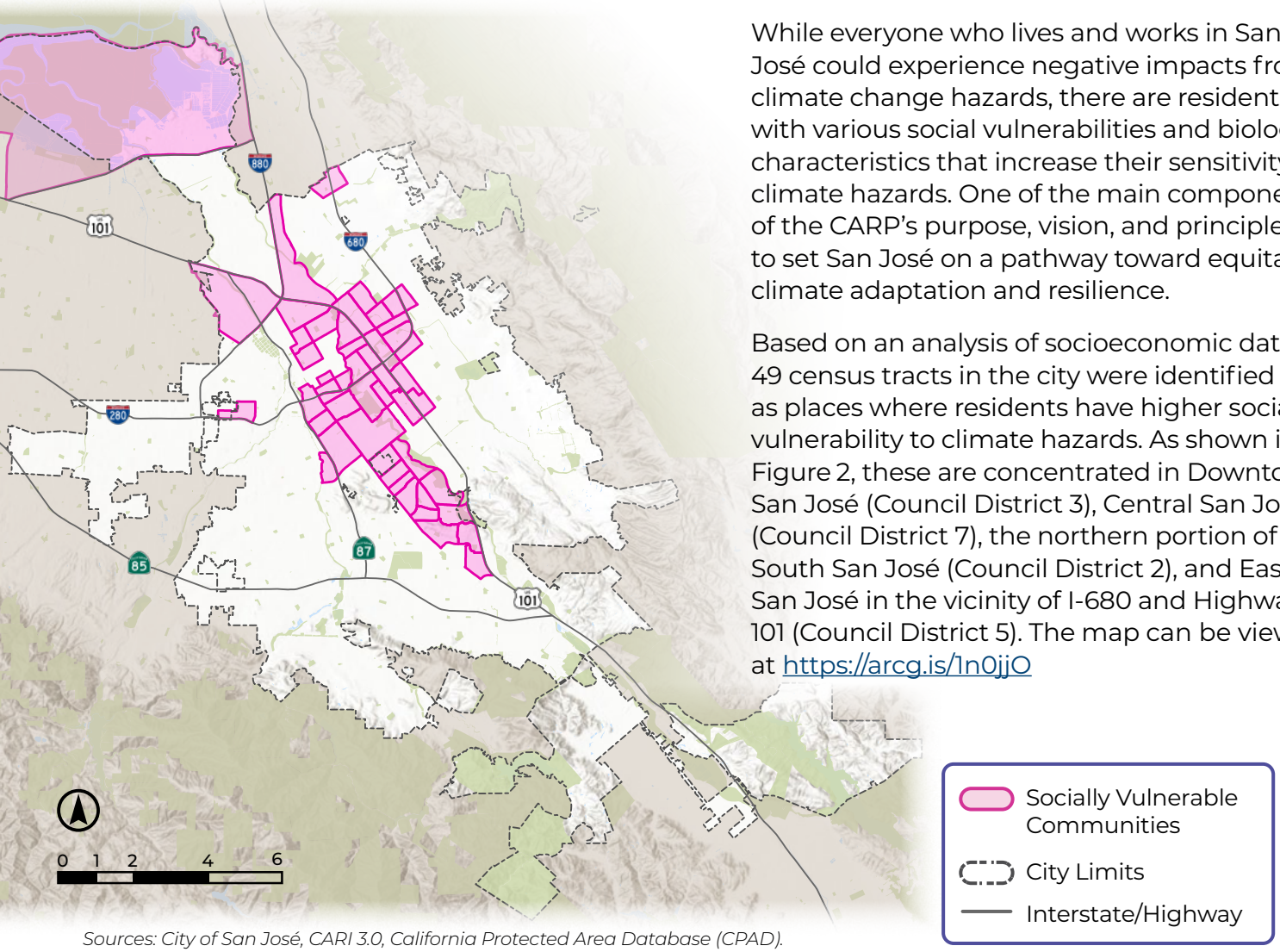
City staff formed a Climate Ready Working Group (CRWG) with representatives from pertinent City departments along with staff from collaborating agencies (Valley Water), and SPUR (the City's community engagement partner for the CARP). The purpose of the CRWG is to ensure that CARP measures and strategies meet the needs of City departments and align with ongoing efforts across the City and collaborating agencies.

The CRWG is made up of over 20 individuals representing numerous City departments and collaborating agencies including:

- Public Works Department
- Department of Transportation
- Energy Department
- Environmental Services Department
- Office of Economic Development and Cultural Affairs
- Office of Emergency Management
- Planning, Building & Code Enforcement
- Park, Recreation and Neighborhood Services
- Valley Water
- SPUR

Equity Considerations

Figure 2. Socially Vulnerable Census Tracts



Sources: City of San José, CARI 3.0, California Protected Area Database (CPAD).

While everyone who lives and works in San José could experience negative impacts from climate change hazards, there are residents with various social vulnerabilities and biological characteristics that increase their sensitivity to climate hazards. One of the main components of the CARP's purpose, vision, and principles is to set San José on a pathway toward equitable climate adaptation and resilience.

Based on an analysis of socioeconomic data, 49 census tracts in the city were identified as places where residents have higher social vulnerability to climate hazards. As shown in Figure 2, these are concentrated in Downtown San José (Council District 3), Central San José (Council District 7), the northern portion of South San José (Council District 2), and East San José in the vicinity of I-680 and Highway 101 (Council District 5). The map can be viewed at https://arcg.is/1n0jjO

Socially vulnerable communities are often burdened with multiple, overlapping challenges that cumulatively impact their ability to adapt or respond to climate change. Inequitable economic, governmental, and social systems have resulted in the disproportionate distribution of climate burdens and exposures, such as low transit access in certain areas or affordable housing located in areas more prone to flooding. Having a chronic illness (heart conditions, lung conditions, obesity) can also make people more likely to experience health effects from extreme heat, wildfire, and other climate hazards. This index also reflects the unique affordability challenges in San José by calibrating the income level considered "low income."

The CARP includes measures and strategies to promote multiple dimensions of equity. The first dimension of equity is distributional equity, or allocating resources to those who need them most. The second is procedural equity, which involves providing people and communities with resources to be knowledgeable and involved in decision making. While residents citywide benefit from equitable climate adaptation, many of the CARP measures and strategies are specifically directed towards the communities with higher vulnerability to climate hazards.

CHAPTER 2

Climate Hazard and Vulnerability Assessment

Climate is the long-term behavior of the atmosphere—typically represented as averages over 30-year periods—for a given time of year. This includes average annual temperature, snowpack, or rainfall. Although the climate fluctuates naturally, human emissions of carbon dioxide and other GHG emissions are driving unprecedented changes in the climate system. Greenhouse gases trap heat in the atmosphere, resulting in warming over time.[5] This atmospheric warming is leading to other changes in the earth systems, including changing patterns of rainfall and snow, melting of glaciers and ice, and warming of oceans.

The City of San José Climate Vulnerability Assessment (Vulnerability Assessment) analyzes how climate change will impact residents and infrastructure in the city of San José.[6] Vulnerability is the degree to which people and assets are susceptible to harm from a given climate hazard. Vulnerability is a combination of exposure—which indicates if an asset is located in a geographic area projected to experience climate hazards—and sensitivity—which is the degree to which an asset could be damaged if it is exposed to climate hazards. Findings from the Vulnerability Assessment, which includes a full analysis of the climate hazard projection data and in-depth information on the findings, are summarized in the following sections.

5. IPCC. (2019). Summary for Policymakers. In: IPCC Special Report on the Ocean and Cryosphere in a Changing Climate [H.-O. Pörtner, D.C. Roberts, V. Masson-Delmotte, P. Zhai, M. Tignor, E. Poloczanska, K. Mintenbeck, A. Alegría, M. Nicolai, A. Okem, J. Petzold, B. Rama, N.M. Weyer (eds.)]. https://www.ipcc.ch/site/assets/uploads/sites/3/2019/11/03_SROCC_SPM_FINAL.pdf.
6. Full City of San José Climate Vulnerability Assessment is available on the CARP webpage at https://www.sanjoseca.gov/your-government/departments-offices/energy/climate-smart-san-jose/climate-adaptation-and-resilience-plan.

Climate Hazards in San José

This section presents information on projected changes to climate hazards, including extreme heat, flood, sea level rise (SLR), drought, and wildfire. Table 1 provides a summary of climate hazards projections of future trends for San José, and explained in further detail in the following subsections.

Table 1. Summary of Climate Hazard Trend Projections in San José

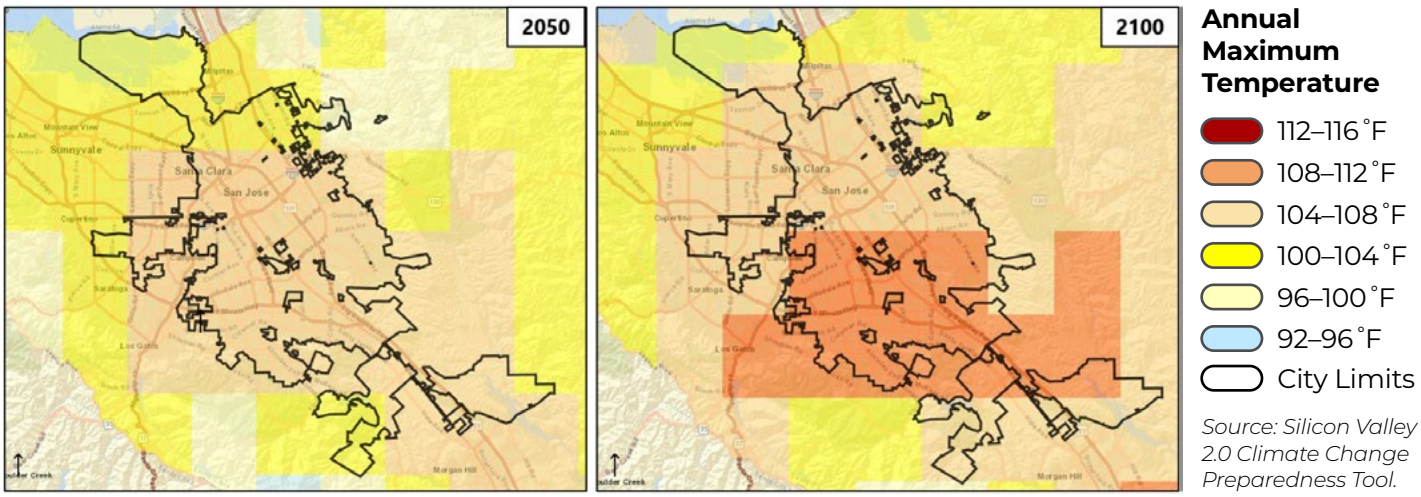
Hazard	Projected Trend
Extreme Heat	Higher temperatures and more frequent heat waves.
Flood	Longer dry periods punctuated by more extreme precipitation events.
Sea Level Rise	Sea levels are expected to rise up to 1.3 feet by mid-century and 6.5 feet by late-century according to the latest projections from the California Ocean Protection Council (OPC).
Drought	More severe; longer dry spells and decline in average snowpack.
Wildfire	Increase in likelihood of occurrence and intensity.

Note: Earthquakes and other hazards that may affect the city but are not related to climate change are addressed in the Multijurisdictional Hazard Mitigation Plan. Extreme weather includes extreme heat, cold, storms, and winds, and is related to climate change. However, the major impacts in San José are heat and flooding, which are assessed as distinct hazards.

Extreme Heat

In the past few decades, San José has been experiencing higher temperatures and more intense heat waves. During heat waves in July 2017 and September 2022 temperatures reached all-time highs of 108°F and 109°F. The warming trend is projected to continue, with maximum temperatures projected to reach up to 112°F by mid-century. The number of days with extreme heat (days with maximum temperatures over 93.7°F) per year is also projected to increase from four days historically to 14 days by mid-century and 27 days by late-century.

Figure 3. Annual Maximum Temperature in Mid-Century and Late-Century under a High Emissions (RCP 8.5) Scenario

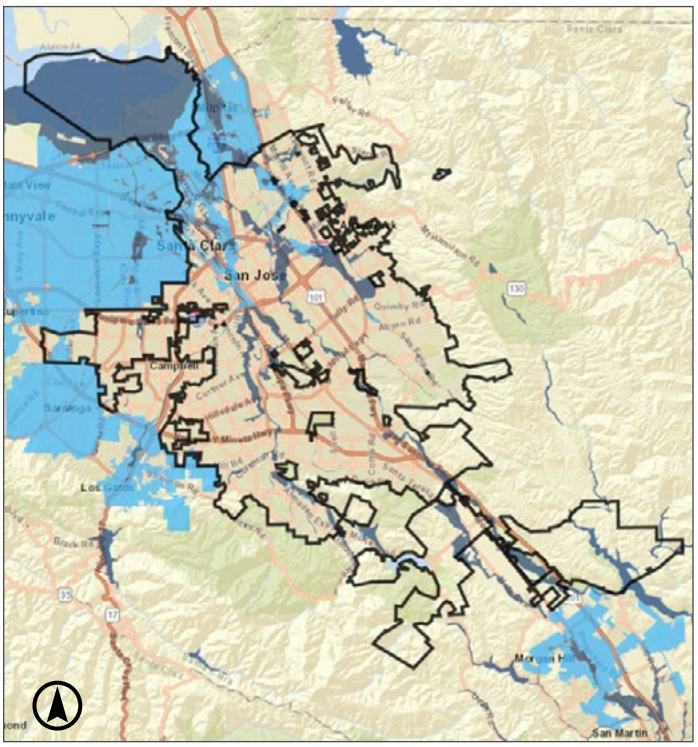


Source: Silicon Valley 2.0 Climate Change Preparedness Tool.

