



**“Public safety needs to keep up with population growth; people want to move to a safe community.”**

**– Community Member  
(Public input received during  
Forum On Our Future,  
July 2020)**

## **SAFETY IS...**

recognizing that natural and human-caused hazards have the potential to harm people and things, the economic impact to people is another form of harm. It is prudent to plan for emergencies and uncertainty that can threaten the safety and security of residents and businesses. Three earthquake faults either bisect the City or pass-through areas nearby, and the city is adjacent to the Angeles and San Bernardino National Forests which increases the potential wildfire. Combined with these threats are the Santa Ana wind conditions that can cause damage even without wildfire. Making matters worse is climate change that could increase the intensity of these threats by resulting in drier and hotter weather. Wetter and more intense winter storms could inundate parts of the city that have never experienced flooding or result in slope instability causing landslides or mudslides.

This Chapter identifies hazards that would affect the city and supports plans to deal with the hazard. While it is not possible to prevent these hazards, the fact that this City has plans, and will allocate the resources to deal with the hazard, will provide comfort to the people affected by them.

## STATE LEGAL REQUIREMENTS

State law requires that the General Plan include an element that identifies hazards such as flooding, wildfire, and ground disturbance (Government Code Section 65302 (g)) This Chapter meets the legal requirements for a Safety Element and includes policies intended to reduce injury to people and damage to the city Relevant issues addressed in this Chapter include seismic and geologic hazards (seismically induced surface rupture, ground shaking, ground failure, slope instability leading to mudslides and landslides, and liquefaction), flooding (includes dam failure), wildland and urban fires, evacuation routes, climate adaptation, and human-caused hazards Other issues required under this government code section do not apply to the city and are not addressed The Chapter is also in alignment with other chapters, as required by State law, including: (1) Housing, (2) Land Use, (3) Mobility, and (4) Open Space and Conservation Rancho Cucamonga has also developed and adopted a Local Hazard Mitigation Plan (LHMP), an Emergency Operations Plan (EOP), a Community Wildfire Protection Plan (CWPP), and an Evacuation Assessment, all of which allow the City to become eligible for federal grant funding to mitigate many of these natural hazards

*The Local Hazard Mitigation Plan (LHMP) serves to reduce injury, loss of life, property damage, and loss of services from natural disasters. This LHMP provides a comprehensive analysis of the natural and human-caused hazards that threaten the city, with a focus on mitigation, allowing the City to remain eligible to receive additional federal and state funding to assist with emergency response and recovery, as permitted by the federal Disaster Mitigation Act of 2000 and California Government Code Sections 8685.9 and 65302.6; and it complements the efforts undertaken by the Safety Element.*

*The LHMP complies with all requirements set forth under the federal Disaster Mitigation Act of 2000 and received approval from the Federal Emergency Management Agency (FEMA) in 2021. Sections of this Chapter are supplemented by the LHMP, incorporated by reference in this Chapter, as allowed by California Government Code Section 65302(g).*



## HEART OF THE MATTER

The people of this City will continue to be vulnerable to hazards. Based on current mapping and understanding, areas of greatest concern include portions of the city north of State Route 210 and properties adjacent to flood management infrastructure. Evacuation of these areas would be improved through better roadway connectivity as addressed in the Mobility and Access Chapter. Policies in this General Plan address new development near hazard areas. It is also important that existing and new infrastructure be ready for hazards and be designed for climate change resilience.

Key concerns include the following:

- + Areas along the northern portion of the city are located within Special Study Zones due to active or potentially active earthquake faults. A better understanding of the location of these faults and historic seismic activity will allow the City to mitigate potential seismic hazards.
- + Developed and undeveloped properties within the northern portion of the city are vulnerable to wildfire risks due to their proximity to forested lands and land adapted to periodic wildfire events. New and existing development should effectively manage vegetative fuel loads and maintain adequate fuel modification zones to reduce wildfire potential and spread.
- + Areas of the city north of State Route 210 should be evaluated and analyzed for evacuation purposes to ensure that the circulation network is adequately designed and maintained for daily and emergency purposes.
- + Investments in community amenities and infrastructure should anticipate changes in future conditions resulting from extreme weather events and climatic conditions that diminish these assets' effectiveness.
- + Future developments and community investments should prioritize locations in reduced hazard areas, which will ensure safer future operations and risk reduction.

To better address the potential harm that could result in injury, loss of life, property damage, and monetary loss, Rancho Cucamonga has developed a comprehensive suite of plans and analyses that address these concerns. Each plan plays a critical role in protecting residents and businesses and ensuring continuity of operations and governance. For greater detail and understanding of the issues affecting Rancho Cucamonga along with plans to address those concerns, refer to the following documents:

- + Natural Hazards Existing Conditions Report (2020)
- + Rancho Cucamonga Local Hazard Mitigation Plan Update (2021)
- + PlanRC Evacuation Assessment (2021)
- + Rancho Cucamonga Emergency Operations Plan (2021)
- + Rancho Cucamonga Community Wildfire Protection Plan (2021)

## OVERVIEW OF THIS CHAPTER

Safety is a fundamental human need, and this Chapter ensures that people who live in the city, as well as those who will live here in the future, are protected. Constant training for disaster and vigilance for changing threats continues in the city, as will review of new development and the potential for threats.

The following safety goals serve to guide and direct long-term planning in the City of Rancho Cucamonga:

- **Goal S-1 Leadership.** A city that is recognized for its leadership role in resilience and preparedness
- **Goal S-2 Seismic and Geologic Hazards.** A built environment that minimizes risks from seismic and geologic hazards
- **Goal S-3 Wildfire Hazards.** A community where wildfire impacts are minimized or reduced through investments in planning and resilience
- **Goal S-4 Flood Hazards.** A community where developed areas are not impacted by flooding and inundation hazards
- **Goal S-5 Emerging Hazards.** A built environment that incorporates new data and understanding about changing hazard conditions and climate stressors
- **Goal S-6 Human Caused Hazards.** A community with minimal risk from airport hazards and hazardous materials

Goal S-1 affirms the leadership role of the City in the region for hazards planning. Goals S-2 through S-6 ensures that new development is aware of existing hazards and plans for changes anticipated over time. The overarching goal is to maximize training and preparation for unforeseen events and ensure that new development does not put people in harm's way.

*The PlanRC Evacuation Assessment identifies the routes predominantly used by the City during emergency incidents that require evacuation. As part of this assessment, the City has identified the scenarios that are most likely to involve evacuation efforts and areas of the city that have limited evacuation routes and/or constraints in conformance with the requirements of Government Code Section 65302 (g) 5 [SB 99] and 65302.15 (AB 747).*



Seismically damaged road

## SEISMIC HAZARDS

Rancho Cucamonga is susceptible to earthquakes and other seismically induced effects. Seismic hazards can be categorized as primary or secondary, as indicated below. Primary seismic hazards refer to seismic shaking and fault rupture. Secondary seismic hazards refer to liquefaction and earthquake-induced landslides.

