

**DRAFT**

CITY OF IRWINDALE

**General Plan**

# Safety Element



City of Irwindale  
5050 North Irwindale Avenue  
Irwindale, California 91706

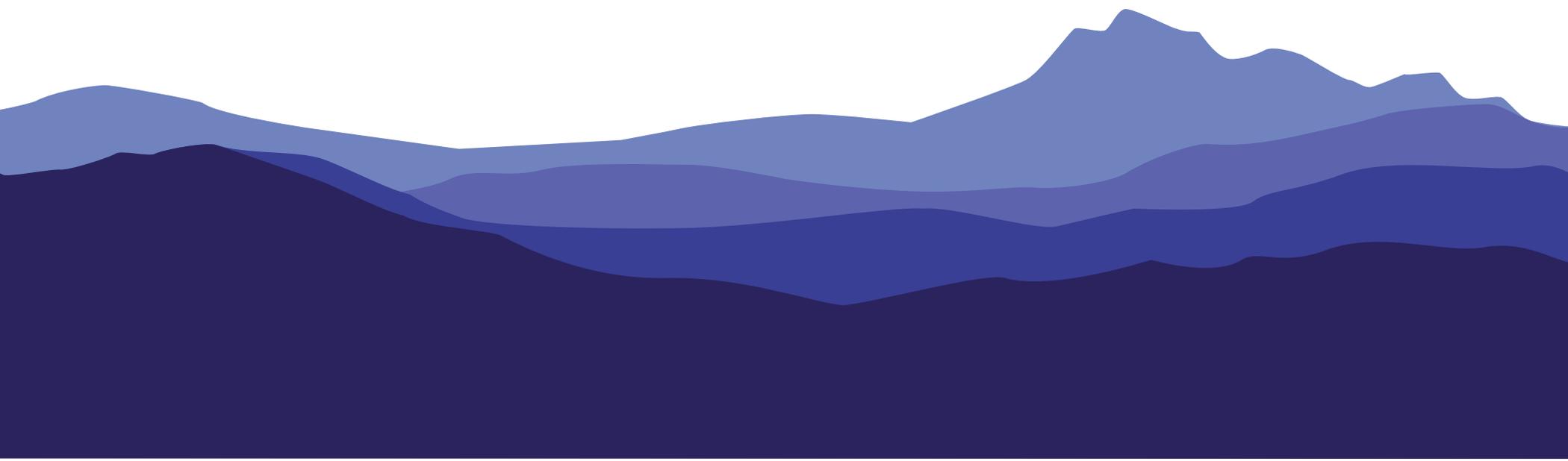
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# SECTION 1 Introduction



The Safety Element of the General Plan addresses potential risks to life and property resulting from naturally occurring hazards, such as earthquakes and floods, and man-made hazards, such as air pollution and contamination of water quality. The Safety Element also identifies public safety providers such as law enforcement and emergency preparedness and response teams. As in other elements of the General Plan, background information on these topics is presented in the first part of the chapter, and goals, policies, and actions are presented at the end.

An important function of this Element is to identify locations in Irwindale that may be inappropriate for certain land uses due to potential risks and hazards. This Element also identifies areas where hazards are present but can be mitigated through special design and site planning measures. For example, Irwindale is located approximately 1.5 miles from the base of the San Gabriel Mountains, which are located in a Very High Fire Hazard Severity Zone and have a history of frequent wildland fires. This requires that preventative measures such as **fuel modification** be implemented to reduce the spread of wildfire to residential areas and businesses and prevent or minimize personal injury, loss of life, and property damage due to fire hazards. The hazards discussed in this Element help to shape Irwindale's Land Use Map, and have influenced its community development,

housing, resource management, and infrastructure policies.

The specific topics covered by this chapter are listed below:

- Air Quality
- Drought
- Extreme Weather
- Flooding
- Geologic and Seismic Hazards
- Hazardous Materials
- Law Enforcement and Crime
- Wildfire
- Emergency Preparedness

*Fuel modification* is used to reduce wildfire threat in high fire hazard areas by removing and/or separating fire-prone plants, which are also known as "fuel." In a fire break or fuel break, all fire-prone plants are removed down to bare soil, leaving nothing left to burn. Fuel breaks are used to control low-intensity fires and are usually a minimum of 3 feet wide, but much wider breaks are needed to hold large fires.

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#### CAL FIRE 2022



*Fuel modification image courtesy of CAL FIRE's 2021 Fuels Reduction Guide (CAL FIRE 2021b)*