Flood

San José has experienced many instances of severe flooding along its waterways, often driven by winter storms. As indicated by the FEMA flood hazard map for San José, the 1% annual chance flood hazard area (or 100-year floodplain) is concentrated in the northern part of the city near the San Francisco Bay, and adjacent to creeks or tributaries in the southern part of the city (Figure 4). Though annual rainfall is not projected to change, precipitation is projected to be characterized by extremes (more extreme storm events, followed by longer droughts) that increase the likelihood and severity of flooding.

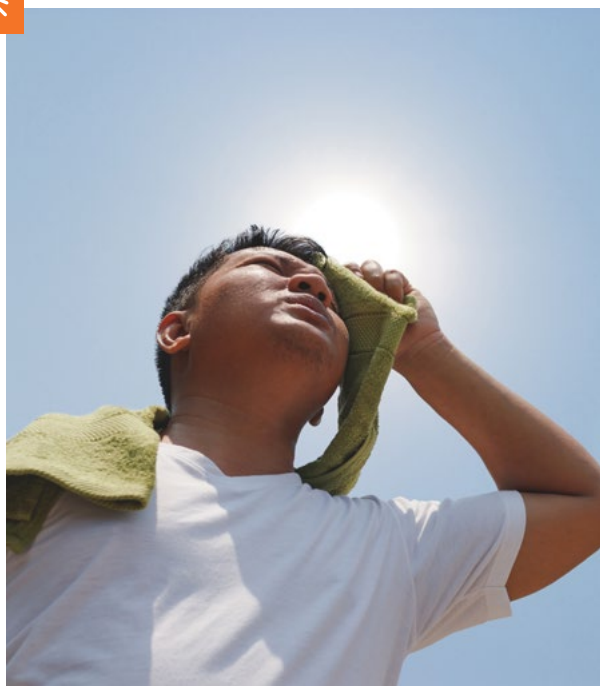
Figure 4. FEMA Floodplains in San José



FEMA Floodplain

- 100-year Floodplain
- 500-year Floodplain
- City Limits

Source: Silicon Valley 2.0 Climate Change Preparedness Tool.



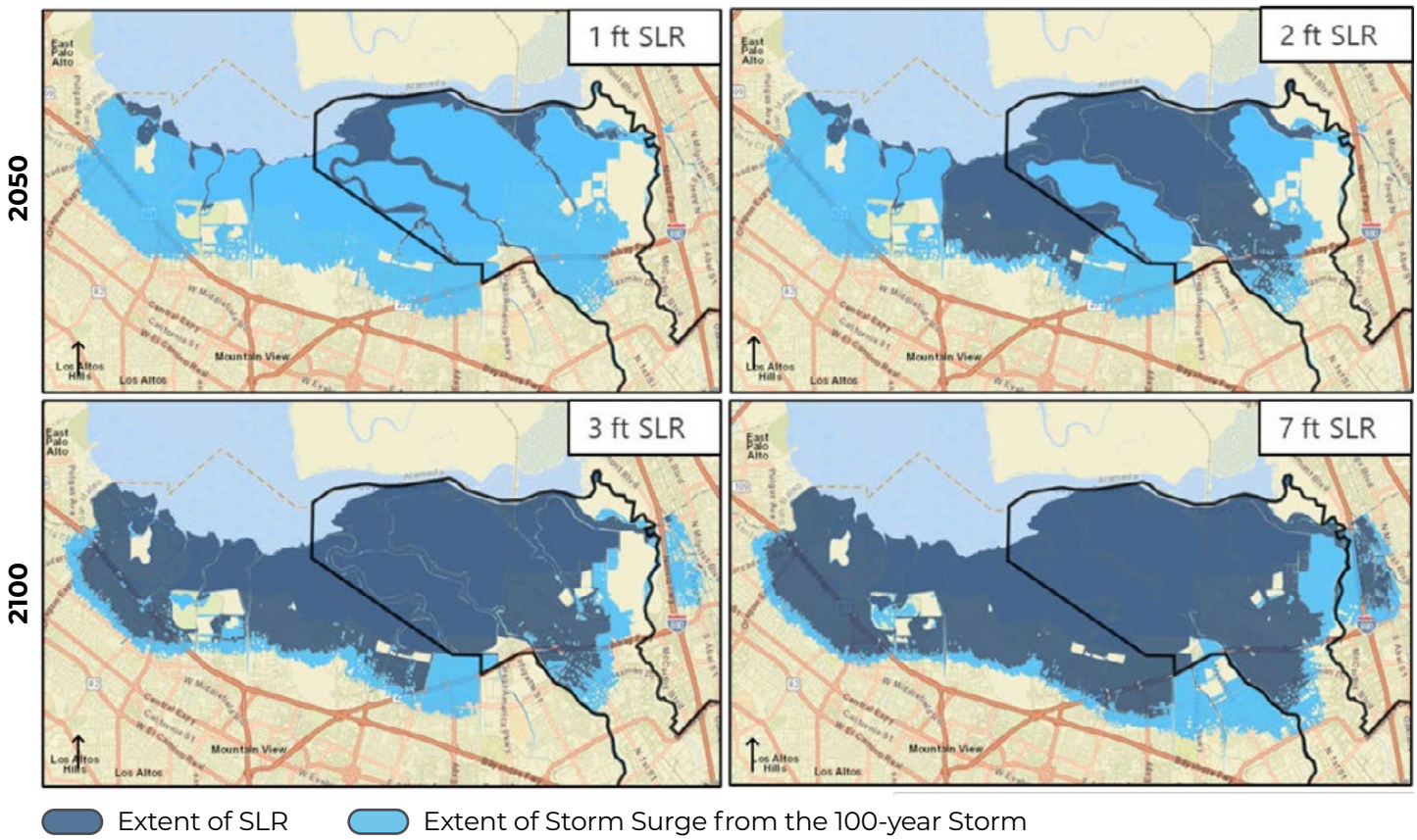
Extreme heat can cause heat illness or even be fatal. To learn more and get prepared go to https://heatready.ca.gov/.

Flooding can happen suddenly and cause dangerous road conditions and disruptions to other infrastructure and services. To learn more and get prepared go to: https://www.sanjoseca.gov/your-government/departments-offices/office-of-the-city-manager/emergency-management/be-prepared/storm-preparedness.

Sea Level Rise

San José has experienced a slow but gradual increase in the sea level, with a rise of nearly eight inches observed in the last century in Santa Clara County. Sea levels could rise up to 1.3 feet by mid-century and 6.5 feet by late-century according to the latest projections from the California Ocean Protection Council (OPC). Storm surge—the abnormal rise in sea level during a storm—is exacerbated by sea level rise (SLR) as higher water levels and strong winds push waves further onshore. The northern part of San José including the Alviso neighborhood is projected to be inundated by storm surge from the 100-year storm in 2050. By 2100, more of the area flooded by the 100-year storm is projected to be permanently inundated by SLR (Figure 5).

Figure 5. Extent of Projected SLR for Mid- and Late-Century under Medium and High-Risk Scenarios



Source: Silicon Valley 2.0 Climate Change Preparedness Tool.

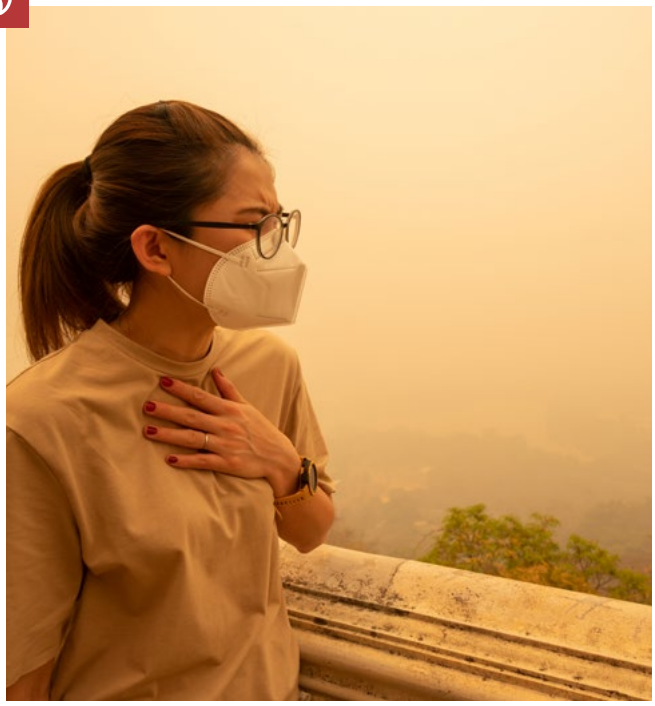
Drought

Drought is a prolonged period of below-average precipitation that often leads to water scarcity. The severity of drought is often dependent on the amount of groundwater and surface water stored in aquifers and reservoirs. In San José, droughts are projected to become more severe as average annual temperatures rise and dry spells between precipitation events become longer. The maximum length of a dry spell, or consecutive days with less than one millimeter of precipitation, is projected to increase from 119 days historically to 129 days in mid-century and 134 days in late-century.

Wildfire

Wildfires are uncontrolled fires that burn in forests, grasslands, and other largely unpopulated areas. Most wildfires in California start from human activities, but their spread is influenced by fuel availability, wind, and weather conditions. Fire danger is affected by human behavior, vegetation, wind, temperature, humidity, and atmospheric stability. Fire seasons are projected to begin earlier and end later due to drier and warmer conditions, and cycles of longer dry periods with more intense precipitation events lead to a buildup of vegetation that fuel wildfires. Small portions along the city's borders and the southern end of the city are in the High or Very High Fire Hazard Severity Zones (FHSZ) per the maps updated by CalFire in 2025 (Figure 6).[6] The city is surrounded to the east and south by High and Very High FHSZ lands that are part of unincorporated Santa Clara County.

Although wildfires pose a great direct threat to property and people, the secondary impacts can be just as damaging. Wildfire smoke produces particulate matter that contributes to air pollution and reduced visibility. People, particularly those with underlying health conditions, are strongly advised to stay indoors on days with poor air quality because of wildfire smoke, which can penetrate deep into lungs and cardiovascular systems.



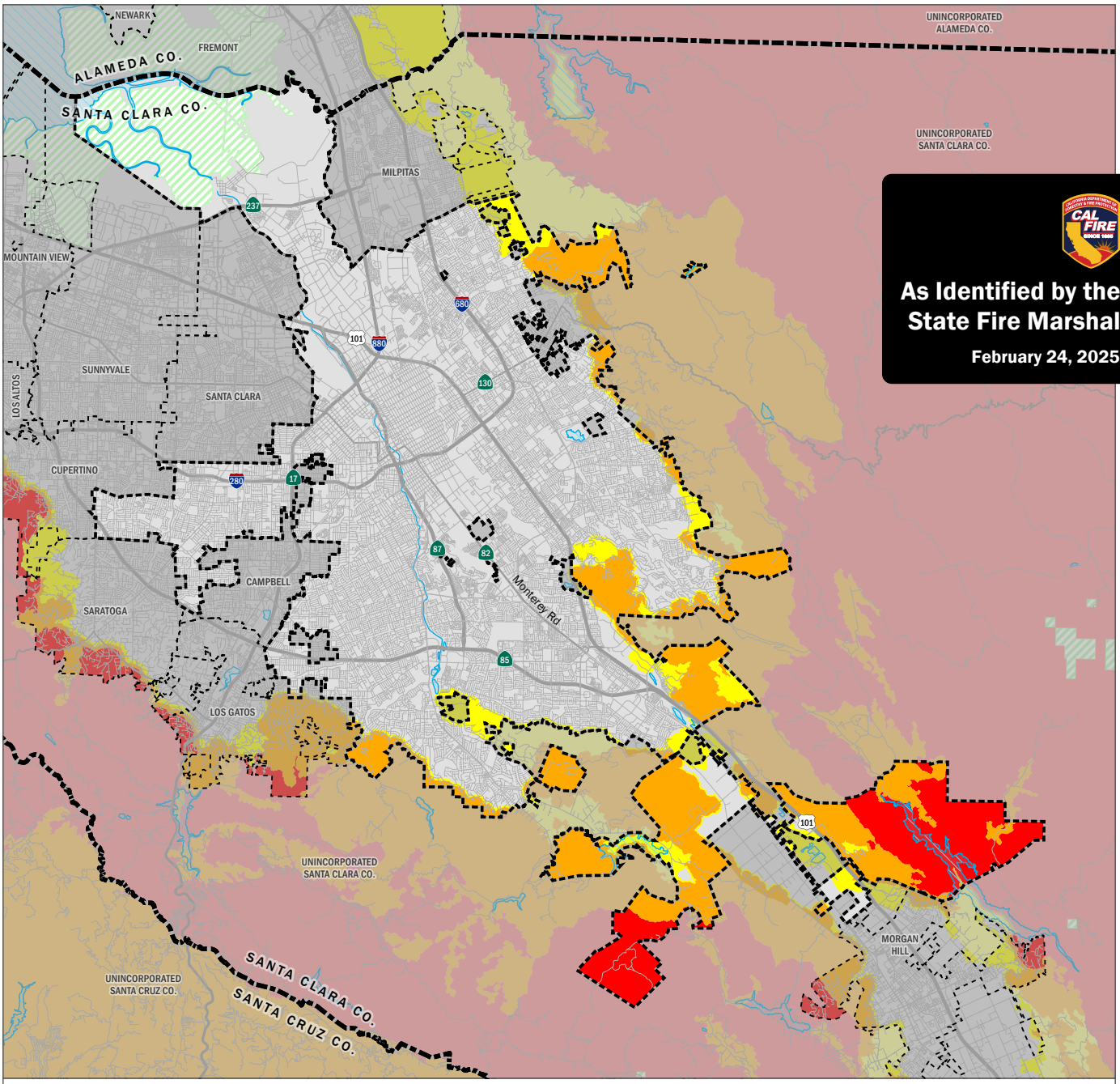
Wildfire smoke leads to unhealthy air quality. The main pollutant in wildfire smoke is PM 2.5 which can cause respiratory issues and cardiovascular problems.