### SEISMIC SHAKING (PRIMARY)

Seismic shaking is the movement of the Earth's surface during an earthquake, which is generally the primary cause of earthquake damage. Generally, the greater the earthquake magnitude and proximity to the epicenter, the greater the potential for damage and/or loss. The intensity of seismic shaking directly relates to the amount of energy released by the seismic event, which is dictated by the depth of the fault movement and the length of the fault that has moved. Shaking intensity is typically dictated by the proximity to the location of the seismic event. The closer to the epicenter (point of origin for an earthquake), the greater the shaking felt. Seismic shaking is of particular concern to Rancho Cucamonga due to the proximity to active faults like the Cucamonga Fault, Red Hill-Etiwanda Avenue fault (both located within the city), the San Andreas Fault (15.5 miles northeast of the city), and the San Jacinto Fault (14 miles northeast of the city). Both the San Andreas and San Jacinto faults can generate earthquakes with magnitudes greater than 7.0 on the Richter scale.

### FAULT RUPTURE (PRIMARY)

Earth is covered in tectonic plates in constant movement, shifting and moving closer together, or further apart, or even past one another. This movement past one another commonly causes friction, resulting in plates that "stick." An earthquake is the release of built-up pressure from sticking plates, releasing the build-up of energy. These rapid movements can potentially cause earthquake fault rupture. Fault rupture is hazardous if structures are built on top of faults or if infrastructure crosses faults. If fault rupture occurs, structures within the area of movement could be damaged. Areas of known fault rupture hazard in California are identified in Alquist-Priolo Special Study Zones. For Rancho Cucamonga, two faults are identified within these zones (Cucamonga Fault and Etiwanda Fault Scarp), as depicted in Figure S-1, Rancho Cucamonga Special Study Fault Zones. The City has designated a fault hazard zone for the Red Hill Fault, which requires the same level of analysis required by the California Geological Survey in compliance with the Alquist-Priolo Earthquake Zoning Act.



## LIQUEFACTION (SECONDARY)

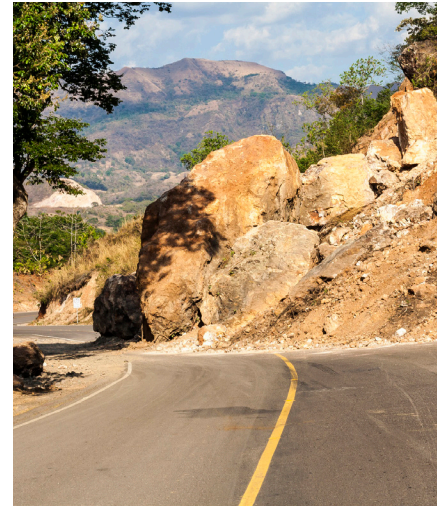
Liquefaction is a phenomenon that occurs when seismic shaking causes saturated soils to lose strength and behave like a liquid. This behavior poses significant difficulties for any building or structure in areas where liquefaction can occur. Additionally, underground structures, pipelines, or storage facilities are also vulnerable to liquefaction. Within the city, small areas near Hellman Avenue and Base Line Road, and west of Vineyard Avenue and south of Base Line Road (Figure S-2) are identified as having liquefaction potential requiring additional analysis and potential mitigation.

## EARTHQUAKE-INDUCED LANDSLIDE (SECONDARY)

Earthquake-induced landslide areas are defined as steep topography areas and weak geologic formations that become unstable during an intense seismic event. These areas are predominantly located in the undeveloped northern portions of the city, as shown in Figure S-2, Potential Liquefaction and Earthquake-Induced Landslides. Additional analysis and potential mitigation may be required for lands within these areas. For additional details on slope stability issues and concerns, please refer to the Rancho Cucamonga Local Hazard Mitigation Plan Update.