## Key Terms Definitions

- **Active Shooter.** A criminal attempt to kill people in a confined and populated area.
- **Basin.** The area within which all surface water—whether from rainfall, snowmelt, springs, or other sources—flows to a single water body or watercourse. The boundary of a river basin is defined by natural topography, such as hills, mountains, and ridges. Basins are also referred to as “watersheds.”
- **Climate Change.** A change in global or regional climate patterns, in particular a change apparent from the mid to late 20th century onwards and attributed largely to the increased levels of atmospheric carbon dioxide produced by the use of fossil fuels.
- **Conservation.** Conservation is the wise management of renewable and non-renewable resources to prevent the unnecessary waste, destruction, or neglect of resources for the enjoyment of future generations, such as water, air and energy systems. The preservation of these resources is concerned with the quality and quantity of the resource.
- **Critical Facilities.** Critical facilities are facilities that either (1) provide emergency services or (2) house or serve many people who would be injured or killed in case of disaster damage to the facility. Examples include hospitals, fire stations, police or emergency service facilities, utilities, or communications facilities.
- **Dam Failure.** An uncontrolled release of impounded water due to a partial or complete breach in a dam (or levee) that impacts its integrity.
- **Diesel PM.** Diesel engines emit a complex mixture of air pollutants, including both gaseous and solid material. The solid material in diesel exhaust is known as diesel particulate matter.
- **Earthquake.** An earthquake is the shaking of the ground caused by an abrupt shift of rock along a crack in the earth or a contact zone between tectonic plates.
- **Extreme Heat Days.** Extreme heat days are defined as days when daily maximum temperatures rise above a threshold temperature of 101.3 degrees Fahrenheit (°F) and persist over a period of time, from a couple of days to weeks or months (Cal-Adapt 2018).
- **Fault.** A fracture in the earth's crust forming a boundary between shifting rock masses.

- **Fire Hazard Zone.** An area where, due to slope, fuel, weather, or other fire-related conditions, the potential loss of life and property from a fire necessitates special fire protection measures and planning before development occurs.
- **Flood, 100-Year and 500-Year.** The magnitude of a flood expected to occur on the average every 100 or 500 years, based on historical data. The 100-year flood has a 1/100, or one percent, chance of occurring in any given year. The 500-year flood has a 1/500, or two tenths of one percent, chance of occurring in any given year.
- **Floodplain.** The land area along the sides of a river that becomes inundated with water during a flood.
- **Fuel Modification.** Fuel modification is used to reduce wildfire threat in high fire hazard areas by removing and/or separating fire-prone plants, which are also known as “fuel.” In a fire break or fuel break, all fire-prone plants are removed down to bare soil, leaving nothing left to burn. Fuel breaks are used to control low-intensity fires and are usually a minimum of 3 feet wide, but much wider lines are needed to hold large fires.
- **Habitat.** The physical location or type of environment in which an organism or biological population lives or occurs.
- **Hazardous Material.** Any substance that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. The term includes, but is not limited to, hazardous substances and hazardous wastes.
- **Joint Powers Authority (JPA).** A legal arrangement that enables two or more units of government to share authority in order to plan and carry out a specific program or set of programs that serves both units.
- **Landslide.** A general term for a falling mass of soil or rocks.
- **Liquefaction.** The transformation of loose water-saturated granular materials (such as sand or silt) from a solid into a liquid state that can occur during an earthquake.
- **Mitigation.** A preventive action taken in advance of an event to reduce or eliminate risk to life or property.
- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.
- **Open Space.** An open area that is primarily maintained in its natural condition and is essentially unimproved and devoted to an open space use for the purposes of (1) the preservation of natural resources, (2) the

managed production of resources, (3) outdoor recreation, or (4) public health and safety. In some cases, this definition includes pathways, landscaping and other improvements that are maintained. The provision of open space is intended to offer residents and visitors opportunities for quiet introspection in a location that provides visual relief from buildings, concrete and noise associated with more urban life.

- **Pandemic.** An epidemic of infectious disease that has spread through human populations across a large region, multiple continents, or worldwide.
- **Park.** A park is an improved, primarily unobstructed area, with landscaping and recreational equipment such as play apparatuses and/or basketball courts. In some cases, this definition includes property with recreation buildings or structures. The purpose of parks is to provide opportunities for outdoor recreation and physical exercise near to residential and employment areas.
- **PM2.5.** PM2.5 is made of tiny airborne particles that can cause adverse health effects when inhaled and can reduce visibility. PM<sub>2.5</sub> is released from fuel combustion, demolition and construction activities, and atmospheric chemical reactions.
- **Risk.** The estimated impact that a hazard would have on people, services, facilities, and structures in a community. Risk measures the likelihood of a hazard occurring and resulting in an adverse condition that causes injury or damage. Risk is often expressed in relative terms such as a high, moderate, or low likelihood of sustaining damage above a particular threshold due to occurrence of a specific type of hazard. Risk also can be expressed in terms of potential monetary losses associated with the intensity of the hazard.
- **Seiche.** An earthquake-generated wave in an enclosed body of water such as a lake, reservoir, or bay.
- **Stakeholder.** Business leaders, civic groups, academia, non-profit organizations, major employers, managers of critical facilities, farmers, developers, special purpose districts, and others whose actions could impact hazard mitigation.
- **Tsunami.** A large ocean wave generated by an earthquake in or near the ocean sensitivities, mentally ill, with service animals, etc.
- **Vulnerability.** Assessment of how exposed or susceptible an asset is to damage. Vulnerability depends on an asset's construction, contents, and the economic value of its functions.

- **Vulnerable Populations.** Vulnerable populations include those persons or groups of persons particularly vulnerable and in need of special attention in an emergency or disaster situation. Examples of sensitive populations include seniors, children, unhoused, low-income, outdoor workers, uninsured, and individuals with existing health conditions.
- **Wildland Urban Interface.** The Wildland Urban Interface is the zone of transition

between unoccupied land and human development. It is the line, area or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.

- **Windstorms.** Windstorms are storms characterized by high winds or violent gusts that can be strong enough to damage trees and buildings, and disrupt essential systems, including public utilities and transportation corridors.