Ways to protect homes from wildfires include creating defensible space, using flame-resistant building materials, and installing fire-resistant landscaping.

To learn more and get prepared go to: https://www.sanjoseca.gov/your-government/departments-offices/fire-department/public-education/wildfire-preparedness.

7. Figure 6 has been cropped and is included on the following page. The map can be viewed in its native format at:https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones.

Figure 6. Fire Hazard Severity Zones in San José



Fire Hazard Severity Zones (FHSZ) in Local Responsibility Area (LRA), as Identified by the State Fire Marshal

Very High | High | Moderate

Fire Hazard Severity Zones in State Responsibility Area (SRA), Effective April 1, 2024

Very High | High | Moderate

Mi 0 2 4 6 8
Km 0 2 4 6 8 10 12 14

Projection: NAD 83 California Teale Albers
Scale: 1:176,000 at 11" x 17"

Incorporated City | Waterbody
Unzoned LRA | Federal Responsibility Area (FRA)

Government Code section 51178 requires the State Fire Marshal to identify areas in the state as moderate, high, and very high fire hazard severity zones based on consistent statewide criteria and based on the severity of fire hazard that is expected to prevail in those areas. Moderate, high, and very high fire hazard severity zones shall be based on fuel loading, slope, fire weather, and other relevant factors including areas where winds have been identified by the Office of the State Fire Marshal as a major cause of wildfire spread.

Gavin Newsom, Governor, State of California
Wade Crowfoot, Secretary for Natural Resources, CA Natural Resources Agency
Joe Tyler, Director/Fire Chief, CA Department of Forestry and Fire Protection
Daniel Berlant, State Fire Marshal, CA Department of Forestry and Fire Protection

Data Sources:
CAL FIRE Fire Hazard Severity Zones (FHSZSRA23_3, FHSZLRA_25_1)
CAL FIRE State Responsibility Areas (SRA25_1)
City and County boundaries as of 10/22/24 (CA Board of Equalization)

Vulnerability Assessment Key Findings

The Vulnerability Assessment assessed how vulnerable 12 asset types within the city are to each of the five climate hazards (extreme heat, flood, sea level rise, drought, and wildfire).[8] The following sections summarize the greatest vulnerabilities identified in the Vulnerability Assessment for critical facilities and infrastructure, private buildings, transportation, and populations.

Critical Facilities and Infrastructure

Critical facilities are a subset of the City's total portfolio of municipal buildings and are a critical component in the City's ability to prevent serious bodily harm, extensive property damage, or disruption of vital socioeconomic activities during emergencies. Examples of critical facilities include hospitals, schools, emergency operations centers, fire stations, and utility infrastructure. If these facilities are destroyed, damaged, or have impaired functionality, these services will be jeopardized.

Critical facilities have high vulnerability to flooding. Facilities can experience some physical damage and damage to building systems (e.g. electrical) due to flooding. Most importantly flooding in and around critical facilities can prevent employees from maintaining operations. In the case of some critical facility types like hospitals and fire stations, this could have major consequences on the health and safety of San José residents.

Water and wastewater infrastructure are highly vulnerable to flooding and SLR. Flood conveyance infrastructure and protection structures can be damaged if their capacity is exceeded during a flood event, and the Regional Wastewater Facility can sustain damage due to its location within the FEMA floodplains and SLR storm surge extent.

Private Buildings

Private buildings are the privately-owned residential, commercial, and industrial buildings in the city. They are vulnerable to direct property damage from climate hazards or indirect impacts like higher utility bills or poor indoor air quality.

Residential, commercial, and industrial buildings have high vulnerability to flooding. Residents, owners, and other users may face reduced access to buildings due to flood waters. Buildings may also sustain severe physical damage that makes them unlivable or nonoperational for a period of time.

8. The full Vulnerability Assessment is available on the CARP webpage at https://www.sanjoseca.gov/your-government/departments-offices/energy/climate-smart-san-jose/climate-adaptation-and-resilience-plan

Transportation

Transportation infrastructure is vulnerable to climate change hazards, with likely impacts including physical infrastructure damage and reduced access. This can have negative effects on everyday commute travel, movement of goods and services, and likely severe consequences on evacuation procedures.

Roads and highways are most vulnerable to flooding, extreme precipitation, sea level rise and, storm surge. This could have severe impacts on access to roads and consequently to essential services. More frequent flooding can also result in damage of roads, highways, and cycling facilities, thus requiring increased maintenance and repair.

Transit is most vulnerable to flooding, extreme precipitation, and wildfire. These hazards could cause transit infrastructure damage and service disruptions. Severe damage to infrastructure may result in longer-term access issues and can limit evacuation access for those without vehicles.

Electric vehicle charging network is most vulnerable to flooding and extreme precipitation as the charging infrastructure could sustain water damage or may become inaccessible (e.g. waterlogged parking areas). If electric vehicle charging networks and stations are inoperable, electric vehicle owners may have difficulty evacuating if their car is not charged.

Populations

Everyone who lives and works in San José can experience negative impacts from climate change hazards. Many residents have additional social vulnerabilities and biological sensitivities that affect both the degree of exposure to climate hazards and sensitivity to impacts. Residents of socially vulnerable communities, mobilehome parks, rent-burdened households, older homes without air conditioning, and those who are experiencing unsheltered homelessness face elevated vulnerability to hazards- particularly flood, extreme temperatures, and poor air quality. A series of maps overlaying the socially vulnerable tracts (as the composite score, and further broken down by income, housing, language, and age indicators) and mobilehome parks with the hazards layers that have a geospatial footprint are shown in Figure 8 and can be viewed at https://arcg.is/1n0jjO.

Older adults, children, and people with pre-existing health conditions are extremely vulnerable to the potentially deadly impacts of heat, wildfire smoke, and flooding.

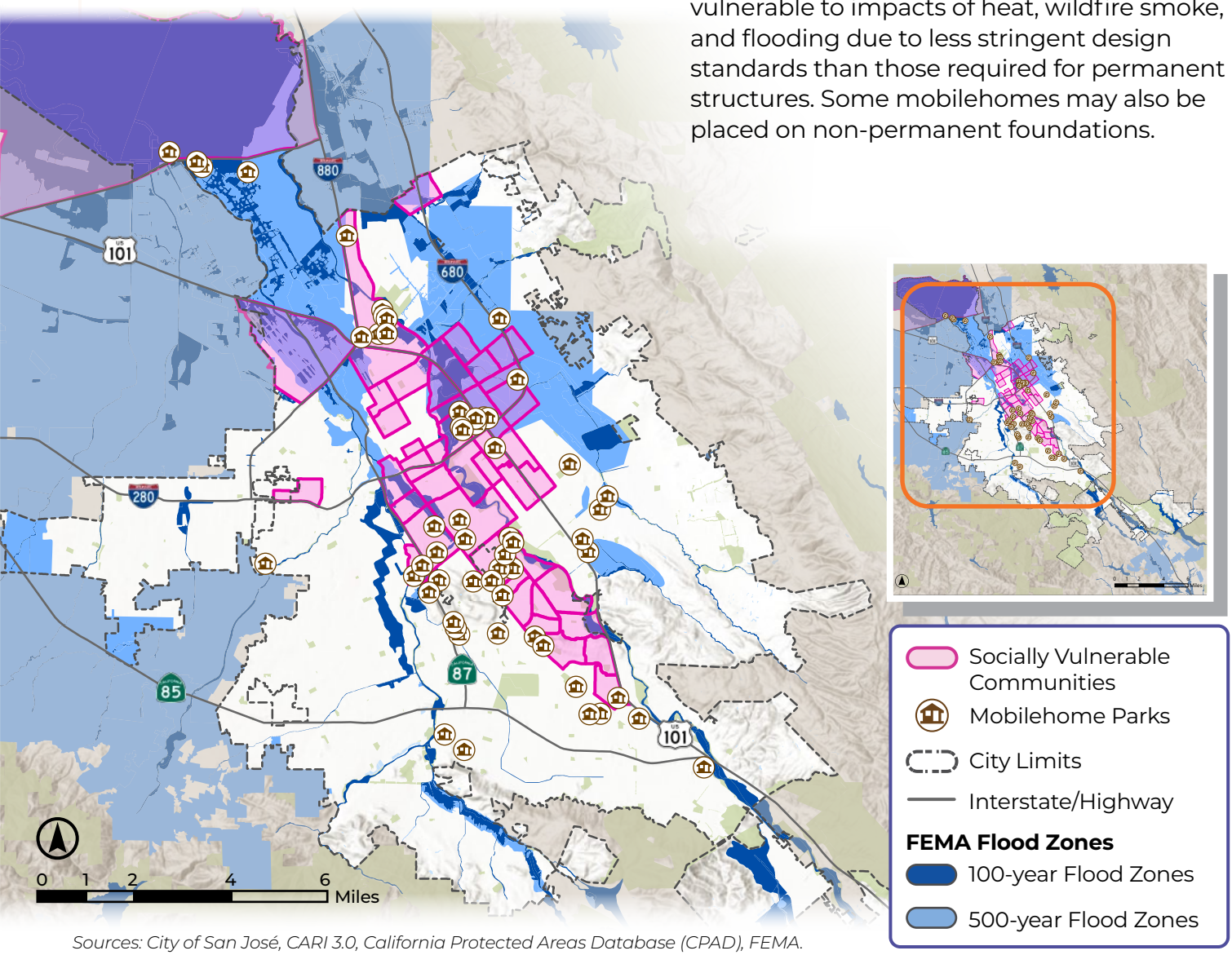
Low-income households face higher vulnerability to all hazards because they have fewer financial resources available to prepare for hazard events and to bounce back from impacts. Low-income households may also have other characteristics which exacerbate vulnerability, such as working outdoors, being an older adult on a fixed income, and renting rather than owning their home. Renters already struggle to find affordable housing and could be at risk of homelessness if they lose their rent-stabilized or lower rent unit due to impacts of climate change.

Mobilehome parks, which are regulated under the California Department of Housing and Community Development, often house populations who may have increased vulnerability due to socioeconomic characteristics, including age and income.

Approximately 11 mobilehome parks are located within a FEMA 100- or 500-year floodplain, and approximately 8 are directly adjacent to floodplains. Some are also projected to experience inundation from sea level rise, making mobilehomes extremely vulnerable to flooding impacts.

Mobilehomes themselves are more vulnerable to impacts of heat, wildfire smoke, and flooding due to less stringent design standards than those required for permanent structures. Some mobilehomes may also be placed on non-permanent foundations.

Figure 7. Mobilehome Parks and Flood Zones



Sources: City of San José, CARI 3.0, California Protected Areas Database (CPAD), FEMA.

Figure 8. Socially Vulnerable Communities and Climate Hazard Exposures

General Legend

City Limits

Interstate/Highway

Socially Vulnerable Communities

1 Socially Vulnerable Communities and Flood Zones

Sources: City of San José, CARI 3.0, California Protected Areas Database (CPAD), FEMA.