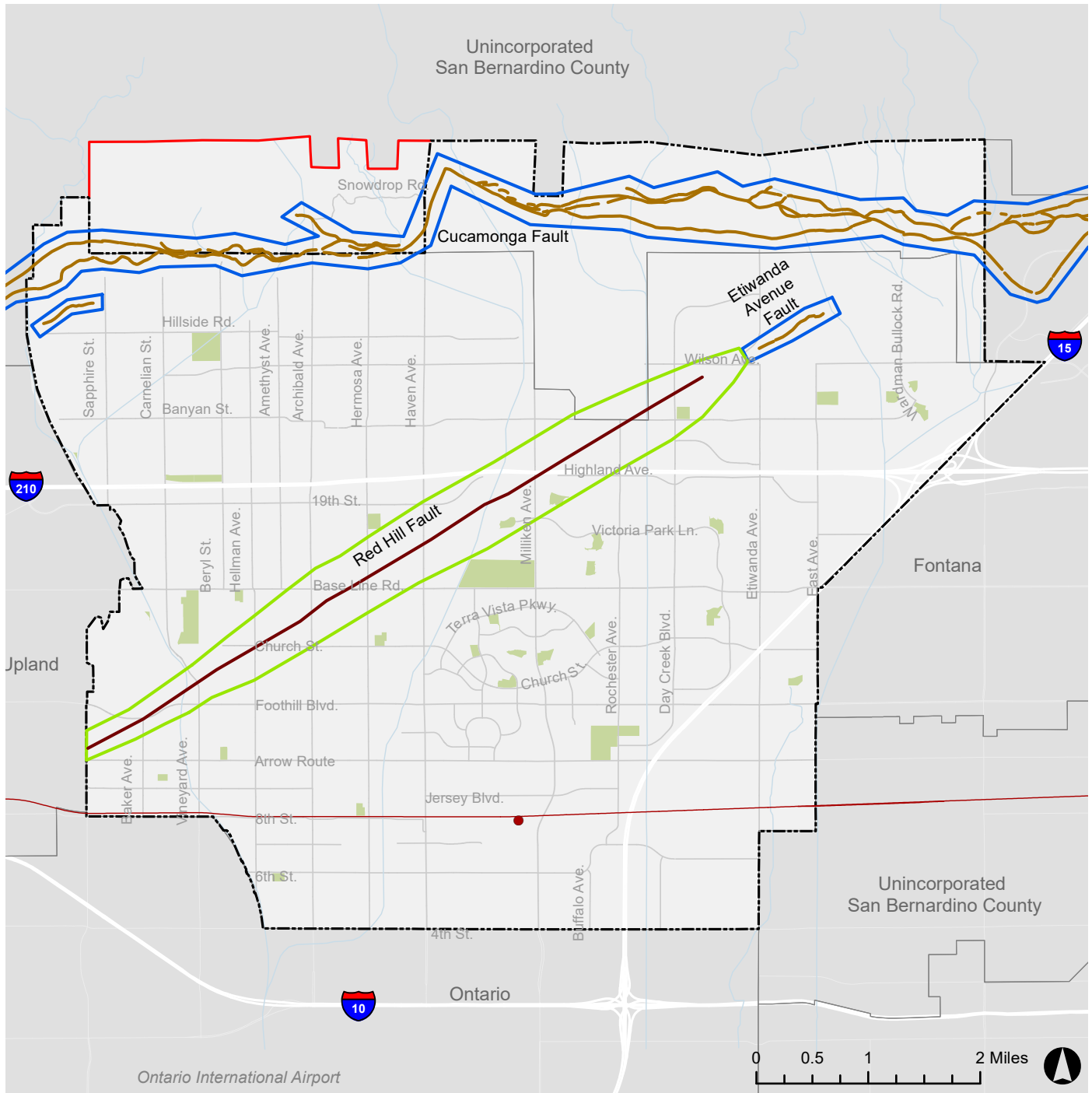
## WILDFIRE

The most common type of natural hazards in California are wildfires, which can burn large areas of undeveloped or natural land quickly. They often begin as smaller fires caused by lightning strikes, downed power lines, or unattended campfires. Small fires quickly become large fires when low humidity, high temperatures, and strong winds combine to create critical weather conditions. Santa Ana winds can carry burning embers over a mile, starting new fires well ahead of the main body of a wildfire. Periods of prolonged drought increase wildfire events at times when water for firefighting is scarcer. Typically, wildfires pose minimal threat to people and buildings in urban areas but increasing human encroachment into natural areas increases the likelihood of injury to people and animals, along with damage to structures and the environment. This encroachment occurs in areas identified as the wildland-urban interface which are locations where development meets undeveloped land with vegetation susceptible to wildland fires. These are the areas classified by Cal FIRE as high and very high fire hazard severity zones. While Rancho Cucamonga is primarily an urban environment, its geographical location and proximity to the chaparral ecosystem that dominates the foothills of the Angeles and San Bernardino National Forests increases the likelihood of wildfires in and near Rancho Cucamonga. All these factors increase the opportunity for wildfires to ignite, grow, and spread into the city.



Landslide

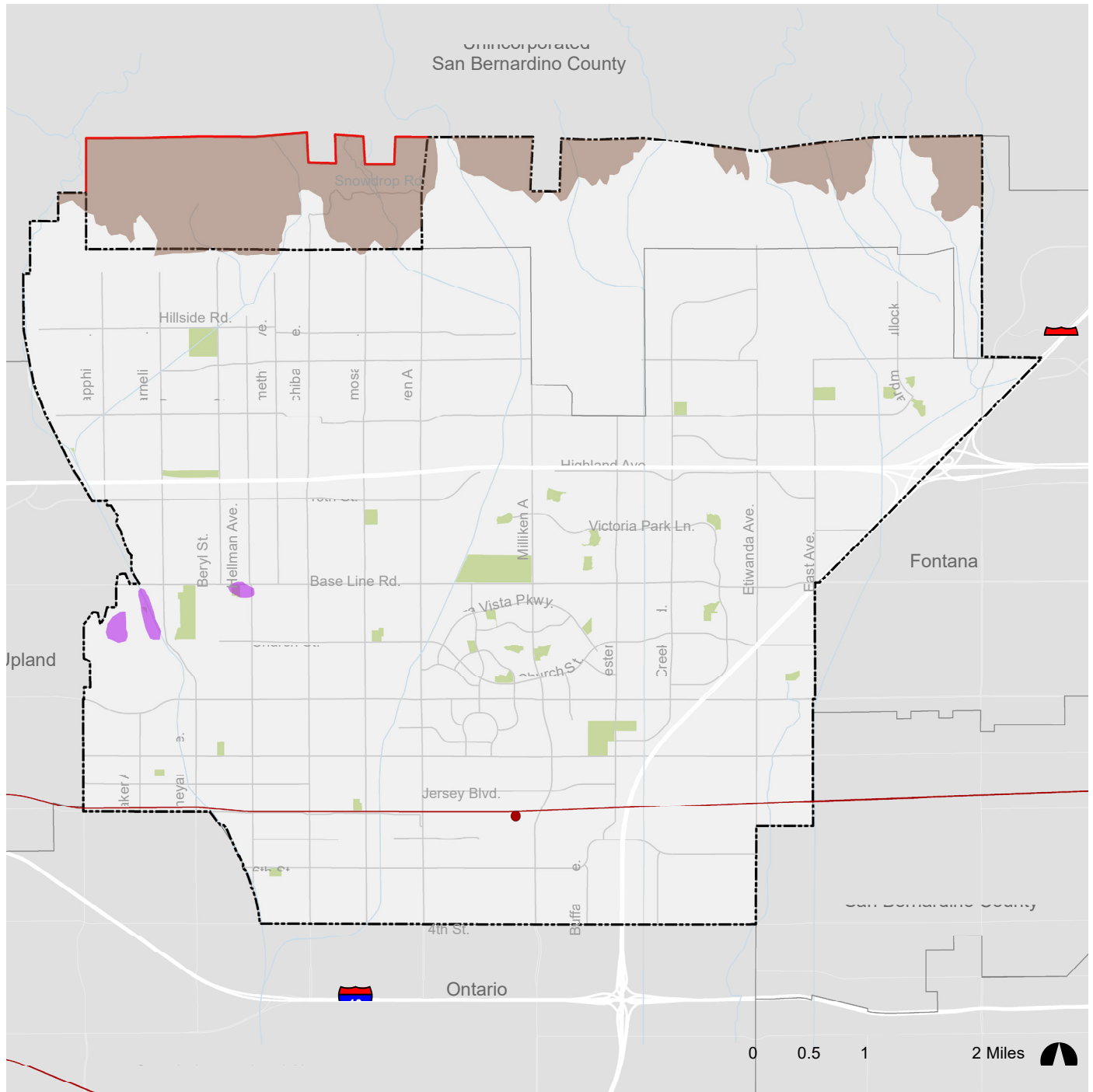
**FIGURE S-1 RANCHO CUCAMONGA SPECIAL STUDY FAULT ZONES**



- Fault Hazard Zones**
- Alquist-Priolo Faults
  - Alquist-Priolo Special Study Zone
  - Red Hill Fault
  - Red Hill Fault Special Study Zone
  - City Boundary
  - Sphere of Influence
  - Adjacent City Limits
  - Rancho Cucamonga Station
  - Metrolink
  - Parks
  - Waterways

Atlas Planning Solutions, 2020 |  
 Sources: City of Rancho Cucamonga, 2020; SCAG, 2020; County of San Bernardino, 2020; California Geological Survey, 2021

FIGURE S-2 POTENTIAL LIQUEFACTION AND EARTHQUAKE-INDUCED LANDSLIDES



**Secondary Seismic Hazards**

- Liquefaction Hazard Zone
- Earthquake-Induced Landslide Hazard Zone

- City Boundary
- Sphere of Influence
- Adjacent City Limits
- Rancho Cucamonga Station
- Metrolink
- Parks
- Waterways

Atlas Planning Solutions, 2020 |  
Sources: City of Rancho Cucamonga, 2020; SCAG, 2020; County of San Bernardino, 2020; California Geological Survey, 2021





Wildfire spreading along roadside

A key component of effective fire response and suppression is the ability to meet peak-load water supply requirements. The City and Fire Protection District require all developments to install adequate water conveyance facilities to meet these requirements. To ensure adequate water supplies are available, all development applications are required to verify with the appropriate water supplier (Cucamonga Valley Water District or Fontana Water Company) that adequate water supplies are available to serve the proposed development. If this requirement is not met, the proposed development cannot begin construction.