## Climate Change

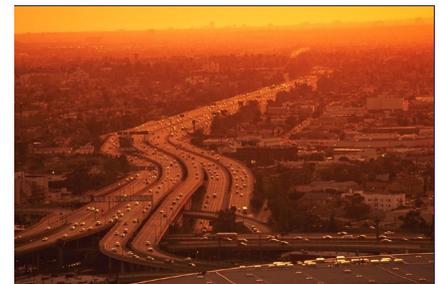
Many of the hazards impacting the city are made worse by **climate change**. There is scientific consensus that **greenhouse gas (GHG) emissions** are the primary cause of global climate change. GHGs trap heat in the atmosphere and lead to increasing global temperatures. Human activities such as agriculture, land use changes, and burning of fossil fuels have contributed significantly to atmospheric concentrations of GHG emissions.

Climate change affects natural and human systems, including but not limited to food production, water availability, public health, economic prosperity, and ecosystem biodiversity. In addition, climate change will likely worsen the impact of natural hazards. Fire safety is of

growing importance in California due in part to climate change. As a result, state law requires that general plans in high-risk areas, generally at the wildland urban interface, address wildfire risks. In addition, Senate Bill (SB) 1035 (2018) requires regular updates to the Safety Element chapter of the General Plan to address new information regarding flood and fire hazards, as well as climate change adaptation and resilience. State law also requires local governments to identify and evaluate evacuation routes (Assembly Bill [AB] 747, 2019) and to identify residential developments in hazard areas that do not have at least two emergency evacuation routes (SB 99, 2019).

**Climate change** is defined as the significant and lasting alteration of global temperatures and weather patterns over a long period of time, caused by natural and human activity.

USEPA 2022



*According to the U.S. Environmental Protection Agency, transportation is one of the largest sources of pollution in the U.S. (USEPA 2022)*

Expected impacts from climate change in Irwindale include worsening air quality, prolonged drought, extreme weather conditions, flooding, and intense wildfires. These threats will not affect everything and everyone equally. Some people and places

are more exposed and/or more sensitive to climate impacts. As such, the increased risk of natural hazards as a result of climate change, including local vulnerabilities, are addressed within each hazard section, as applicable.

## Relationship to Other General Plan Elements

To ensure that the General Plan is consistent across elements, hazards discussed in the Safety Element are related to other elements of the General Plan, including Community Development, Housing, Resource Management, and Infrastructure. Some of these relationships between other General Plan elements and this Safety Element are summarized and illustrated below:

- Policies related to areas at risk of recurring flooding, dam failure, and fire are found in the **Community Development, Infrastructure, and Resource Management** Elements.
- Policies associated with secondary access during an emergency are found in the **Infrastructure** Element.
- Policies important to resilience planning in urban development as well as protecting critical facilities from hazardous threats are found in **Community Development, Housing, and Infrastructure** Elements.

- Policies related to maintaining recreation and open space and water quality are addressed in the **Resource Management** Element.
- Air quality is addressed in the **Resource Management** Element.

Taken together, the policies in the General Plan minimize risks, protect the quality of life, and provide a foundation for response and recovery when disaster strikes. References to related policies are provided where appropriate within the Safety Element.

## Statutory Requirements

California Government Code Section 65302(g) includes the requirements that should be addressed in a community's General Plan Safety Element. These requirements are organized into nine subsections [65302(g)(1) through 65302(g)(9)], which are summarized below:

- 65302(g)(1) identifies the primary hazards/ issues that should be included in the Safety Element, which include: seismically induced surface rupture, ground shaking, ground failure, slope instability leading to mudslides and landslides, tsunami, seiche, dam failure, flooding, subsidence, liquefaction, other geologic hazards, wildland and urban fires, evacuation routes, military installations, peak load water supply requirements, and minimum road widths and clearances around structures, as those items relate to identified fire and geologic hazards.
- 65302(g)(2) adopted through AB 162 (2007) identifies the requirements to update floodplain mapping and information, which includes special requirements.
- 65302(g)(3) adopted through SB 1241 (2012) identifies the requirements for updating wildfire mapping, information, and goals and policies to address wildfire hazards.
- 65302(g)(4) adopted through SB 379 (2015) identifies the requirements for updating the Safety Element to address potential impacts associated with climate change and potential strategies to adapt/mitigate these hazards.
- 65302(g)(5) adopted through SB 99 (2019) requires identification of specified evacuation constraints associated with residential developments.
- 65302(g)(6) adopted through SB 1035 (2018) requires the update of the Safety Element every time the Housing Element or local hazard mitigation plan is updated.
- 65302(g)(7) allows for the incorporation of a flood plain management ordinance into the safety element.
- 65302(g)(8) requires consultation with the California Geological Survey, California Office of Emergency Services.
- 65302(g)(9) allows cities to adopt a county Safety Element if adequate detail is provided to address city-level concerns.

Additionally, California Government Code Section 65302.15 was adopted through AB 747 (2019) and includes the requirement to identify evacuation routes and their capacity, safety, and viability under a range of emergency scenarios.