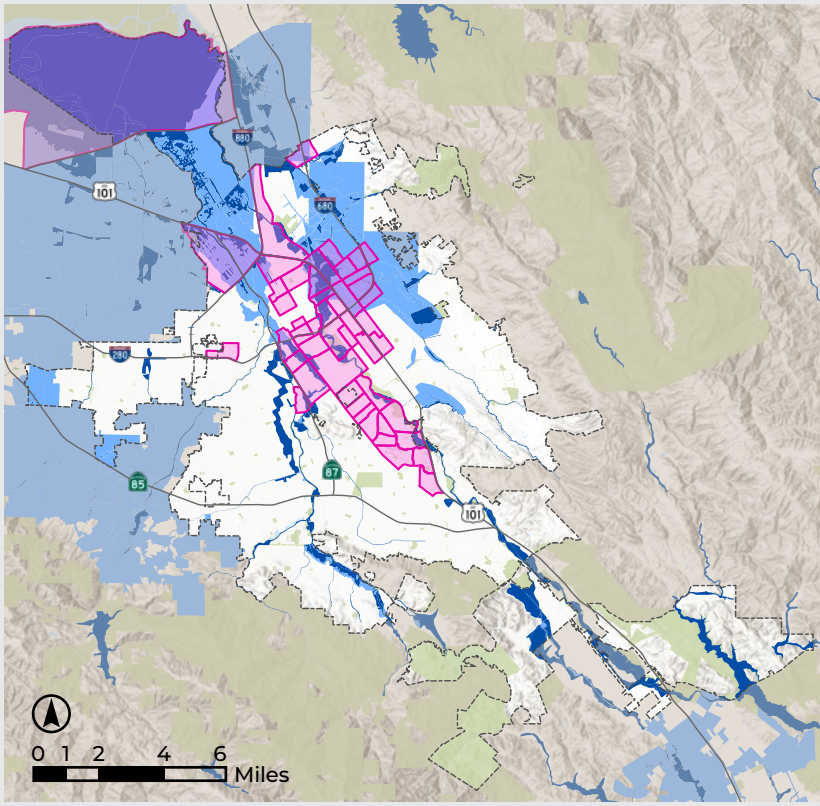
2 Socially Vulnerable Communities and Fire Hazard Severity Zones

Sources: City of San José, CARI 3.0, California Protected Areas Database (CPAD), CalFire.

3 Socially Vulnerable Communities and Sea Level Rise Zones*

Sources: City of San José, CARI 3.0, California Protected Areas Database (CPAD), Adapting to Rising Tides.

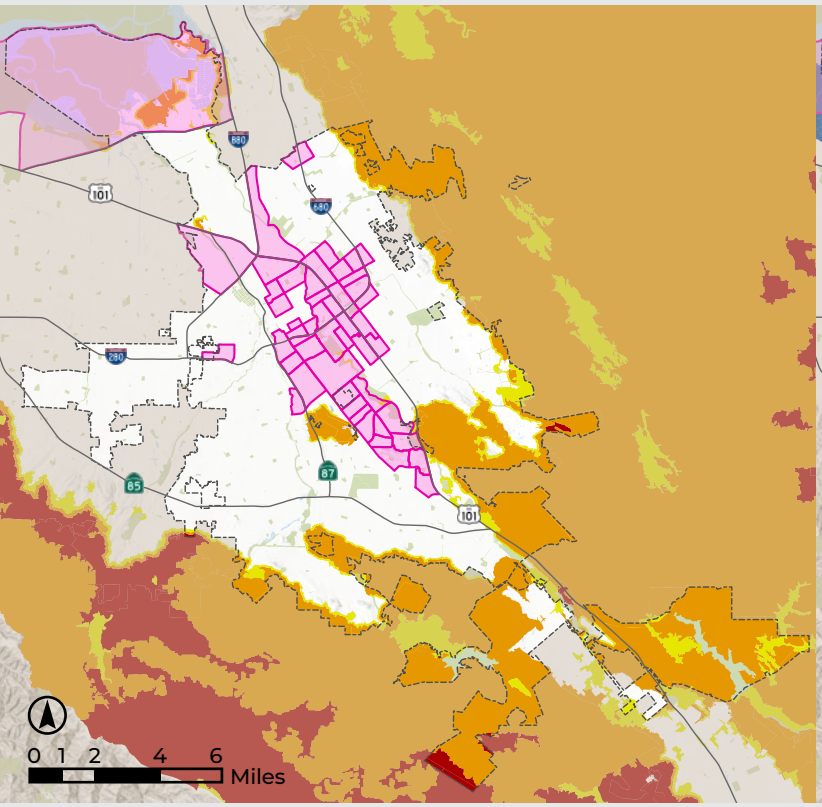
**Note SLR extent does not include storm surges.*



1 Flood Zones

100-year Flood Zone

500-year Flood Zone

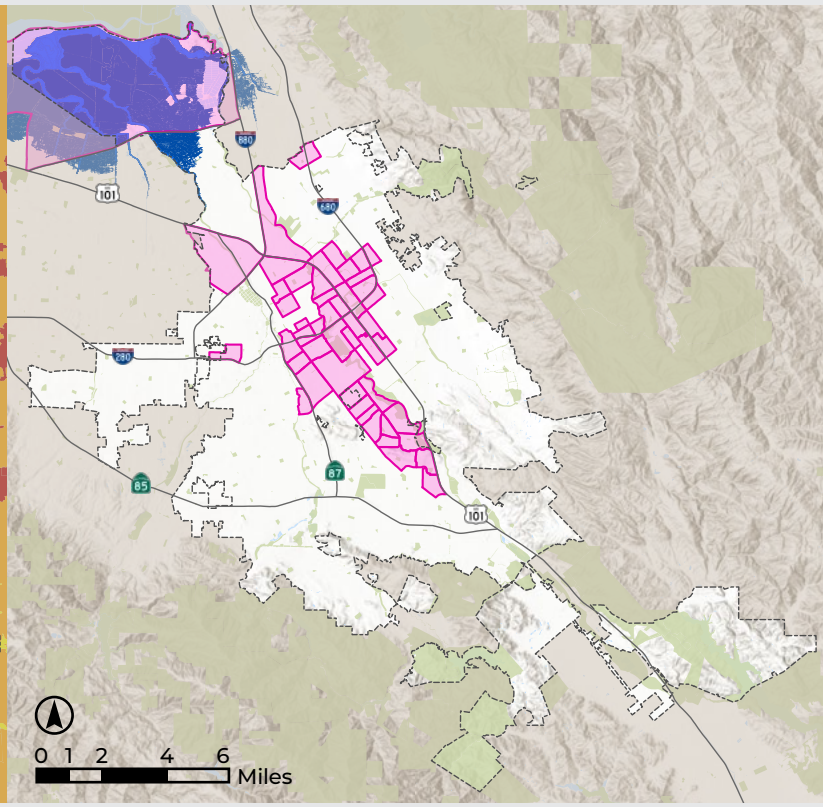


2 Fire Hazard Severity Zones

Very High

Moderate

High



3 Sea Level Rise Zones

2050 Extent of SLR (High SLR/Low Risk Tolerance)

2100 Extent of SLR (High SLR/Low Risk Tolerance)

CHAPTER 3

Framework for Climate Resilient San José

The CARP is built on a vision and a set of principles that direct the City to focus on the most impactful ways to reduce the effects of climate change on the people, infrastructure, and natural environment of San José. This vision is reflected in the CARP Framework, which is the organizing structure for the CARP measures and strategies.

CARP Vision

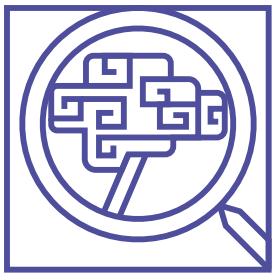
The vision for the City's CARP is to identify the foundational measures, policies, and procedures needed to reduce the vulnerability of the San José community to climate-related threats. The CARP will increase equity by addressing the disproportionate climate impacts and adaptive capacity needs of vulnerable communities.

To facilitate this vision, the principles of the City's CARP are to:

- Focus on measures and strategies within the direct control of the City.
- Integrate with related City plans and policies.
- Address inequities and reduce climate-related impacts to vulnerable communities.
- Identify the infrastructural, community, and ecosystem impacts from climate-related hazards.
- Apply best available research about climate change impacts and adaptation measures.
- Identify adaptation measures that consider infrastructure, facilities, and procedures.
- Address both property and personal health and safety impacts.
- Explore nature-based solutions to increase adaptive capacity.
- Identify climate resilience priorities and necessary resources based on dialogue with community organizations and equity considerations.
- Collaborate and work in partnership with relevant external entities, including regional agencies.

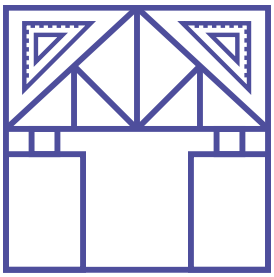
CARP Framework

The CARP Framework is the organizational structure of the measures. It is designed to keep the Plan concise and to fulfill the CARP vision of focusing on “foundational measures” that address the most impactful ways to adapt to climate change and increase resilience. The Framework is composed of four categories, each of which contains between two and eight measures. A total of 19 measures were identified through research, evaluation, and stakeholder engagement.
The Framework categories are:



KNOWLEDGE

These measures intend to provide a more detailed understanding of the extent of existing vulnerabilities and the measures needed to address them.

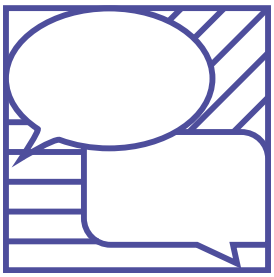


STRUCTURAL

These measures address physical vulnerabilities through various physical interventions or upgrades, e.g., strategies to raise, shade, defend, harden, fireproof, waterproof, using both engineered and nature-based solutions.

GOVERNANCE AND POLICY

These measures aim to clarify responsibility for the planning, design, budgeting, and implementation of resilience investments, developing protocols for operations and maintenance, and clarifying inconsistent regulatory processes or overlapping jurisdictional authorities.



COMMUNICATION

These measures address the need for communication between the City and residents and visitors of San José and establishing ongoing collaborations and network building with CBOs.

CHAPTER 4

Measure Development

The CARP measures were developed and selected through an iterative, collaborative process between the consultants, collaborating regional agencies, the Climate Ready Working Group, and the community.

Existing Plan Review

The first step in the CARP development process was a review of existing City and regional agency plans to identify how the CARP measures could align with any or fill gaps in existing policies and programs related to climate adaptation and resilience. The review included over 20 plans, including:

- The Santa Clara County Multi-Jurisdictional Hazard Mitigation Plan and San José Annex;
- The City Infrastructure Strategy;
- The City's Climate Smart San José;
- The City's Natural and Working Lands Element;
- The City's [Wastewater Treatment] Plant Master Plan;
- The City's Community Forest Management Plan;
- The City's Activate SJ; and
- The City's Envision San José 2040 General Plan.

The plans reviewed pertain to topics related to climate adaptation, such as climate mitigation, infrastructure planning, and nature-based solutions to climate change.

The CARP measures are meant to complement the goals and policies contained in the other City and regional plans but not overlap with them.

One finding of the existing plan review is that the City and other relevant agencies have robust policies in place to address flooding from rivers and extreme precipitation. Therefore, the CARP did not need to develop many new measures for flooding.

Another finding is that the local agencies that provide critical services to San José (Valley Transportation Authority, Valley Water, and PGE) already have climate vulnerability assessments and climate adaptation plans for their infrastructure and systems. This analysis informed the principle that the CARP measures should focus on procedures and assets that are within the direct control of the City.

The CARP highlights the opportunities to collaborate on climate adaptation within the City and other agencies and organizations, as well strengthen the integration of climate adaptation throughout City business.

Measure Selection and Strategy Development

Input from City department representatives, collaborating local agencies, and the community informed the creation and selection of the measures.

The measure identification and refinement process began with an initial list of approximately 30 draft measures. The list was informed by climate adaptation planning best practices, the review of existing plans from other cities globally, meetings with local agencies, and small group meetings of community stakeholders. The list of draft measures was then reduced to 19 through a prioritization exercise. Each draft measure was analyzed against criteria including if it:

1. Addresses climate vulnerability;
2. Increases equity;
3. Increases social cohesion; and
4. The City has direct implementation authority.

The measures that scored the highest across these four criteria were reviewed by City staff and the Climate Ready Working Group (CRWG). The measures were also presented to the public at a workshop held in April 2025. This refinement and synthesis process resulted in the selection of 19 measures to direct how the City will take action to increase climate resilience.

Each of the 19 measures includes a list of strategies to provide clear, actionable direction to the City departments that are responsible for their implementation. The CRWG and City department staff and leadership provided input on the measures at multiple points in their development. Each measure also identifies the potential key collaborators, co-benefits, and an estimation of a rough order of magnitude cost.

Key collaborators are City departments, outside agencies, or non-governmental organizations identified as potential collaborators for implementing one or more strategies of a measure. Their role and level of involvement will vary on a case-by-case basis.

Measure Development Process

1 MEASURE IDEATION

Developed list of 30 draft measures informed by technical analysis, best practices, community engagement, and regional efforts.

2 MEASURE PRIORITIZATION

Community Input

Draft measures prioritized based on alignment with four criteria:

1. Addresses climate vulnerability
2. Increases equity
3. Increases social cohesion
4. The City has direct implementation authority

Draft measures reviewed by the Climate Ready Working Group (CRWG), City, and community.

CRWG & City Review

3 FINAL LIST OF MEASURES

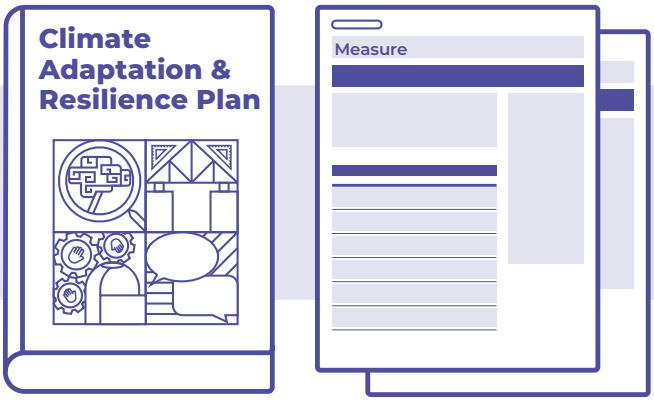
Draft measures refined and consolidated to 19 final measures. Conducted financial analysis and benefit-cost analysis.