Figure S-3, Historic Wildfire Perimeters, displays the perimeters for key historic wildfires that have occurred within the city from 1970 through 2014. In 2003 the Grand Prix Fire and the Old Fire burned large portions of the Angeles and San Bernardino National Forests. The Old Fire burned over 91,000 acres destroying over 1,200 structures. The Grand Prix Fire burned over 69,000 acres and destroyed nearly 200 residences. This fire impacted the City, burning a large portion of the Wildland Urban Interface Areas (WUIFAs) areas adjoining the national forest and destroying 15 homes in the process.

Figure S-4, Wildland Urban Interface Fire Area (WUIFA), depicts the Rancho Cucamonga WUIFA along with the essential facilities located throughout the city. The WUIFA includes Cal FIRE Very High Fire Hazard Severity Zones within the City's Sphere of Influence (State Responsibility Area), the City's Local Responsibility Area, and other areas potentially threatened by wildfires based on historical fire activity and prevalent vegetation types. Properties located within these areas must adhere to State and Rancho Cucamonga Fire Protection District wildfire requirements.



Efforts to manage flooding

## FLOOD HAZARDS

Floods occur when there is too much water on the ground to be held within local water bodies, causing water to accumulate in naturally dry areas. They are often caused by heavy rainfall, though floods can also occur after a long period of moderate rainfall or if unusually warm weather causes mountain snow to melt faster than expected. Worsening drought conditions caused by climate change may exacerbate the effects of flooding, as surfaces that normally absorb water can quickly dry out and become less permeable.

Rancho Cucamonga has a long history of flooding and is especially vulnerable during the winter storm season. Figure S-5, FEMA Flood Hazard Zones, identifies the significant flood areas of concern, which include both 100-year and 500-year FEMA floodplains. These floodplain designations depict areas of potential flooding based on the probability of occurring in a given year. The 100-year floodplain identifies areas that have a 1% probability (1 in 100) of flooding. The 500-year floodplain identifies areas that have a 0.2% probability (1 in 500) of flooding. Most of the 100-

year floodplains within the city are located within undeveloped areas or flood control basins and channels that convey waters through the city. While these flood control facilities are intended to retain and manage floodwaters, there is the potential for inundation of portions of the city if failure occurs. Figure S-6, Dam Inundation Zones, identifies the areas where inundation could occur if a flood control facility were to fail, causing downstream impacts.

Both the FEMA flood zones and dam inundation zones depicted in this Chapter are the known locations of potential flooding currently available to the City. If new data and information becomes available, the City will take it into consideration, where necessary.

## CLIMATE ADAPTATION

Climate change is anticipated to result in increased average temperatures and precipitation pattern variability globally. These changes translate into specific impacts to the city that may include increased frequency and intensity of wildfires, severe weather events, flooding, landslides, and reduced water availability associated with droughts. Other impacts anticipated from climate change include food insecurity, increases in vector-borne diseases, degradation of air quality, reduced ability to enjoy outdoors, and potential economic impacts due to uncertainty and changing conditions. For additional discussion on climate change impacts refer to the Rancho Cucamonga Local Hazard Mitigation Plan Update (hyperlink added upon adoption).

While many residents within the city could adapt to these types of changes, vulnerable populations—including low-income communities, communities of color, senior citizens, linguistically isolated populations, individuals with disabilities or preexisting medical conditions, and individuals experiencing homelessness—are anticipated to be disproportionately affected by these effects.

## SEVERE WEATHER HAZARDS

Severe weather hazards in Rancho Cucamonga include drought, extreme heat, and severe wind. These hazards have affected plants and animals and damaged properties and vehicles. Future effects are anticipated due to climate change, which can contribute to the frequency and intensity of severe weather events. Please refer to the [Greenhouse Gas Emissions and Climate Change Vulnerability Assessment Existing Conditions Report](#) for additional detail.

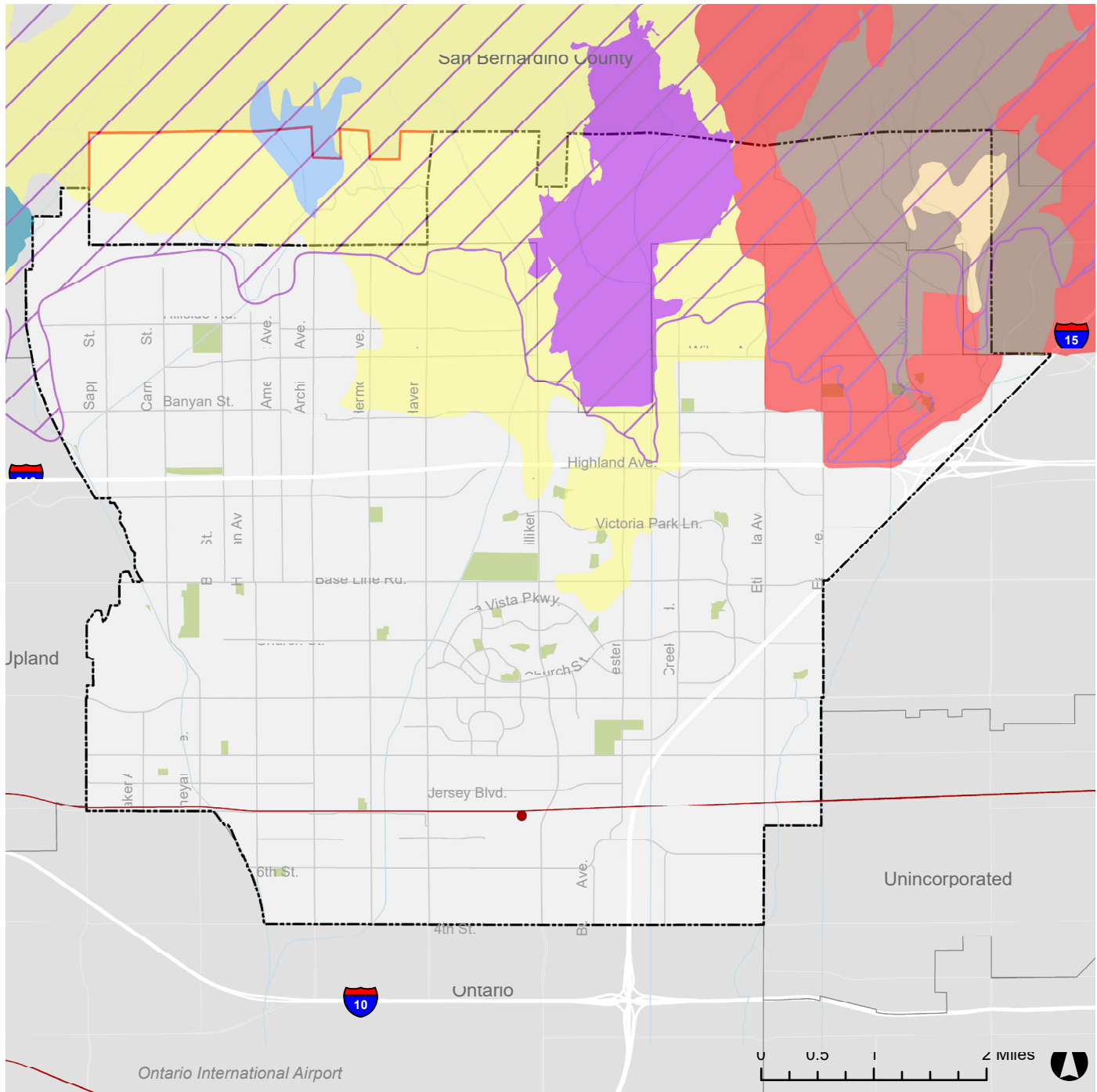
### Drought

A drought is a long period with substantially less precipitation than usual. The primary direct impact of a drought is the reduction of available water.