## Safety Element Existing Conditions Report

The Safety Element Existing Conditions Report (**Appendix A**) provides detailed information on existing hazards, community vulnerabilities, and the City's capacity to respond to hazards. The information contained within the report provides the foundation for the update of the Safety Element, including the formulation of goals and

policies. The reader should refer to the Existing Conditions Report in Appendix A for the most up-to-date and comprehensive information on hazards impacting the city. A summary of the existing conditions is provided in this Safety Element to give context and a clear link to the goals, policies, and actions.

## Community Outreach

Community input guides the City's planning decisions and policies, including land use strategies and practices. The City of Irwindale led a community engagement process that included workshops, stakeholder interviews and an online survey to better understand the needs and ideas of Irwindale residents and employees as they relate to safety topics such as pollution exposure, air quality, safe neighborhoods, and community hazards among others.

Each hazard topic in this Safety Element concludes with a section on community and stakeholder input, which summarizes feedback received through the survey, community workshops, and stakeholder meetings related to each topic. Input received from the public engagement activities informed the development of policies and actions in this Safety Element. The Community Engagement Report (**Appendix B**) provides a summary of all community feedback received.

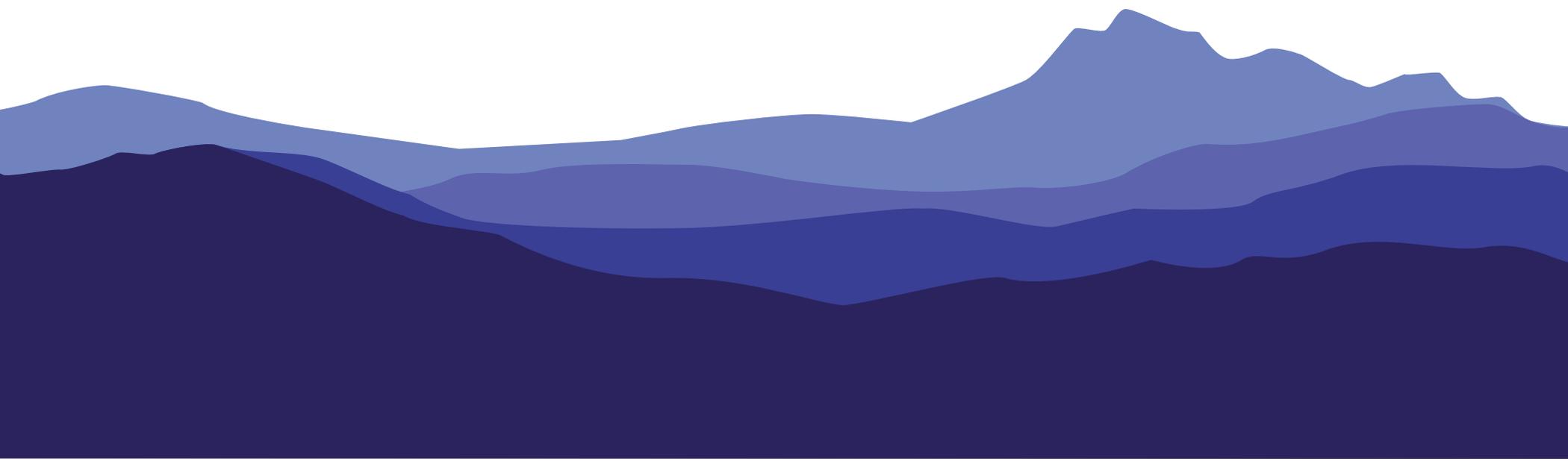


*Golden Streets event with CicLAvia at the Metro parking structure*

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## SECTION 2 Existing Conditions





## Air Quality

### Introduction

Air quality is a local and regional issue and an important contributor to health and quality of life. Poor air quality can impact health in a community and contribute to asthma, respiratory disease, and some cancers. The Los Angeles region is known for having some of the poorest air quality in the country, and climate change will likely exacerbate existing air quality issues. Within the Los Angeles region, ozone and particulate matter (PM) are the primary pollutants. Climate change is expected to result in increases in extreme heat

events, which can increase pollution from ozone. Additionally, increases in wildfire activity will lead to higher PM concentrations.

### Local Conditions

The Environmental Protection Agency (USEPA) uses the United States Air Quality Index (AQI) for daily reporting of air quality, providing a value for ozone, particulate matter, and other air pollutants based on their concentration or level of pollution. The AQI uses these values to categorize air quality from Hazardous to Good, shown in **Table SAF-1**. In April 2023 the City of Irwindale has

TABLE SAF-1 **Air Quality Index (AQI) Basics for Ozone and Particle Pollution**

DAILY AQI COLOR	LEVELS OF CONCERN	VALUES OF INDEX	DESCRIPTION OF AIR QUALITY
Green	Good	0 to 50	Air quality is satisfactory, and air pollution poses little or no risk.
Yellow	Moderate	51 to 100	Air quality is acceptable. However, there may be a risk for some people, particularly those who are unusually sensitive to air pollution.
Orange	Unhealthy for Sensitive Groups	101 to 150	Members of sensitive groups may experience health effects. The general public is less likely to be affected.
Red	Unhealthy	151 to 200	Some members of the general public may experience health effects; members of sensitive groups may experience more serious health effects.
Purple	Very Unhealthy	201 to 300	Health alert: The risk of health effects is increased for everyone.
Maroon	Hazardous	301 and higher	Health warning of emergency conditions: everyone is more likely to be affected.

experienced Good and Moderate levels of air quality for major pollutants of concern. Irwindale generally experiences greater pollution from ozone, fine particulate matter (PM<sub>2.5</sub>), and diesel particulate matter (diesel PM), which are defined below.<sup>1</sup> Ozone, which is the main ingredient of smog, is generally produced by trucks, cars, planes, trains, factories, construction, and dry cleaners. The ozone percentile in Irwindale is 83, meaning the city's ozone concentration (0.06 parts per million) is greater than 83 percent of other communities statewide, and greater than the county average (60 percentile) (OEHHA 2021). **Figure SAF-1** shows ozone pollution in the region, which is greater as you go further inland, and north of Irwindale. Ozone can irritate the lungs and worsen many types of chronic illnesses.