4 STRATEGY DEVELOPMENT

Strategies drafted for each measure and and Key Collaborators assigned. Measures and strategies reviewed by the CRWG and City departments.

CRWG & City Review

5 FINAL MEASURES AND STRATEGIES



5

CHAPTER 5

Measures

How to Read the Measures

As established by the CARP Framework, the 19 measures are divided into four categories of Knowledge, Governance and Policy, Structural, and Communication. Each measure contains a description of the measure, a table of strategies to implement it, and a summary table of additional information.

KNOWLEDGE

These measures provide a more detailed understanding of the extent of existing vulnerabilities and what the City can do to address them.

1. Site- and System-Specific Vulnerability Studies (VS)
2. Climate Resilience and Adaptation Funding (AF)
3. Shoreline Adaptation Plan (SA)
4. Priority Streets and Trails (PS)

STRUCTURAL

These measures address physical vulnerabilities through various measures, e.g., raise, shade, defend, harden, fireproof, waterproof, using both engineered and nature-based solutions.

13. Community-Serving Facility Upgrades and Resilience Hubs (RH)
14. Green Stormwater Infrastructure (GS)
15. Private HVAC Upgrades (HVAC)
16. Urban Heat Mitigation (UH)
17. Transit Facilities (TF)

GOVERNANCE AND POLICY

These measures aim to clarify responsibility for planning, design, budgeting, and implementation of resilience investments, developing protocols for operations and maintenance, and clarifying inconsistent regulatory processes or overlapping jurisdictional authorities.

5. Internal Collaboration (IC)
6. Agency Collaboration (AC)
7. Advisory Groups (AG)
8. CARP Updates (CU)
9. Resilient City Infrastructure Design Standards (CD)
10. Resilient Design Standards for Private Development (PD)
11. Considerations for Development in Hazard-Prone Areas (DC)
12. Transit Service during Extreme Events (TE)

COMMUNICATION

These measures address communication between the City and residents and visitors of San José and collaboration with community-based organizations.

18. Climate Adaptation and Resilience Information (CI)
19. Community-Based Organizations (CBO)


City Council
1.1 Ceremonial Items
Proclamation declaring April 2025 as Displaced Vietnamese American Heritage Month
N. FRIMANN


GARDNER
Health Servi

Guide to the Measures

Each measure contains a narrative description, a table of the strategies, and a sidebar summarizing important details.[9]

1 **Measure number, abbreviation, and title.**

2 **Full measure text and narrative explaining what the measure means and how it applies in San José.**

3 **Table of the strategies to implement the measure.**

4 **Sidebar of details including: Key Collaborators, Implementation Timeframe, Climate Hazard(s) addressed, Related CARP Measures, Cost, Co-Benefits, and Tracking Metrics.**

MEASURE 3—SA

Shoreline Adaptation Plan

Measure: Develop a shoreline adaptation plan that complies with requirements in the Regional Shoreline Adaptation Guidelines (RSAP) and continue to implement shoreline protection and restoration projects.

SB 272 requires jurisdictions on the San Francisco Bay shoreline to develop regionally coordinated adaptation plans by January 1, 2034. The Bay Conservation and Development Commission (BCDC) created the RSAP, which provides detailed requirements for each shoreline adaptation plan. The City is participating in a multi-jurisdictional application for funding to develop a plan for the Santa Clara County subregion. These efforts will likely include the departments and agencies listed in the Key Collaborators.

The subregional plan must include a vulnerability assessment, adaptation strategies, recommended projects, and an implementation plan. The RSAP requires that all adaptation strategies in the shoreline adaptation plan prioritize natural and nature-based adaptation solutions like creek to Baylands reconnection and ecotone levees whenever feasible but can also include conventional engineering approaches.

The City can continue to support other ongoing multi-agency shoreline protection projects. This includes the South San Francisco Bay Shoreline Project, which will protect North San José and the community of Alviso from 2.6 feet of sea level rise and the 100-year flood through a combination of levees, salt pond restoration, and public access improvements.

STRATEGIES

#	STRATEGY DESCRIPTION
SA-1	Participate in the development of the subregional shoreline adaptation plan that complies with the RSAP guidelines. Prioritize nature-based adaptation in the plan in alignment with the RSAP guidelines and the One Bay Vision.
SA-2	Continue support for multi-agency shoreline protection projects, including the South Bay Salt Pond Restoration project and the South San Francisco Bay Shoreline Project.
SA-3	Identify priority levee or flood protection projects in coordination with Valley Water to protect the community and infrastructure from sea level rise while restoring ecosystems, increasing open space and recreation areas, and providing habitat.

Key Collaborators
BCDC; Caltrans; County of Santa Clara; ED; other cities; PBCE; PRNS; PW; Save the Bay; SFEI; Valley Water; VTA

Implementation Timeframe
Long-Term (>5 years)

Climate Hazard(s) Addressed

Related CARP Measures
AC

Cost
$

Co-Benefits
Ecosystem health
Recreation

Tracking Metrics
SB 272-compliant subregional shoreline plan adopted

Chapter 5: Measures | 37

9. Measure 1. Site- and System-Specific Vulnerability Assessments has a unique layout because its strategies call for the completion of four distinct studies that will be completed by different key collaborators.

Measure Key

Key Collaborators

The City departments, outside agencies, or non-governmental organizations identified as potential collaborators for implementing one or more strategies of a measure. Key Collaborators are those whose actions directly or indirectly guide the implementation of the CARP.

City departments can directly change City policies to implementation. Some City departments may take the lead on various measures and strategies and others may play a supporting role. Outside agencies (regional agencies, other cities and counties, state regulatory bodies, etc.) and non-governmental organizations (think tanks, academic institutions, advocacy groups, etc.) can impact City policies indirectly through regional rulemaking, participation in collaborative projects, and contributions of expertise.

The list of Key Collaborators is ordered alphabetically, not by the size of the collaborator's role. Abbreviations for City departments, outside agencies and other organizations listed as potential Key Collaborators are as follows:

City Departments:

- BO: City Manager's Budget Office
- CMO: City Manager's Office
- DOT: Department of Transportation
- ED: Energy Department
- ESD: Environmental Services Department
- FIN: Finance Department
- HSG: Housing Department
- LIB: Library
- OEDCA: Office of Economic Development and Cultural Affairs
- OEM: Office of Emergency Management
- PBCE: Planning, Building & Code Enforcement
- PRNS: Parks, Recreation & Neighborhood Services
- PW: Public Works Department
- SJFD: Fire Department
- SJPD: Police Department

Outside agencies and organizations:

- BayCAN: Bay Area Climate Adaptation Network
- BCDC: Bay Conservation and Development Commission
- OSA: Santa Clara County Open Space Authority
- PGE: Pacific Gas and Electric
- SC4: Santa Clara County Climate Collaborative
- SFEI: San Francisco Estuary Institute
- SPUR: San Francisco Bay Area Planning and Urban Research Association
- Valley Water: Santa Clara Valley Water District
- VTA: Valley Transportation Authority

Implementation Timeframe

Lists one of the following four timeframes.

- ▹ Ongoing
- ▹ Short-Term (<2 years)
- ▹ Mid-Term (2-5 years)
- ▹ Long-Term (>5 years)

Some measures, say "[timeframe]," then "ongoing" to indicate that a process should be created in a certain timeframe, then implemented continuously going forward.

Climate Hazard(s) Addressed:

Lists hazards addressed by the measure.

- Extreme heat
- Flood
- Wildfire
- Sea level rise
- Drought
- Extreme weather [10]

Related CARP Measures

Lists the related CARP measures by their abbreviation. Clicking on the underlined abbreviations will navigate to that measure's page in the document.

Cost

A rough order of magnitude ($-$$$) of costs to implement the measure.

- $: Low, <$100,000
- $$: Medium, $100,000-500,000
- $$$: High, >$500,000

Co-Benefits

Lists which of the following co-benefits are gained from the measure:[11]

- Ecosystem health
- Public health
- Emergency preparedness
- Grid reliability
- Equity
- Community cohesion
- Recreation
- Active transportation
- Transit access
- Air quality
- Water capture/quality
- GHG emissions reductions
- Cost savings
- Economic development

Tracking Metrics

Each measure has unique metrics for tracking implementation.

10. Extreme weather includes extreme heat and additional hazards such as extreme cold, wind, and storms. Impacts of extreme weather are largely addressed by the measures that address extreme heat and flooding.

11. Co-benefits listed are not applied to measures when they are the primary benefit. For example, "transit access" and "active transportation" are not listed as co-benefits for the Priority Streets and Bike Routes measure because that is its primary purpose/benefit.

MEASURE 1—VS

Site- and System-Specific Vulnerability Studies

Measure: Conduct studies to better understand site- and system-specific vulnerabilities and potential interventions for mobilehome parks, City facilities, and water system.

Several issues were identified in the Vulnerability Assessment that need more data collection and analysis before specific recommendations can be developed. Targeted studies will fill these knowledge gaps and provide a better understanding of site- and system-specific vulnerabilities and support the development of interventions that can reduce exposure or that can contribute to providing critical services. The departments carrying out the studies should report back to City Council or other City bodies upon their completion to summarize their findings and provide recommendations for further action.

Key Collaborators[12]
Varies by Strategy:
ED (VS-1); ED (VS-2); ED and PRNS (VS-3); ESD (VS-4); HSG (VS-1); PW (VS-3); PW and PRNS (VS-2);

Implementation Timeframe
Short-Term (<2 years)

Climate Hazard(s) Addressed

Related CARP Measures
CD, PD, DC, RH

Cost
See cost of individual strategies.

Co-Benefits
- Equity
- Public health
- Grid reliability
- Emergency preparedness

Tracking Metrics
Completion of studies

STRATEGIES

#	STRATEGY DESCRIPTION	COST
VS-1	Study nature-based and infrastructural strategies to protect mobilehome parks located in frequent riverine flooding, projected sea level rise locations, or areas with storm drain deficiencies/issues which can be exacerbated with sea level rise.	$
VS-2	Identify facilities for Resilience Hub upgrades. Prioritize facilities that: • Serve and/or are located within 3 miles of identified socially vulnerable communities per City of San José Climate Vulnerability Assessment; • Are located near major transportation nodes; and/or • Align with Measure T projects.	$
VS-3	Conduct engineering-level assessments of City facilities to understand project feasibility at facilities prioritized by previous PW studies of potential microgrid sites.	$$
VS-4	Identify systems and technologies that can reduce water demand and/or increase non-potable water sources.	$

12. For this measure only, each strategy has its own cost in the strategy table. VS-1 through VS-4 are distinct studies to be completed by different key collaborators.

MEASURE 2—AF

Climate Resilience and Adaptation Funding

Measure: Explore options to fund the CARP climate resilience and adaptation efforts.

Funding sources for resilience can come from multiple sources. Some resilience measures can leverage or add on to other investments being made to City facilities or infrastructure. As specific funding programs change regularly, the City needs to continuously research options to fund the CARP.

STRATEGIES

#	STRATEGY DESCRIPTION
AF-1	Pursue a sustainable funding source for City adaptation and resilience projects, such as a fund that is self-replenished through available tax credits and/or a bond.
AF-2	Determine what CARP measures will be accomplished through the existing capital improvement program (CIP). When measures are already part of the CIP: • Assess whether additional sources of funding are necessary to implement the measures related to additional strategies called for in the CARP. • Assess opportunities for departments to join projects or collaborate if measures are part of individual department CIPs.
AF-3	Develop a list of high priority grants to pursue.
AF-4	Develop a list of revenue generating measures to pursue.
AF-5	Provide grant writing support to departments that are less familiar with preparing grant applications. Hire consultants as needed to support grant applications.
AF-6	Pursue partnerships to share costs or achieve greater impact. May include partnerships with green banks and other financial institutions that could provide capital for financing building retrofits and other community-focused measures.

Key Collaborators
BO; CMO; ED; FIN; PRNS; PW; SC4

Implementation Timeframe
Ongoing

Climate hazard(s) addressed

Related CARP Measures
All

Cost
$$-$$$

Co-Benefits
N/A

Tracking Metrics
CARP measures with funding secured for implementation; CARP measures included in the Capital Improvement Plan; Amount ($) of grants secured, amount of funds for dedicated maintenance

MEASURE 3—SA

Shoreline Adaptation Plan

Measure: Develop a shoreline adaptation plan that complies with requirements in the Regional Shoreline Adaptation Guidelines (RSAP) and continue to implement shoreline protection and restoration projects.

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The subregional plan must include a vulnerability assessment, adaptation strategies, recommended projects, and an implementation plan. The RSAP requires that all adaptation strategies in the shoreline adaptation plan prioritize natural and nature-based adaptation solutions like creek to Baylands reconnection and ecotone levees whenever feasible but can also include conventional engineering approaches.

The City can continue to support other ongoing multi-agency shoreline protection projects. This includes the South San Francisco Bay Shoreline Project, which will protect North San José and the community of Alviso from 2.6 feet of sea level rise and the 100-year flood through a combination of levees, salt pond restoration, and public access improvements.