**“Specific care must be taken in order to adapt Rancho to the specific climate issues it will face in the future including drought, air pollution, excessive heat, and traffic.”**

**– Community Member  
(Public input received from  
the PlanRC Survey #2,  
Summer 2020)**

**FIGURE S-3 HISTORIC WILDFIRE PERIMETERS**



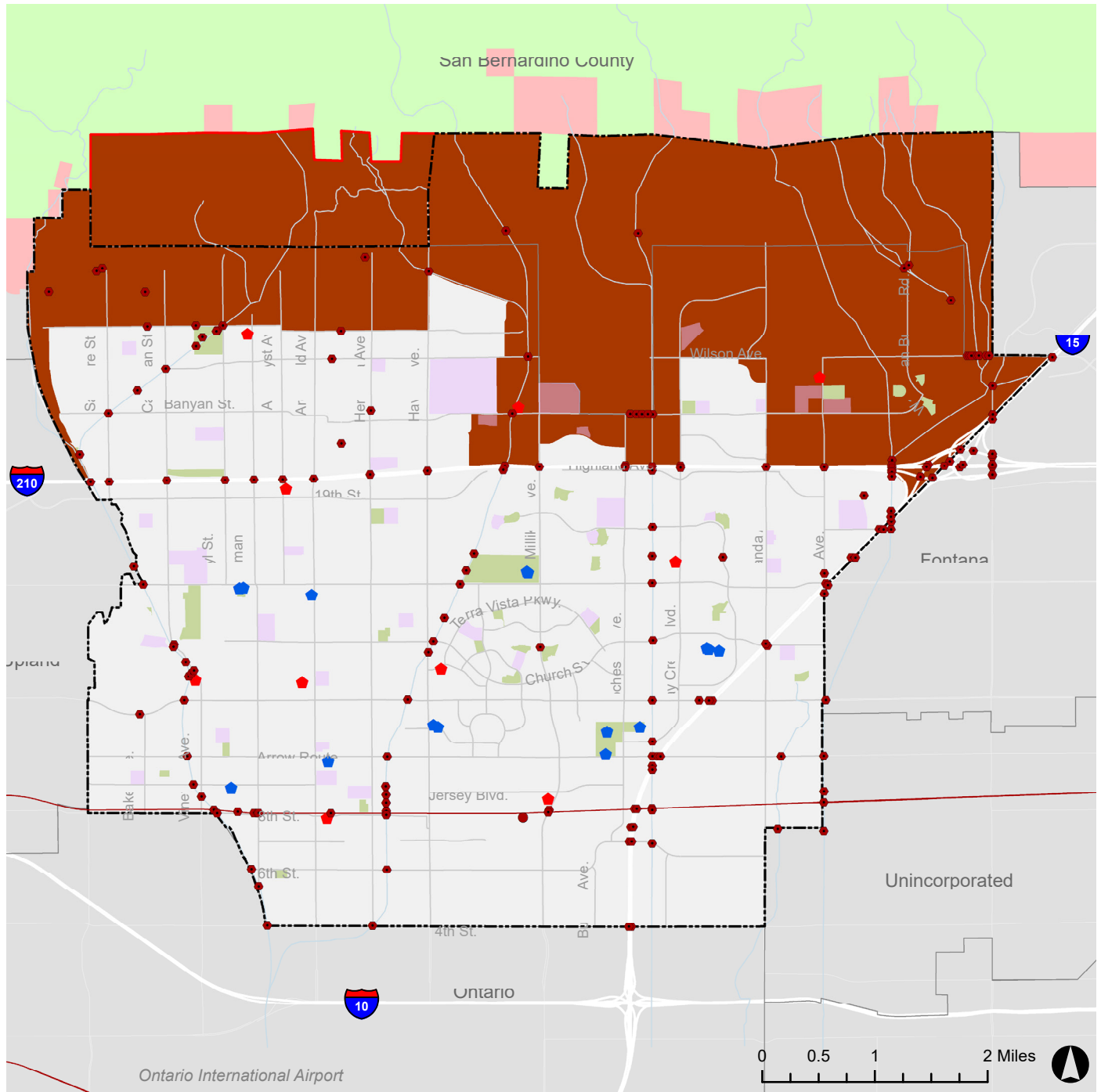
**Historic Wildfire Perimeters**

- 1970 Meyers Fire
- 1980 Summit Fire
- 1985 Archibald Fire
- 1988 Texas Fire
- 2003 Grand Prix Fire
- 2008 Foxborough Fire
- 2008 San Antonio Fire
- 2014 Etiwanda Fire

- City Boundary
- Sphere of Influence
- Adjacent City Limits
- Rancho Cucamonga Station
- Railway
- Parks
- Waterways

Atlas Planning Solutions, 2020 |  
 Sources: City of Rancho Cucamonga, 2020; SCAG, 2020; County of San Bernardino, 2020; California Board of Forestry and Fire Protection, 2021

FIGURE S-4 WILDLAND URBAN INTERFACE FIRE AREA (WUIFA)



**Fire Hazard Severity Zones**

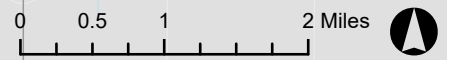
- National Forest (Federal Responsibility Area)
- Cal Fire State Responsibility Areas
- Wildland Urban Interface Fire Area