PM<sub>2.5</sub> is very small airborne particle pollution that may include a mix of organic chemicals, dust, soot, and metals. PM can be generated from cars, trucks, mining pits, factories, and wood burning. Irwindale has a PM 2.5 percentile of 67, meaning PM 2.5 concentration (11.7 micrograms per meter cubed) is greater than 67 percent of other communities statewide. However, PM 2.5 concentration is slightly lower in Irwindale than the county average (71 percentile). **Figure SAF-2**

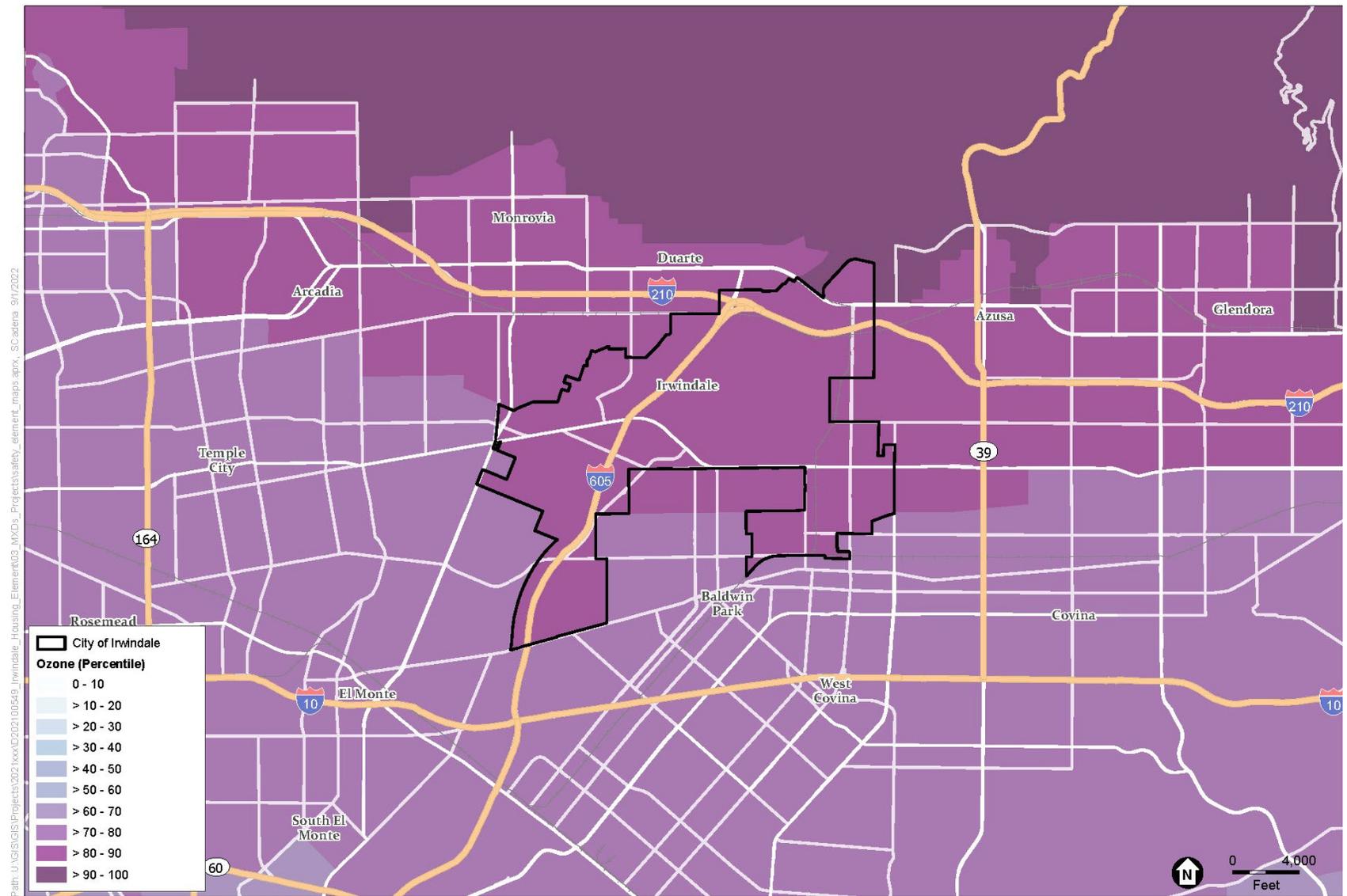
shows PM<sub>2.5</sub> pollution in the region, with a lower concentration of particulate matter in Irwindale than areas to the west, south and east. Because of the small size of particles in PM<sub>2.5</sub>, they can travel deep into the lungs and result in health problems such as lung and heart disease.