Key Collaborators
BCDC; Caltrans; County of Santa Clara; ED; other cities; PBCE; PRNS; PW; Save the Bay; SFEI; Valley Water; VTA

Implementation Timeframe
Long-Term (>5 years)

Climate Hazard(s) Addressed

Related CARP Measures
AC

Cost
$

Co-Benefits
- Ecosystem health
- Recreation

Tracking Metrics
SB 272-compliant subregional shoreline plan adopted

STRATEGIES

#	STRATEGY DESCRIPTION
SA-1	Participate in the development of the subregional shoreline adaptation plan that complies with the RSAP guidelines. Prioritize nature-based adaptation in the plan in alignment with the RSAP guidelines and the One Bay Vision.
SA-2	Continue support for multi-agency shoreline protection projects, including the South Bay Salt Pond Restoration project and the South San Francisco Bay Shoreline Project.
SA-3	Identify priority levee or flood protection projects in coordination with Valley Water to protect the community and infrastructure from sea level rise while restoring ecosystems, increasing open space and recreation areas, and providing habitat.

MEASURE 4—PS

Priority Streets and Trails

Measure: Identify Tier 1 priority streets, such as the Grand Boulevards, and bike lanes for priority clearing of leaves, branches, and debris after major storms.

Priority streets (including City grand boulevards) and priority pedestrian and bicycle routes and trails (including Class I trails), would provide critical access and egress during disruptive events. City resources would be allocated to these streets first during an event to ensure continued traffic operations, allow emergency access and egress for vehicles, transit, pedestrians and bicyclists, and emergency services. In the case of a power outage, police acting as traffic controllers should be deployed at major intersections along these corridors to ensure operations. City resources would later be allocated to prioritize maintenance and cleaning up of prioritized roadways, sidewalks, bicycle facilities, and trails post-event. Priority transportation facilities can be identified in the updated Circulation Element of the General Plan and/or the Trails Master Planning GIS layer, as applicable.

STRATEGIES

#	STRATEGY DESCRIPTION
PS-1	Identify Tier 1 and Tier 2 Priority Corridors, trails, and intersections that align with major transit routes, evacuation routes, and community input for the prioritized clearing of leaves, branches and debris after major storms. Incorporate into General Plan and Trails Master Planning GIS layer, identifying emergency shelters, community centers, and transit hubs.
PS-2	Identify key transportation access routes to/from community facilities as needed (i.e. flood protection, etc.) to allow access during climate hazard events and conduct upgrades as needed.

Key Collaborators
DOT; PBCE; PRNS; PW; SJFD; SJPD

Implementation Timeframe
Mid-Term (2-5 years)

Climate Hazard(s) Addressed

Related CARP Measures
TE, RH, TF

Cost
$

Co-Benefits
Emergency preparedness

Tracking Metrics
Priority corridors, trails, and intersections identified

MEASURE 5—IC

Internal Coordination

Measure: Develop structures to facilitate coordination among City departments for the implementation of the CARP.

Resilience planning and implementation require coordinated input from multiple City agencies, which necessitates the establishment of formal methods to facilitate coordination among departments. A key outcome of this coordination is ensuring that resilience is integrated throughout City plans, policies, and operations moving forward. City departments also need to work together on investments in physical projects that reduce climate hazard exposure, and methods to communicate to the citizens about what the City is doing and what services are available.

STRATEGIES

#	STRATEGY DESCRIPTION
IC-1	Establish the Climate Ready Working Group as a formal entity within the structure of the City.
IC-2	Establish metrics, indicators, and procedures for departmental staff to track and report on the CARP measures and strategies.
IC-3	Identify opportunities in the CIP to promote climate resilience consistent with the CARP.

Key Collaborators
CMO; DOT; ED; OEM; PBCE; PRNS; PW

Implementation Timeframe
Short-Term (<2 years), then ongoing

Climate Hazard(s) Addressed

Related CARP Measures
All

Cost
N/A (staff time)

Co-Benefits
N/A

Tracking Metrics
Internal group formally established

MEASURE 6—AC

Agency Collaboration

Measure: Collaborate with regional agencies that operate critical infrastructure in San José.

Climate issues cross jurisdictional boundaries and impact many critical services like electricity delivery, water and wastewater, mobility, and stormwater management. Formalizing a collaborative structure to engage with regional and subregional agencies to reduce exposure and prepare for climate-related events will enable synergies in planning and investment and provide clarity on what resources can be contributed during disruptive or hazardous events. This can take the form of a working group or commission.

STRATEGIES

#	STRATEGY DESCRIPTION
AC-1	Participate in regularly scheduled meetings to coordinate with Valley Water, VTA, PGE, and other state and regional entities.
AC-2	Continue engagement and leadership with County and subregional bodies, including but not limited to BCDC, BayCan, and SC4.
AC-3	Identify and carry out opportunities to collaborate between the regional and subregional agencies to maximize the benefits of infrastructure and adaptation investments. Continue leadership roles on the SC4 Resilience Fund Advisory Committee and the Public Facility Resilience Implementation Program (PFRIP) Coalition.

Key Collaborators
BayCan; BCDC; Caltrans; CMO; County of Santa Clara; ED; ESD; OEM; OSA; other cities; PGE; PW; SC4; Valley Water; VTA

Implementation Timeframe
Ongoing

Climate Hazard(s) Addressed

Related CARP Measures
SA, PS, CD, TE, RH, GS, TF

Cost
Staff Time

Co-Benefits
Emergency preparedness

Tracking Metrics
Meeting participation

MEASURE 7—AG

Advisory Groups

Measure: Empower and coordinate with community liaisons to support the City's climate adaptation and resilience measures.

The City has numerous advisory bodies that relate to climate resilience, including: the Climate Advisory Commission; Planning Commission; Smart City Advisory Board; Youth Commission; Senior Citizens Commission; Library and Education Commission; and Parks and Recreation Commission. While the Climate Advisory Commission is specifically focused on climate change topics, climate resilience impacts many sectors of City business. Climate resilience can be incorporated into City advisory bodies by including climate items in the types of presentations that can be brought before the group by staff, or incorporating a section about how items relate to climate resilience in staff reports.

STRATEGIES

#	STRATEGY DESCRIPTION
AG-1	Identify the City commissions and advisory groups that should incorporate climate resilience in their role.
AG-2	Modify the bylaws and responsibilities of the identified commissions and advisory groups to formalize inclusion of climate resilience in the types of items they review.
AG-3	Develop and implement trainings for commission and advisory group members about climate change impacts in San José, tailored to the kind of business they discuss.

Key Collaborators
ED; PBCE; PRNS; PW; SC4

Implementation Timeframe
Short-Term (<2 years), then ongoing

Climate Hazard(s) Addressed

Related CARP Measures
CI

Cost
Staff Time

Co-Benefits
- Equity
- Community cohesion

Tracking Metrics
Number of advisory bodies with climate resilience integrated; Trainings provided

MEASURE 8—CU

CARP Updates

Measure: Update the CARP as climate science and adaptation approaches evolve.

Projections about climate hazards, our knowledge about climate vulnerabilities and impacts, and the tools that exist to adapt continuously change. From a data perspective, San José should regularly update its adaptation plan to align with the best available climate and sea level rise projections. The State of California updates its Climate Change Assessment every five years, OPC Sea Level Rise Guidance every five years, Climate Adaptation Strategy every three years, and Coastal Commission Sea Level Rise Policy Guidance every five years. Additional sources of locally "ground-truthed" data should also be considered. This may include data from local research organizations, advocacy groups, and community members, such as flood maps that identify where actual flooding occurs in the Bay Area beyond the FEMA floodplains.

Additionally, new CARP measures will need to be identified and developed since a majority of them are meant to be implemented within five years. The City should consider the implementation and impact of the original 19 CARP measures when developing new measures.

STRATEGIES

#	STRATEGY DESCRIPTION
CU-1	Update the CARP every five years to align with state guidance, incorporate best available climate projections, and implementation status of CARP measures.

Key Collaborators
ED; ESD; OEDCA; OEM; PBCE; PRNS; PW

Implementation Timeframe
Long Term (>5 years)

Climate Hazard(s) Addressed

Related CARP Measures
N/A

Cost
$

Co-Benefits
N/A

Tracking Metrics
CARP updated

MEASURE 9—CD

Resilient City Infrastructure Design Standards

Measure: Incorporate climate change projections and climate hazards into design and siting decisions for City infrastructure.

City investments in infrastructure and buildings should be designed and constructed to be more resilient to the impacts of climate hazards including extreme heat, flooding, SLR, and wildfires. As indicated by the Vulnerability Assessment, climate hazards and events are projected to increase in intensity and frequency in the coming decades. This aligns with the decades-long useful life of City infrastructure and buildings. With this, the City should protect its investments and minimize operational disruptions in the future by siting and designing infrastructure and buildings to be resilient to climate change. Some of the design standards may call for early interdepartmental coordination, increased maintenance, the use of sustainable building materials and/or new ways of operating.

Infrastructure projects (particularly streets), can be designed to include nature-based solutions to flooding and heat like bioswales, landscaped medians, and increased shade through tree planting or incorporating shade structures. Design standards requiring reflective surfaces could be developed to reduce urban heat accumulation. In City buildings and facilities, other potential design considerations could include placing electrical panels away from or elevated in areas subject to flooding, requiring cool roofs, or requiring battery backup systems to reduce disruptions if the grid is impacted by extreme heat or public safety power shutoffs.

STRATEGIES

#	STRATEGY DESCRIPTION
CD-1	Adopt and implement design standards to account for current and future extreme heat events, flooding, SLR, and wildfires/wildfire smoke in design standards for City infrastructure and facilities.
CD-2	Develop EV charging design standards to support continued operation of fleet vehicles during a climate-related emergency.
CD-3	Review the design standards every 3-5 years to consider advancements in technology and performance data from City buildings and update as feasible.

Key Collaborators
BayREN; DOT; PRNS; Prospect SV; PW; SPUR

Implementation Timeframe
Long term (>5 years)

Climate Hazard(s) Addressed

Related CARP Measures
VS, RH, GS, UH, TF

Cost
$$

Co-Benefits
- Active transportation
- Equity
- Air quality
- Water capture/quality
- Ecosystem health
- Recreation

Tracking Metrics
Standards adopted

MEASURE 10—PD

Resilient Design Standards for Private Development

Measure: Explore local code amendments for new private development that reduce the impacts of climate hazards.

Private development refers to residential, commercial, and other types of privately-owned development where people live, work, and play. As climate change intensifies, San José is expected to experience more frequent and severe floods, heat waves, wildfire and other hazards. The City can enhance the durability of the built environment by incorporating climate resilience into the codes and design standards that guide new development. Over time, these incremental improvements to the City's building stock can provide neighborhood and community-scale benefits.

To strengthen resilience in the buildings sector, the City can adopt local code amendments that set higher standards than what is required by the State. There is precedence for this type of measure in San José in the context of climate mitigation; the City has already adopted local "reach codes" that mandate a higher percentage of EV-capable parking spaces in multifamily buildings and require nonresidential buildings to be designed to accommodate future solar installations. For climate adaptation and resilience, the City can consider adopting local code amendments to encourage (or even require) measures such as improved HVAC system performance, tightly sealed building envelopes, heat resistant building materials and shading, and water efficiency.

These building code changes primarily affect the building stock and building occupants, but they can result in co-benefits for the environment. For example, Low Impact Development (LID) helps capture and filter stormwater. Or, implementing more passive cooling strategies reduces energy use associated with air conditioning, thus reducing GHG emissions.

Measure continued on the following page.

Key Collaborators
ED; PBCE; SJFD

Implementation Timeframe
Mid-Term (2-5 years)

Climate Hazard(s) Addressed

Related CARP Measures
HVAC, UH

Cost
$$, Consulting Services + Staff Time

Co-Benefits

- Public health
- Air quality
- Water capture/quality
- Ecosystem health
- GHG emissions reductions

Tracking Metrics
Number of reach codes enacted; Number of buildings that meet the requirements of each reach code

STRATEGIES	
#	**STRATEGY DESCRIPTION**
PD-1	Assess opportunities to strengthen City's codes and design standards to require climate-resilient building and site-planning practices including: • Fire: Adopting more stringent ignition-resistant construction, defensible space clearance, and other wildland fire safety practices than what is required by the California Wildland-Urban Interface Code (Title 24, Part 7). Standards could also be applied to more areas beyond the High or Very High Fire Hazard Severity Zones put forth by the state. • Flood/SLR: Incorporating SLR-related flooding impacts in the Flood Ordinance and implementing Low Impact Development (LID) requirements. • Heat/extreme weather: Including the use of higher-performing building materials and systems such as efficient HVAC systems, air filtration, thermal-efficient insulation materials, and high-performance windows. Urban design and built form elements for shading (such as breezeways, arcades, sun sails, shade structures) and cooling (such as cool roofs, evaporative cooling, and water features).
PD-2	Develop publicly accessible informational resources explaining changes to City codes and design standards per PD-1.
PD-3	Include a narrative regarding climate adaptation and resilience considerations to the Climate Smart section of Committee and City Council memorandum templates.

MEASURE 11—DC

Considerations for Development in Hazard-Prone Areas

Measure: Evaluate policies to manage development in climate hazard-prone areas.