**Essential Facilities**

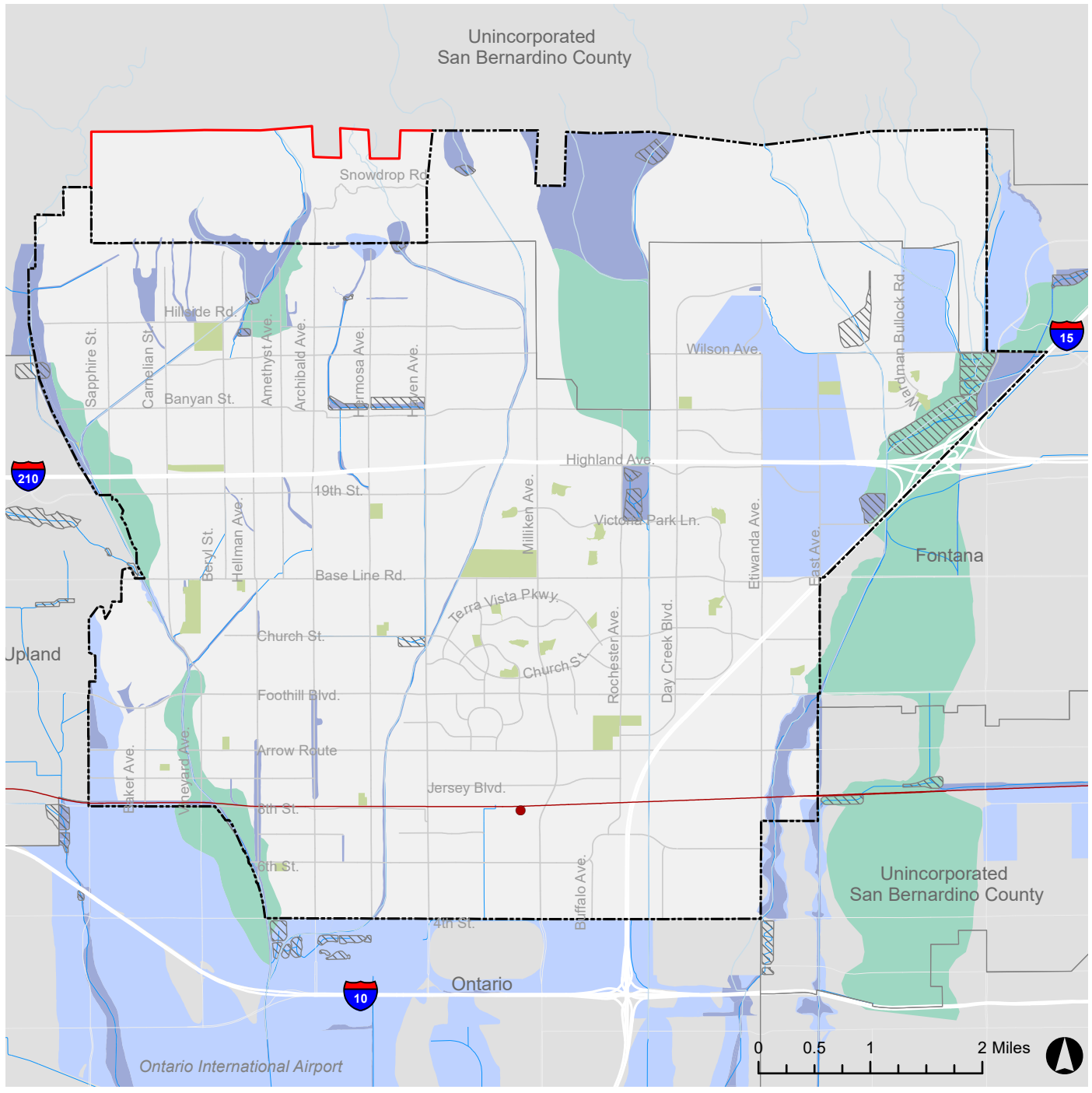
- Bridges
- Fire Stations
- City Facilities
- Schools

- City Boundary
- Sphere of Influence
- Adjacent City Limits
- Rancho Cucamonga Station
- Railway
- Parks
- Waterways

Atlas Planning Solutions, 2020 |  
Sources: City of Rancho Cucamonga, 2020; SCAG, 2020; County of San Bernardino, 2020; California Board of Forestry and Fire Protection, 2021



**FIGURE S-5 FEMA FLOOD HAZARD ZONES**

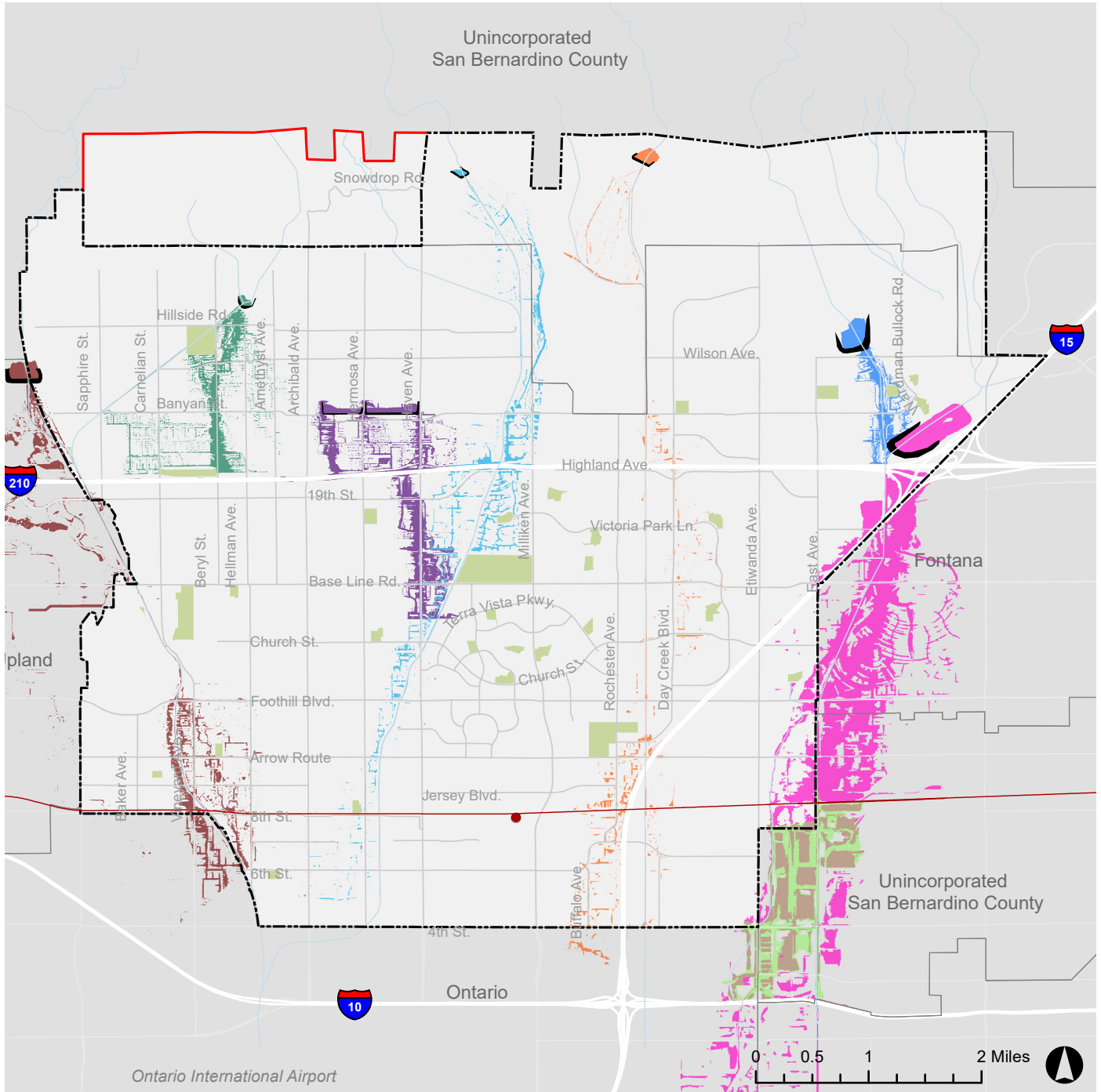


- Flood Hazard Zones**
- Flood Control Channels
  - Flood Control Basins & Dams
  - 100 Year Flood Zone
  - 500 Year Flood Zone
  - 500 Year Flood Zone (Protected by Levee)
  - City Boundary
  - Sphere of Influence
  - Adjacent City Limits
  - Rancho Cucamonga Station
  - Metrolink
  - Parks
  - Waterways