Diesel PM is produced by the exhaust of trucks, buses, trains, ships, and equipment with diesel engines. Concentrations of diesel PM tend to be highest near ports, rail yards, and freeways. Within and near Irwindale, 0.24 tons of diesel PM per year are emitted into the air, which is greater than 68 percent of other communities statewide (OEHHA 2021). **Figure SAF-3** shows Diesel PM pollution in the region, with Irwindale having a greater concentration than neighborhoods to the west and south. The chemicals and particles in diesel PM can cause eye, throat, and nose irritation and can contribute to heart and lung disease and lung cancer.

<sup>1</sup> The pollution percentiles for ozone, PM<sub>2.5</sub>, and diesel PM in Irwindale are relative to other census tracts in California. Irwindale has only one census tract.

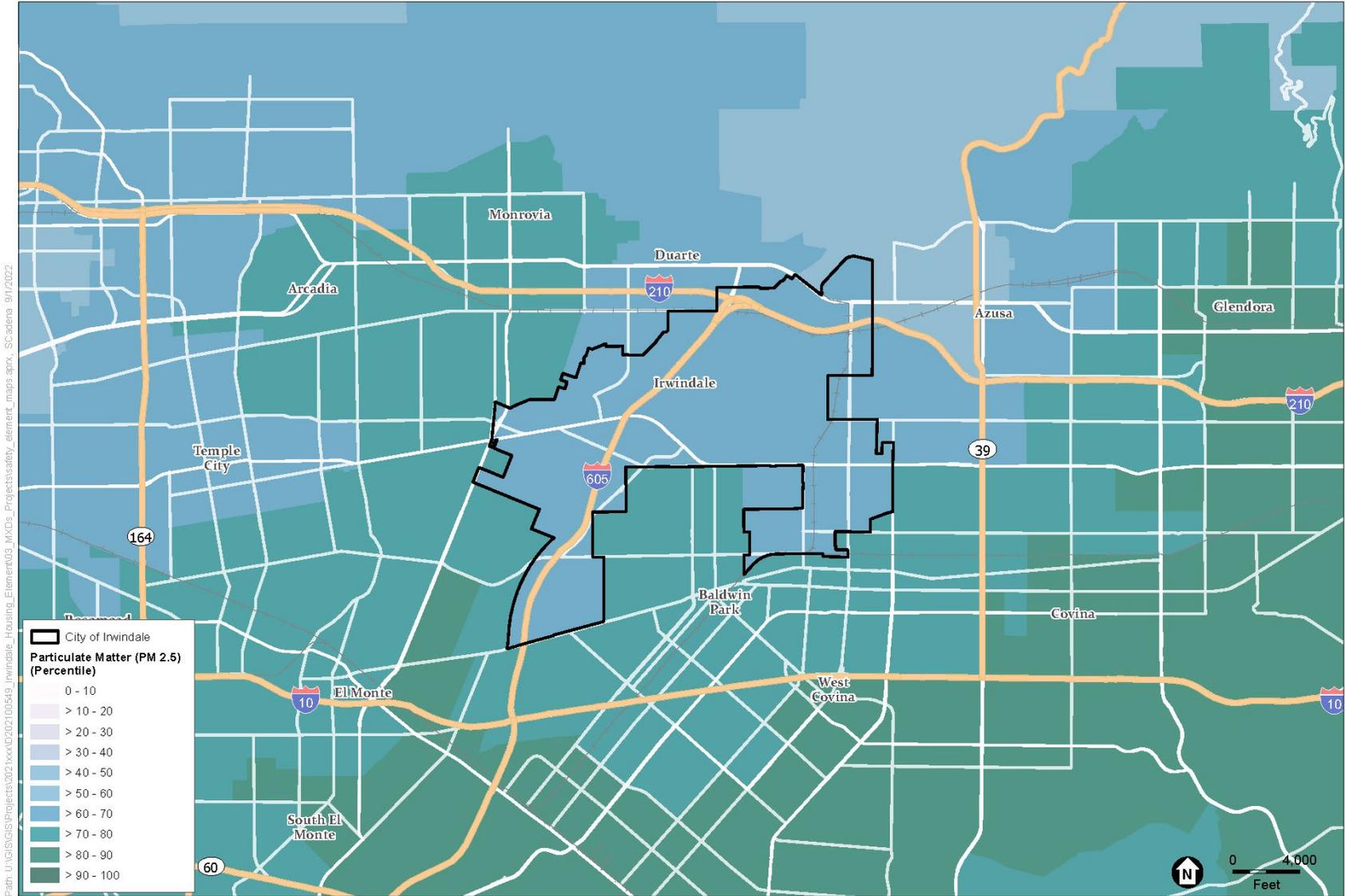


SECTION 2 EXISTING CONDITIONS



SOURCE: OEHHA 2021; ESRI 2022; ESA 2022

FIGURE SAF-1 Ozone Percentile in Irwindale



SOURCE: OEHHA 2021; ESRI 2022; ESA 2022

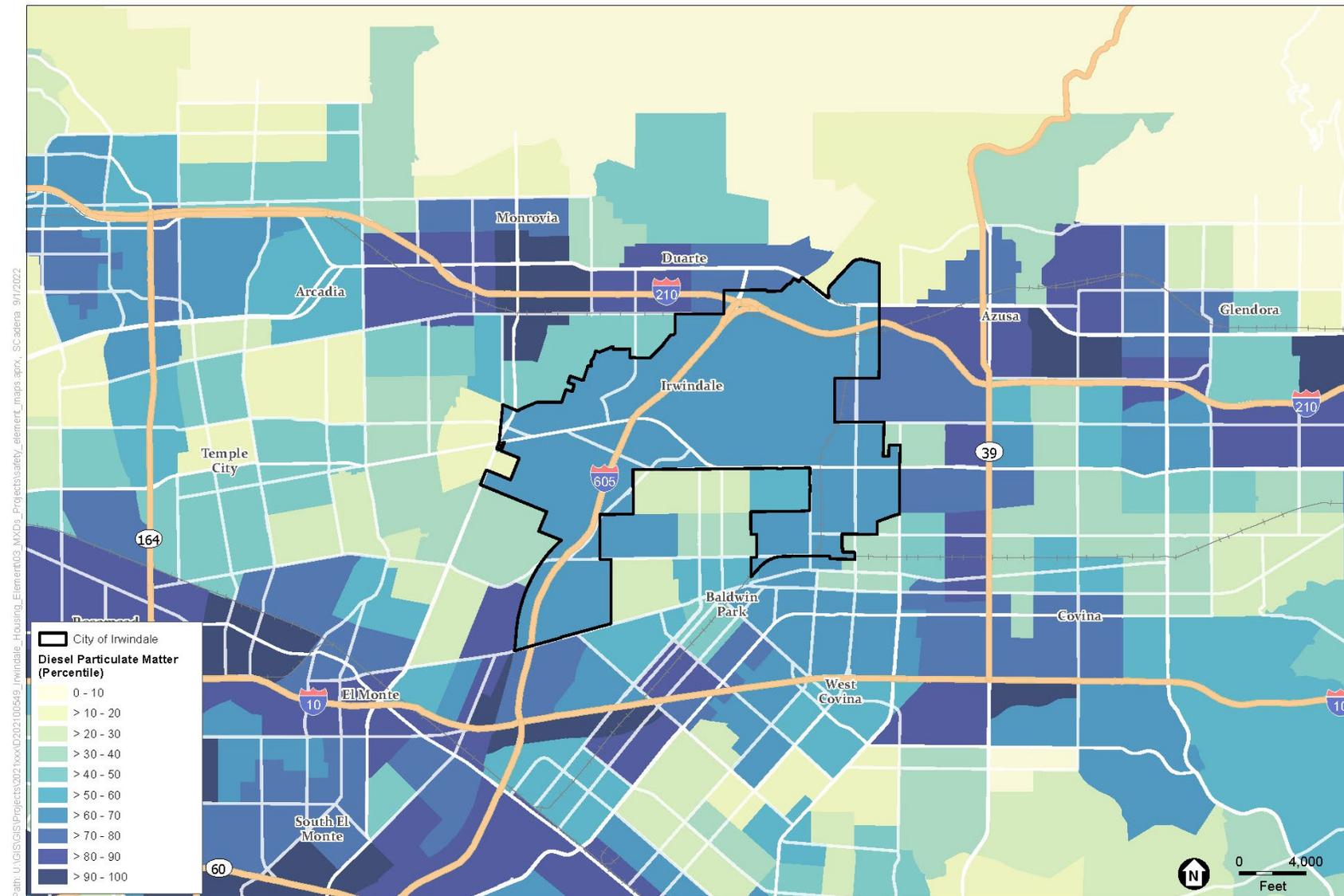
FIGURE SAF-2 Particulate Matter Percentile in Irwindale



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SAFETY ELEMENT

SECTION 2 EXISTING CONDITIONS



SOURCE: OEHHA 2021; ESRI 2022; ESA 2022

FIGURE SAF-3 Diesel Particulate Matter Percentile in Irwindale

Land uses in Irwindale are largely dedicated to industrial uses, which rely heavily on trucks and diesel equipment that contribute to higher levels of air pollution (City of Irwindale 2013).<sup>2</sup> Additionally, due to Irwindale’s inland location, it has higher levels of ozone pollution compared to other areas of Los Angeles County.

The Union Pacific Railroad along southern Irwindale and major freeways such as the I-210 and the I-605 also contribute to air pollution within the city.

## Local Vulnerabilities

Air pollution can affect some people—such as seniors, children, pregnant individuals, unsheltered or homeless individuals, individuals without health insurance or access to healthcare, and individuals with preexisting health conditions—more than others.

Poor air quality has been linked to respiratory conditions such as asthma, pulmonary disease, pneumonia, bronchitis and other infections, as well as cardiovascular conditions such as heart disease, heart failure, and cardiac arrest. Poor air quality can also affect cancer and contribute to low birth weight of infants. Almost 9 percent of adults

in Irwindale are affected by asthma, 4 percent are affected by cancer, and 5 percent are affected by heart disease (CDC 2019). In addition, 4 percent of births in Irwindale are low birth weight (OEHHA 2021). These percentages are on par with county and state averages, shown in **Table SAF-2**.