Continuing to develop in areas at risk of flooding, wildfire, and SLR increases the risks to people and communities. The City has planning tools that include the General Plan, Municipal Code, Council Policies, and design guidelines that can be used to limit development in at-risk areas or to ensure that any development that does occur in at-risk areas is built to be resilient. In the case of wildfire and flood, the state and/or federal government have requirements that the City must incorporate or choose to exceed.

Natural and working lands (NWL) are also an important consideration for resilient development patterns. The City's Natural and Working Lands Element, which is incorporated into the 2025 Climate Smart update, has goals related to NWL preservation and expansion, and restoration and enhancement. The City should also continue collaborating with the Santa Clara County Open Space Authority (OSA) on efforts that restore NWL that buffer developed areas from hazards, such as Laguna Seca wetland restoration in Coyote Valley and fuel management in the Santa Teresa Foothills.

This CARP measure does not make any determinations about what specific geographic areas, degree of hazard vulnerability/risk, or development types any new policies would apply to. The measure only directs the City to identify where policy changes can and should be made. If the City does recommend policy updates, the focus and parameters would be determined through the relevant department's full policy development process.

Key Collaborators
HSG; OEDCA; OEM; OSA; PBCE; PRNS; PW; SJFD

Implementation Timeframe
Long term (>5 years)

Climate Hazard(s) Addressed

Related CARP Measures
VS, PD

Cost
$

Co-Benefits

- Ecosystem health
- Public health
- Emergency preparedness

Tracking Metrics
Evaluation of existing policies completed

STRATEGIES

#	STRATEGY DESCRIPTION
DC-1	Evaluate the City's General Plan, Municipal Code, Council Policies, and other relevant planning documents and hazard-related ordinances to identify existing policies related to development in areas vulnerable to climate hazards. Assess the gaps and opportunities to encourage resilient development patterns, and restore and protect ecosystems.
DC-2	Consider updates to the City's General Plan, Municipal Code, Council Policies, etc. in alignment with the findings of DC-1.

MEASURE 12—TE

Transit Service During Extreme Events

Measure: Collaborate with VTA and other transit service providers to provide enhanced transit service between communities with low car ownership and heating/cooling shelters or resilience hubs during extreme weather events and other climate-related emergencies.

During extreme weather events, DOT will collaborate with VTA to ensure transit services remain available, prioritizing direct access to key resources such as heating/cooling centers or resilience hubs for vulnerable communities and transit dependent populations. DOT will coordinate with VTA and other transit agencies to explore options, such as reduced or no cost transit services, that correspond with the severity of the event and support communities with low car ownership. The City, in partnership with VTA, other transit agencies and community-based organizations, will identify priority transit routes that serve vulnerable populations.

STRATEGIES

#	STRATEGY DESCRIPTION
TE-1	Define clear criteria for when reduced fare or free transit services should be activated, as well as when service suspensions may be necessary during climate-related emergency events.
TE-2	Identify funding opportunities for providing reduced-fare or free transit services during climate-related emergency events.
TE-3	Identify vulnerable areas and key routes that will require continued transit access during climate-related emergency situations.
TE-4	Collaborate with VTA to develop a plan for deploying supplemental transit shuttles along evacuation routes and to/from resilience hubs. The plan should prioritize service to vulnerable areas, with designated pick-up and drop-off zones.

Key Collaborators
DOT[13]; VTA

Implementation Timeframe
Mid-Term (2-5 years)

Climate Hazard(s) Addressed

Related CARP Measures
AC, PS, TF, CBO

Cost
$$

Co-Benefits
- Equity
- Public health
- Emergency preparedness

Tracking Metrics
Socially vulnerable communities service area coverage during events, travel time to resilience hubs

13. DOT is responsible for collaborating with VTA. VTA is primarily responsible for operating transit service in San José.

MEASURE 13—RH

Community-Serving Facility and Resilience Hubs

Measure: Upgrade community-serving municipal facilities (such as recreation facilities, community centers, cultural facilities, and libraries) to ensure functionality during climate hazard events and establish accessible resilience hubs across San José.

As climate-related emergencies become more frequent and severe, communities need safe, accessible spaces that can provide support during disruptions. These "resilience hubs" will be able to provide shelter, resources, and essential services to residents during emergencies. To meet this need, the City can upgrade community-serving municipal facilities such as recreation centers, libraries, cultural spaces, and community centers so that they remain functional and accessible during climate hazard events.

The City should create a network of resilience hubs across the City to ensure geographic coverage and redundancy. These locations will be identified by Strategy VS-2 in Measure 1 Site- and System-Specific Vulnerability Studies. In the event of an evacuation, resilience hubs can be a destination for transit services to drop-off evacuees from areas of high risk and serve as EV charging hubs. Currently, some community centers in the City serve as cooling centers, offering WiFi, charging stations, and emergency preparedness workshops. There is potential to expand, formalize, and better fund this network to enhance its effectiveness and reach. Some Measure T projects may present strong opportunities to implement resilience upgrades at key Community Center Hubs: Roosevelt, Mayfair, Seven Trees, Bascom, Camden, Evergreen, Berryessa, and Almaden.

Resilience hubs should be concentrated in socially vulnerable communities, as these neighborhoods are most likely to require services during and after a hazardous event. Once identified, facilities should be retrofitted and/or equipped to provide shelter and emergency services to residents. These upgrades align with strategies outlined in the Santa Clara County Multijurisdictional Hazard Mitigation Plan and build on ongoing countywide efforts, including those led by the County Public Health Department, to strengthen local resilience hub networks and better serve vulnerable populations during climate-driven events.

Measure continued on the following page.

Key Collaborators
DOT (RH-3); ED (RH-1) LIB; OEM (RH-5); PRNS; PW

Implementation Timeframe
Mid-Term (2-5 years)

Climate Hazard(s) Addressed

Related CARP Measures
VS, AC, CD, TE, UH, TF

Cost
$$$

Co-Benefits
- Public health
- Emergency preparedness
- Community cohesion

Tracking Metrics
Percent of Council Districts that have a City resilience hub; Percent of heating/cooling centers located within three miles of socially vulnerable communities that are resilience hubs; Percent of City facilities with installed backup power systems (by type); Percent of facilities with HVAC systems upgraded to meet resilience standards

STRATEGIES	
#	**STRATEGY DESCRIPTION**
RH-1	Update electrical infrastructure to support battery backup systems and island operations at facilities as identified in VS-2. Install battery backup systems or other onsite backup power systems to allow for continuous power during grid outages.
RH-2	Install and/or upgrade EV chargers and associated electrical service at facilities as identified in VS-2.
RH-3	Upgrade HVAC systems to be able to run on backup power and handle wildfire smoke and higher temperatures. This may include upgrading HVAC air filters to MERV ratings of at least 13, installing HEPA air purifiers to capture small particles from wildfire smoke or other forms of air pollution, and reduce air leakage from walls, windows and roofs.
RH-4	Coordinate with City departments that manage and run the facilities to create emergency supply storage and stock secure area with essentials (water at a minimum).

MEASURE 14—GS

Green Stormwater Infrastructure

Measure: Develop and implement public and private green stormwater infrastructure (GSI) projects to capture stormwater, reduce flooding, and mitigate extreme heat.

Green stormwater infrastructure (GSI) is a nature-based solution to flooding that uses engineered natural systems to capture runoff and promote natural infiltration of rainwater. By increasing vegetation cover and enhancing surface permeability, GSI can mitigate the urban heat island effect, reduce the risk of flooding during heavy rainstorms. It also improves water quality, and enhance resilience during droughts by supporting the replenishment of underground aquifers. Examples of smaller-scale GSI interventions include rain gardens, bioswales, permeable pavements, green roofs, and tree well filters. Landscape-scale interventions like wetland restoration also contribute to water capture and infltration.

The City's 2019 Green Stormwater Infrastructure Plan outlines a long-term strategy to integrate GSI into new development and capital improvement projects, with future attention given to address the long-term maintenance costs of GSI facilities. The plan encourages GSI on public and private development and properties, though the requirements for each are different. For example, the City implements GSI for public projects and developers or property owners implement GSI for private projects. Design standards for public projects are set by the GSI plan; standards for private projects are set by Provision C.3 of the Municipal Regional Stormwater Permit.

The City's Complete Streets Design Standards and Guidelines also support the incorporation of green infrastructure in street design, describing the considerations of different green infrastructure elements (e.g., rain gardens, parkstrips, infiltration planters, and stormwater tree wells).[14] This measure builds on regional climate action planning, including the Valley Water Climate Change Action Plan that has green stormwater infrastructure projects as an actionable strategy for water supply adaptation.[15] It also aligns with the City's efforts to integrate green stormwater infrastructure to address stormwater system overflows (2023 City Infrastructure Strategy) and transition away from traditional 'gray' infrastructure systems.

Measure continued on the following page.

Key Collaborators
County; DOT; ESD; OED; PBCE; PRNS; PW; SFEI

Implementation Timeframe
Short-Term (<2 years)

Climate Hazard(s) Addressed

Related CARP Measures
CD, PD, UH

Cost
$$

Co-Benefits

- Air quality
- Water capture/quality
- Ecosystem health

Tracking Metrics
Number of GSI projects completed; Number of priority areas identified for GSI benefits

14. City of San José. (2018) San José Complete Streets Design Standards & Guidelines. https://www.sanjoseca.gov/home/showpublisheddocument/33113/636771160514830000
15. Valley Water. (2021). Climate Change Action Plan. https://fta.valleywater.org/dl/WE26jeeXbS

STRATEGIES	
#	**STRATEGY DESCRIPTION**
GS-1	Work with Santa Clara County and SFEI to identify priority areas and projects that would benefit most from green stormwater infrastructure based on watershed or hydrology analyses, equity and community need, and infrastructure opportunities.[16]
GS-2	Follow guidelines on green stormwater infrastructure described in the Complete Streets/Design guidelines.
GS-3	Increase stormwater capture (through green stormwater infrastructure and low impact development) and natural treatment to improve water quality entering creeks and to enhance the groundwater recharge capacity of the Santa Clara Subbasin.

16. The City can consider local sources of data that "ground-truthed" areas where community members support nature-based solutions to flooding, such as SFEI and Climate Resilient Communities' Healthy Watersheds and Thriving Cities project.

MEASURE 15—HVAC

Private HVAC Systems

Measure: Improve HVAC and air filtration systems to handle higher temperatures and more frequent days with poor air quality.

As climate change drives more frequent and intense heat waves, there is an urgent need to protect public health and ensure indoor environments remain cool on days with extreme heat. Many buildings in San José do not currently have air conditioning, which can lead to negative health impacts for all residents but particularly vulnerable populations such as older adults and children. To protect public health, buildings can be upgraded to include cooling systems that use energy-efficient heat pump technology.

Modern HVAC systems are more efficient, and when enrolled in a demand response program, the systems use less energy during heat waves when energy demand surges. This also has the co-benefit of reducing the incidence of brownouts and blackouts. New HVAC systems are also equipped with more advanced air filtration systems, which can better protect residents from wildfire smoke and air pollution.

San José Clean Energy currently supports upgrades to efficient HVAC systems through its EcoHome Rebate and Payment Plan programs. Other existing programs that the City can promote include the statewide TECH Clean California program and the State-administered Home Electrification and Appliance Rebates (HEEHRA). The City can also offer incentives for window or portable air conditioners or provide portable units during heat waves. All San José Clean Energy customers can participate in its demand response program Peak Rewards and get paid to support a more resilient grid.

Measure continued on the following page.

Key Collaborators
ED; OEDCA

Implementation Timeframe
Mid-Term (2-5 years)

Climate Hazard(s) Addressed

Related CARP Measures
PD

Cost
$$

Co-Benefits

- Air quality
- Grid reliability
- Public health
- Cost savings
- Economic development

Tracking Metrics
Number of buildings upgraded with efficient, heat pump HVAC systems through City-supported programs

STRATEGIES	
#	**STRATEGY DESCRIPTION**
HVAC-1	Further develop San José Clean Energy's EcoHome incentive and financing programs to increase access to electric heat pump HVAC systems for residents (especially in socially Vulnerable communities) and potentially businesses.
HVAC-2	Promote/build on available non-City incentive programs to increase incentives for HVAC upgrades, such as the Home Electrification and Appliance Rebates program, Home Efficiency Rebates program, and the Energy Savings Assistance Program.
HVAC-3	Explore establishing a rebate or check out program for portable air conditioners that can be deployed to low-income communities and households during more frequent heat waves. See the Los Angeles Cool LA Program, which offers free portable air conditioning units to residents over age 60, on fixed incomes, or enrolled in the EZ-SAVE or Lifeline discount rate programs.

MEASURE 16—UH

Urban Heat Mitigation

Measure: Support infrastructure improvements to mitigate urban heat.

Areas of San José characterized by dense development, limited green space, and extensive paved surfaces experience higher temperatures due to the urban heat island effect. This phenomenon occurs when dark surfaces trap heat from sunlight and heat emitted from vehicles and industry, increasing local temperatures. As climate change drives more frequent days with high temperatures, the urban heat island effect will exacerbate existing heat vulnerabilities, particularly in socially vulnerable communities. Prolonged exposure to heat poses serious risks to public health, disrupts critical facilities, and undermines economic wellbeing.