Atlas Planning Solutions, 2020 |  
 Sources: City of Rancho Cucamonga, 2020; SCAG, 2020; County of San Bernardino, 2020; Federal Emergency Management Agency, 2019



FIGURE S-6 DAM INUNDATION ZONES



- Dam Inundation Zones**
- Hickory Basin
  - San Sevaine #5
  - Etiwanda Basin
  - Demens Creek
  - Day Creek
  - Deer Canyon
  - Alta Loma Basins #1 & #2
  - Cucamonga Creek

- City Boundary
- Sphere of Influence
- Adjacent City Limits
- Rancho Cucamonga Station
- Metrolink
- Parks
- Waterways

Atlas Planning Solutions, 2020 |  
 Sources: City of Rancho Cucamonga, 2020; SCAG, 2020; County of San Bernardino, 2020; California Department of Water Resources, 2020



Fallen tree from severe winds

supplies Water reduction is particularly concerning in agricultural areas and natural environments, but it can also affect landscaping in urban areas or affect human health in extreme cases Droughts are generally regional events; however, some communities experience “long-distance drought” if the water source areas—potentially hundreds of miles away—are experiencing drought Rancho Cucamonga currently receives nearly half of its water supply from imported sources that have historically been impacted by drought conditions

## Extreme Heat

Extreme heat is a period when temperatures are abnormally high relative to the normal temperature range Extreme heat events include:

- + **Extreme Heat Days:** a day during which the maximum temperature surpasses 98 percent of all historic high temperatures for the area,
- + **Warm Nights:** a day between April and October when the minimum temperature exceeds 98 percent of all historic minimum daytime temperatures,
- + **Extreme Heat Waves:** a successive series of extreme heat days and warm nights where extreme temperatures do not abate; typically, four successive extreme heat days and warm nights

According to Cal-Adapt, an extreme heat day for Rancho Cucamonga is when the temperature exceeds 103.9° F, and a warm night exceeds 68.7° F Between 2006 and 2019, the city experienced an average of eight extreme heat days annually, which are projected to increase between 21 and 35 days by the end of the century

## Severe Wind

Wind is simply the movement of air caused by differences in atmospheric pressure and temperature High-pressure air will naturally move to areas of low pressure During certain times of the year, these conditions can cause high-speed winds (Santa Ana Winds), which are fast and forceful enough to be dangerous to people, damaging to structures (public facilities, infrastructure, homes, and utilities), and could result in uprooted or damaged trees Severe wind events can also cause the initiation of Public Safety Power Shutoff (PSPS) events by utility providers (Southern California Edison) that distribute electricity to the city These events de-energize power grids in high fire risk areas during wind events to reduce the potential of wildfire ignition and spread A significant Santa Ana wind event that impacted Rancho Cucamonga in 2020 had wind gusts of more than 70 miles per hour When strong winds combine with warm temperatures and very low humidity, the potential for extreme fire conditions increases Usually during these conditions, the National Weather Service issues a red flag warning The 2014 Etiwanda Fire occurred under these types of conditions, with wind gusts that reached 80 miles per hour

## HUMAN CAUSED HAZARDS

Rancho Cucamonga is located along major ground and air transportation corridors. As a result, a variety of human-caused hazards associated with air and ground transportation could impact the community. Proximity to airports requires consideration for land uses and development patterns to ensure airport operations will not conflict with surrounding uses. Since the city is located approximately 3.2 miles north of the Ontario International Airport and 4.5 miles east of Cable Municipal Airport in the City of Upland, portions of Rancho Cucamonga may be affected by these facilities. The southwestern portion of the city is located within the Ontario International Airport Influence Area, which will require compliance with applicable regulations of the Federal Aviation Administration (FAA) and consideration of the Airport Land Use Compatibility Plan.

The release of hazardous materials is another type of human-caused hazard that could impact residents and businesses. Numerous types of hazardous materials and chemicals are transported and used throughout homes and businesses within the city. A majority of the transportation routes used to transport these materials include major roadways, freeways, and rail lines. Interstate 15 (I-15) and State Route 210 (SR-210) are located within Rancho Cucamonga and Interstate 10 (I-10) is less than a mile south of the city limit.



Hazardous materials clean up

## GOALS AND POLICIES

**GOAL S-1 LEADERSHIP.** A city that is recognized for its leadership role in resilience and preparedness.

- S-1.1 City Staff Readiness.** Ensure City staff and departments demonstrate a readiness to respond to emergency incidents and events.
- S-1.2 Culture of Preparedness.** Promote a culture of preparedness for businesses and residents that empowers them to increase their resilience to hazard related events and a changing climate.
- S-1.3 Evacuation Capacity.** Require new developments, redevelopments, and major remodels to enhance the City's evacuation network and facilities and comply with the City's Evacuation Assessment.
- S-1.4 WUIFA Access Points.** Require all new developments and redevelopments within the WUIFA to provide a minimum of two points of access by means of public roads that can be used for emergency vehicle response and evacuation purposes.
- S-1.5 Enhanced Circulation.** In areas of the city with limited access routes and circulation challenges, require additional roads.



Emergency response to wildfire activity

and improvements to ensure adequate emergency vehicle response and evacuation

- S-1.6 Evacuation Road Widths.** Require any roads used for evacuation purposes to provide at least 26 feet of unobstructed pavement width
- S-1.7 Maintenance of Plans.** Maintain and regularly update the City's Local Hazard Mitigation Plan (LHMP) as an integrated component of the General Plan, in coordination with the Community Wildfire Protection Plan (CWPP), the Emergency Operations Plan (EOP), the Evacuation Plan, and Standardized Emergency Management System (SEMS) compliant disaster plans to maintain eligibility for grant funding
- S-1.8 Regional Coordination.** Ensure regional coordination continues with neighboring jurisdictions, County, State, and Federal agencies on emergency management and risk reduction planning and activities
- S-1.9 Mutual Aid.** Ensure mutual aid agreements with Federal, State, local agencies, and the private sector establish responsibility boundaries, joint response services, and multi-alarm and station coverage capabilities

**GOAL S-2 SEISMIC AND GEOLOGIC HAZARDS. A built environment that minimizes risks from seismic and geologic hazards.**

- S-2.1 Fault Setbacks.** Require minimum setbacks for structures proposed for human occupancy within State and City Special Study Zones. Setbacks will be based on minimum standards established under State law and recommendations of a Certified Engineering Geologist and/or Geo-technical Engineer
- S-2.2 Building Functionality.** Require enhanced siting, design, and construction standards that focus on building functionality for new critical public facilities and key essential (private) facilities after a seismic event
- S-2.3 Seismically Vulnerable Buildings.** Prioritize the retrofit by private property owners of seismically vulnerable buildings (including but not limited to unreinforced masonry, soft-story construction, and non-ductile concrete) as better information and understanding becomes available
- S-2.4 Transfer of Development Rights.** Allow the transfer of development rights from areas of significant seismic and geologic hazards to select development areas throughout the City and Sphere of Influence
- S-2.5 Hillside Hazards.** Prioritize regulations and strategies that reduce geologic hazard risk to properties and loss of life



**GOAL S-3 WILDFIRE HAZARDS.** A community where wildfire impacts are minimized or reduced through investments in planning and resilience.

- S-3.1 Fire Risk Reduction.** Apply all state and local codes and regulations (fire safe design, adherence to Standard 49-1) to new development, redevelopment, and major remodels in the WUIFA
- S-3.2 Fire Protection Plans.** All new development, redevelopment, and major remodels in the WUIFA will require the preparation of Fire Protection Plans (FPPs) to reduce fire threat, in accordance with Fire District policies and procedures
- S-3.3 Vegetation Management.** Owners of properties and public/private roads within and adjacent to the WUIFA are required to conduct brush clearance and fuel modification to reduce fire ignition potential and spread
- S-3.4 Buffer Zones.** Require development projects to incorporate buffer zones as deemed necessary by the City's Fire Marshal for fire safety and fuel modification
- S-3.5 Water Supply.** All developments will meet fire flow requirements identified in the Fire Code
- S-3.6 Coordination with Agencies.** Coordinate with State, regional, and local agencies and service providers on fire risk reduction planning and activities
- S-3.7 Wildfire Awareness.** Assist residents and property owners with being better informed on fire hazards and risk reduction activities in the WUIFA
- S-3.8 New Essential Facilities (WUIFA).** Prohibit the siting of new essential public facilities (including, but not limited to, hospitals and health care facilities, emergency shelters, emergency command centers, and emergency communications facilities) within the WUIFA, unless appropriate construction methods or strategies are incorporated to minimize impacts

**GOAL S-4 FLOOD HAZARDS.** A community where developed areas are not impacted by flooding and inundation hazards.

- S-4.1 New Essential Facilities (Flood).** Prohibit the siting and construction of new essential public facilities within flood hazard zones, when feasible. If an essential facility must be located within a flood hazard zone, incorporate flood mitigation to the greatest extent practicable
- S-4.2 Flood Risk in New Development.** Require all new development to minimize flood risk with siting and design measures, such as grading that prevents adverse drainage

*A fire protection plan (FPP) approved by the fire code official, is required for all new development within the WUIFA. FPPs are required to include mitigation strategies that take into consideration location, topography, geology, flammable vegetation, sensitive habitats/species, and climate of the proposed site. FPPs must address water supply, access, building ignition and fire resistance, fire protection systems and equipment, defensible space, vegetation management, clearance around buildings and structures, and long-term maintenance. All required FPPs must be consistent with the requirements of the California Building and Residential Codes, The California Fire Code as adopted by the Fire District, and the City of Rancho Cucamonga Municipal Code.*





Bioswales help reduce stormwater runoff

impacts to adjacent properties, on-site retention of runoff, and minimization of structures located in floodplains

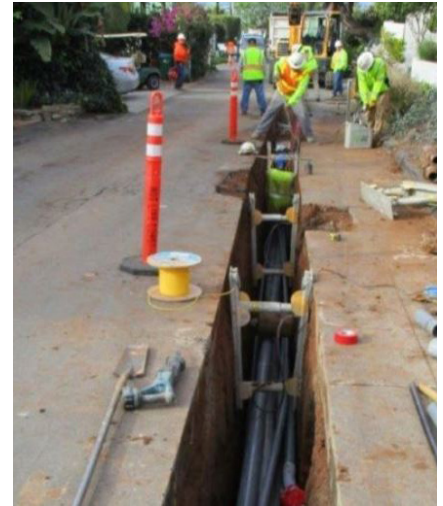
- S-4.3 500-Year Floodplain.** Promote the compliance of 100-year floodplain requirements on properties located within the 500-year floodplain designation
- S-4.4 Flood Infrastructure.** Require new development to implement and enhance the Storm Drain Master Plan by constructing stormwater management infrastructure downstream of the proposed site
- S-4.5 Property Enhancements.** Require development within properties located adjacent, or near flood zones and areas of frequent flooding to reduce or minimize run-off and increase retention on-site
- S-4.6 Regional Coordination.** Promote regional flood management and mitigation projects with other agencies (San Bernardino County Flood Control, Army Corps of Engineers, and adjacent jurisdictions) to address flood hazards holistically
- S-4.7 Dam Operators.** Coordinate with agencies operating or managing dam facilities that can inundate the city, on operations, maintenance, and training activities and provide the latest Emergency Action Plans annually

**GOAL S-5 EMERGING HAZARDS. A built environment that incorporates new data and understanding about changing hazard conditions and climate stressors.**

- S-5.1 Future Conditions.** Ensure future climatic conditions and public health emergencies are considered as part of community resilience and investment efforts
- S-5.2 Urban Forestry Plan.** Minimize damage associated with wind-related hazards and address climate change and urban heat island effects through the development of an urban forestry plan and proper landscaping planting and management techniques
- S-5.3 Soil Transport.** Require that properties with high wind-blown soil erosion potential such as agricultural operations and construction sites prevent soil transport and dust generation wherever possible
- S-5.4 Extreme Heat Vulnerabilities.** Require that new developments, major remodels, and redevelopments address urban heat island issues and reduce urban heat island effects for the proposed project site and adjacent properties
- S-5.5 Resilience Resources.** Require new developments and redevelopments to incorporate resilience amenities such as,

but not limited to community cooling centers, emergency supplies, and backup power that can be used by residents and businesses within a 1/4-mile radius of the location

- S-5.6**     **Underground Utilities.** Promote the under-grounding of utilities for new development, major remodels, and redevelopment
- S-5.7**     **Future Adaptation.** Future climate adaptation-oriented projects will incorporate natural infrastructure to the greatest extent practicable
- S-5.8**     **Climate Resiliency.** Address climate resiliency and inequities through the planning and development process
- S-5.9**     **Address High Winds.** Require buildings and developments exposed to high wind conditions to incorporate design elements and features that minimize or reduce damage to people, structures, and the community



Work to underground utility poles and wires

#### **GOAL S-6 HUMAN CAUSED HAZARDS. A community with minimal risk from airport hazards and hazardous materials.**

- S-6.1**     **Planned Development.** Promote development patterns that integrate Crime Prevention Through Environmental Design (CPTED) principles that reduce the potential for human-caused hazards
- S-6.2**     **Neighboring Properties.** Encourage properties that store, generate, or dispose of hazardous materials to locate such operations as far away as possible from areas of neighboring properties where people congregate
- S-6.3**     **Site Remediation.** Encourage and facilitate the adequate and timely cleanup of existing and future contaminated sites and the compatibility of future land uses
- S-6.4**     **Airport Planning.** Protect Rancho Cucamonga interests regarding land use and safety by participating in the airport land use planning process for Ontario International Airport
- S-6.5**     **Height Restrictions.** Require proposed developments within the Ontario Airport Influence Area meet the height requirements associated with FAR Part 77 standards
- S-6.6**     **Development Near Airport.** New development within the Ontario Airport Influence Area shall be consistent with the approved Airspace Protection Zones identified in the latest version of the Airport Land Use Compatibility Plan
- S-6.7**     **Railroad Safety.** Minimize potential safety issues and land use conflicts when considering development adjacent to the railroad right-of-way