To reduce the impacts of extreme heat, the City can implement a range of strategies to improve the ability of buildings, neighborhoods, and infrastructure to mitigate urban heat. This includes nature-based solutions like increasing the tree canopy, as well as other improvements on City-owned streets, facilities, and public spaces at locations identified by the City or locally "ground-truthed" data sources.

Natural and working lands (NWL) in and around San José are crucial for cooling the urban environment. The City's Natural and Working Lands Element, which is incorporated into the 2025 Climate Smart update, has goals related to NWL preservation and expansion, and restoration and enhancement. The City should also continue collaborating with the Santa Clara County Open Space Authority (OSA) on efforts that restore NWL.

STRATEGIES

#	STRATEGY DESCRIPTION
UH-1	Expand and maintain the tree canopy on City-owned streets, facilities, and public spaces in alignment with the Community Forest Management Plan to reduce heat exposure and protect infrastructure.
UH-2	Implement Natural and Working Land Element policies and actions to preserve, expand, restore, and enhance natural and working lands.
UH-3	Research, pilot, and implement the most effective street-level strategies to reduce urban heat, such as cool pavements, increased tree canopy, and other urban greening approaches.

Key Collaborators
DOT; ED; ESD; PBCE; PRNS; PW

Implementation Timeframe
Long-Term (>5 years)

Climate Hazard(s) Addressed

Related CARP Measures
VS, GS

Cost
$$-$$$

Co-Benefits

- Air quality
- Water capture/quality
- Ecosystem health
- Public health
- Cost savings
- GHG emissions reductions/ Carbon Sequestration

Tracking Metrics
Percent increase in urban tree canopy or vegetative cover; number of new trees planted and maintained on City-owned streets and facilities; number of City-led projects implemented using greening/cooling strategies (and % in socially vulnerable communities)

MEASURE 17—TF

Transit Facilities

Measure: Upgrade transit stops to provide shade and avoid flooding.

Public transit riders can be highly exposed to climate hazards when they are waiting at transit stops. This is an equity issue because transit riders are likely to have other characteristics that may increase their vulnerability to climate change impacts. For example, many people who ride public transit may do so because they are children or older adults and cannot drive; these populations are physically vulnerable to the impacts of climate change, particularly extreme heat.

Transit stops should be upgraded by integrating considerations for climate adaptation and resilience into design standards and guidelines. This can include upgrading transit stops to withstand extreme heat and flooding through the addition of shaded structures, heat-reducing roof treatments, and elevated platforms. The vast majority of the transit stations in San José are owned and operated by VTA, so the City's DOT typically does not fund or build transit stops directly. However, DOT may support VTA by installing platforms, shelters, or shade structures as part of City projects, and by providing permitting, design coordination, or right-of-way.

STRATEGIES

#	STRATEGY DESCRIPTION
TF-1	Partner with VTA and other transit agencies to support the installation of adequate shading at transit stops, stations, and park-and-ride lots to protect riders from extreme heat.
TF-2	Assess feasibility to relocate or elevate transit routes and facilities that are vulnerable to flooding. Consider rerouting relevant bus transit lines and elevating bus stop platforms to provide safe, dry waiting areas during flood events.
TF-3	Assess opportunities to upgrade transit infrastructure to become more heat resistant. This can be done by installing heat-reducing roof treatments such as cool roofs or using high-albedo roofs, or implementing cool pavement projects near transit stops.

Key Collaborators
Caltrain; County of Santa Clara; DOT; OEM; PRNS; PW; VTA[17]

Implementation Timeframe
Long-Term (>5 years)

Climate Hazard(s) Addressed

Related CARP Measures
TE, UH, RH
Also Relates to: VTA's CAAP Strategy AD-CC-6,[18] AD-F-1.1.[19]

Cost
$$$

Co-Benefits
- Public health
- Equity
- Emergency preparedness

Tracking Metrics
Number of adaptive bus stops

17. Note: The VTA Better Bus Stops Work Program may lead bus stop upgrades when the projects are not part of a City-led corridor project. DOT is responsible for City projects and coordination with VTA.
18. VTA CAAP's AD-CC-6: Integrate climate adaptation and resilience considerations into design standards, criteria, and guidelines.
19. VTA CAAP's AD-CC-6: Add more seating at locations with existing shades.

MEASURE 18—CI

Climate Adaptation and Resilience Information

Measure: Provide information through community-serving City facilities, trusted organizations, the City's Community Emergency Response Team (CERT) program, and the City's website to build community members' knowledge of how to mitigate and be prepared for climate hazard events.

The City can use multiple platforms to increase community members' knowledge of how climate change will impact their health, homes, and daily life. The City should develop simple and clear climate resilience information that is accessible to all community members, but especially those non-English speakers and residents of socially vulnerable communities. Other avenues include engaging with City leadership, neighborhood groups, CBOs, private employers, and local colleges. This measure does not address community notification or procedures during an acute emergency event, since that is part of the City's existing plans and efforts led by the Office of Emergency Management. However, building a baseline understanding of the kinds of impacts that climate change causes can help bolster the community's preparedness when a climate-related emergency does occur.

STRATEGIES

#	STRATEGY DESCRIPTION
CI-1	Provide information at community-serving City facilities (e.g. libraries, community centers, and other facilities) about how to prepare for and what to do during heat waves, wildfires, flooding, or other climate hazard events.
CI-2	Provide information and guidance about City resources available during climate hazard events to vulnerable populations (including unhoused and older adult residents).
CI-3	Incorporate climate adaptation and resilience information on the City website.
CI-4	Conduct outreach to increase participation in existing City emergency notification systems.
CI-5	Continue to administer the CERT program to educate volunteers from the community about disaster preparedness for hazards. If not already part of the CERT curriculum, consider developing modules specific to climate hazard impacts experienced in San José, such as medical training related to extreme heat.

Key Collaborators
ED (CI-1 through CI-4); LIB; OEM (CI-5); PRNS; Santa Clara County Public Health

Implementation Timeframe
Mid-Term (2-5 years)

Climate Hazard(s) Addressed

Related CARP Measures
AG, CBO

Cost
$$

Co-Benefits
- Public health
- Equity
- Community cohesion
- Emergency preparedness

Tracking Metrics
Number of City facilities sharing climate informational materials; number of CERT participants receiving climate resilience information

MEASURE 19—CBO

Community-Based Organizations

Measure: Expand relationships with CBOs, focusing on those that serve socially vulnerable communities, to improve climate hazard resource sharing.

CBOs are trusted sources of information and resources for the communities they serve. They play an essential role engaging and supporting communities with limited English proficiency, less access to City communications systems, and/or less comfort engaging with City government. The City does work with local CBOs already on an as-needed basis, however with projected increases in the intensity and frequency of climate hazards the need for knowledge building and communication on climate hazards should become a more regular, formalized process.

The intent of this measure is for the City to work with CBOs to determine how to best support a formal collaborative relationship. This may include changes to how the City contracts with CBOs, establishing more formal procedures for working with CBOs to conduct climate-related outreach and engagement activities, and establishing regular contact with City staff through meetings or other communications.

STRATEGIES

#	STRATEGY DESCRIPTION
CBO-1	Establish formalized collaborative relationships with CBOs in the city.
CBO-2	Work with the CBOs to co-develop an understanding of how climate change may impact their service population and identify how climate resilience can be incorporated into their programs, long-term planning, workflow, etc.
CBO-3	Identify communication channels that could be used to raise awareness of City resources to address heat, flooding, and other climate hazard events.
CBO-4	Work with CBOs to provide support for affected communities during and after a climate hazard event by helping communities access essential services.

Key Collaborators
DOT; ED; OEM; PRNS

Implementation Timeframe
Short-Term (<2 years)
Ongoing

Climate Hazard(s) Addressed

Related CARP Measures
AC

Cost
$$

Co-Benefits
- Public health
- Equity
- Emergency preparedness

Tracking Metrics
Evaluation of existing policies completed

CHAPTER 6

Implementation

To effectively advance the measures and strategies outlined in the CARP, it will be necessary for the City to pursue funding to support the CARP measures and associated implementation strategies. This can include a wide range of options such as: regional, state and local grants; public-private partnerships; and, other viable funding and/or financing mechanisms. As this resourcing is secured, the City will identify departmental leads for CARP strategy implementation on a project-by-project basis.

Tracking the progress and implementation is essential to the long-term success of the CARP. The CARP measures and strategies consist of both procedural efforts, such as continuing to convene the CRWG or completing studies to better understand specific vulnerability and physical investments. This requires an approach that draws on both qualitative and quantitative indicators, while allowing for additional forms of tracking as needed.

The Knowledge, Governance, and Communication measures are best suited for a qualitative approach. The Structural category does include measures that can be quantified such as the number of critical facilities that have upgraded electrical systems, are upgraded with photovoltaic systems and battery storage, or upgraded to serve as resilience hubs; number of streets identified as critical routes; area of green infrastructure, percent tree canopy. In addition, tracking can also encompass equity outcomes (such as proximity of resilience hubs to environmental justice communities), and community engagement (such as participation rates in outreach campaigns or partnerships with community-based organizations). This flexible approach ensures that CARP tracking captures both the tangible, infrastructure-focused outcomes and the less visible—but equally critical—dimensions of resilience such as equity, awareness, and institutional readiness.

For both quantitative and qualitative tracking and reporting, the City can utilize an online interactive dashboard, similar to its current Climate Smart Data Dashboard,[20] and annual CARP updates to City Council to ensure regularly updated and public transparency on CARP measures progress. Tracking metrics should remain flexible and periodically reassessed to incorporate emerging best practices, equity-focused indicators, such as levels of community engagement with vulnerable populations (e.g. environmental justice communities) and new data collection methods (e.g. AI modeling).

20. The City's Climate Smart Data Dashboard is available at www.climatesmartsj.org.

Glossary

Adaptation
Actions for people, communities, infrastructure, economies, and natural systems to adjust and continue to function as climate conditions change.

Carbon sequestration
The process of capturing and storing carbon dioxide from the atmosphere.

Climate change
Climate change refers to changes in the average and/or the variability of temperature, rainfall, and extreme weather that persist for an extended period.

Climate hazard
Short or long-term climate events that have the potential to cause damage or harm to humans and natural systems. These include meteorological, climatological, hydrological, geophysical or biological events.

Co-benefit
Additional benefits of resilience and adaptation measures and strategies. Measuring co-benefits examines how climate resilience and adaptation are interrelated with and delivers outcomes for provision of basic services, health, prosperity and other sustainable development agendas.

Community-based organization (CBO)
An organization (public or private nonprofit or charitable organization) that represents community needs and provides services or other assistance to that community.

Ecosystem
An ecological unit comprised of a complex community of organisms and their environment.

Equity
The absence of avoidable or remediable differences among groups of people, whether those groups are defined socially, economically, demographically or geographically. As opposed to the concept of equality where everyone is given equal access, equity provides proportional access to redress historical and current disparities and ensure the same level of opportunity for all.

Fire hazard severity zone
Classification of land by the State Fire Marshall to evaluate fire hazard. The classifications are based on many factors such as fire history, existing and potential fuel (natural vegetation), predicted flame length, blowing embers, terrain, and typical fire weather for the area. There are three levels of hazard in the State Responsibility Areas: moderate, high, and very high. See https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones for more information.

Greenhouse gas (GHG)
These are gases within the atmosphere that accelerate the warming of the Earth and are released from human activities that burn fossil fuels or from historic carbon sinks, such as melting permafrost.

Greenhouse gas mitigation
Actions to reduce GHG emissions to reduce the severity of climate change.

Microgrid
A group of interconnected loads and distributed energy resources that acts as a single controllable entity with respect to the grid. It can connect and disconnect from the grid to operate in grid-connected or island mode.

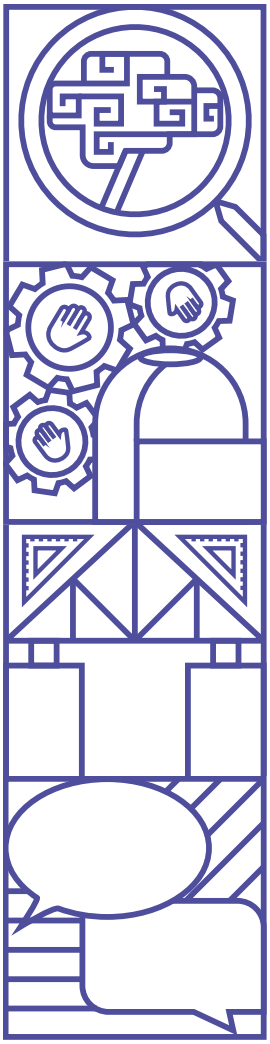
Nature-based solutions
Strategies to adapt to and/or mitigate climate change that mimic and harness the power of natural systems.

Reach code
Building code requirements that set higher standards than what is required by the state.

Resilience
Resilience is the ability of an individual, a community, an organization, or a natural system to prepare for disruptions, to adapt to changing conditions, withstand and rapidly recover from shocks and stresses, and to adapt and grow from a disruptive experience.

Socially vulnerable communities
Groups of people and places that are more sensitive to the impacts of climate change due to socioeconomic, physical, or other factors.

Vulnerability
The exposure of human life and property to damage from natural and human-made hazards. Vulnerability is a function of exposure, sensitivity, and adaptive capacity.



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