TABLE SAF-2 **Health in Population**

HEALTH OUTCOMES	IRWINDALE	COUNTY	STATE
Asthma	8.7%	9.2%	10%
Cancer	4.1	5.2%	6.2%
Heart Disease	4.8%	5.6%	6.3%
Low Birth Weight	4.4%	5.3%	5%

SOURCE: CDC PLACES (2019) and OEHHA (2021)

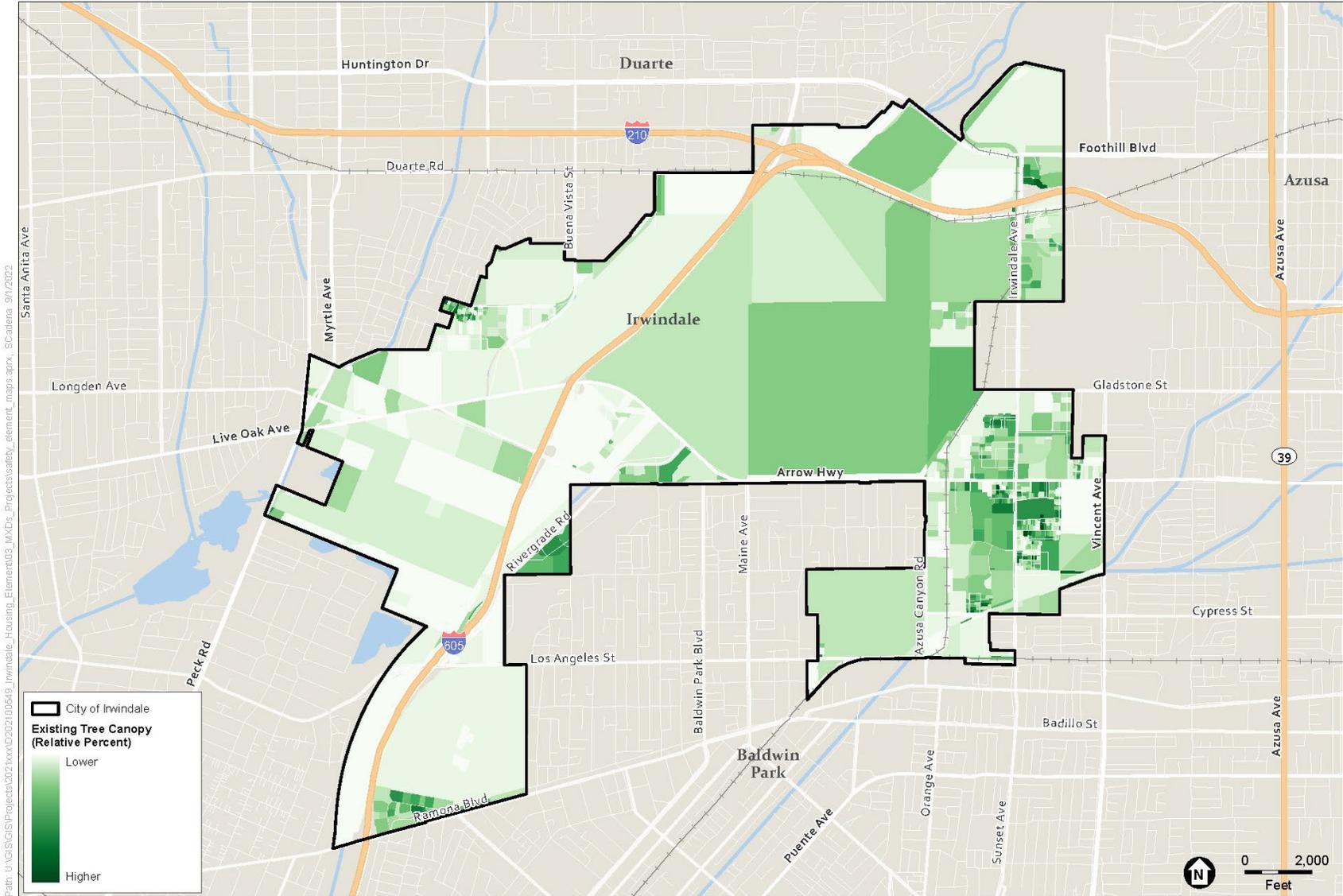
Lack of parks, open spaces, and trees can also exacerbate air pollution and public health risks. A large portion of land is occupied by parks and recreation, including in the Santa Fe Dam and Recreation Area, and a majority of residents are within a 10-minute walk to a park (TPL 2022). Approximately 31 percent of land is dedicated to parks and open space, and 61 percent of residents are located within a 10-minute walk of a park. However, existing tree canopy accounts for

<sup>2</sup> Manufacturing land uses accounting for approximately 44 percent of the total land area, while retail accounts for 3 percent and residential accounts for less than 1 percent.

only 7 percent of a possible 80 percent of land in the city (TreePeople 2022). Residents that live in areas with fewer parks and trees may experience greater exposure to air pollution. **Figure SAF-4** shows relative existing tree canopy within the city, with greater canopy present in the southeast area of the city where most residents live. However, there is lower canopy in the western portion of the city and along major roads including Arrow Highway, Rivergrade Road, Los Angeles Street, Buena Vista Street, Azusa Canyon Road, and northern Irwindale Avenue. The western and northern portions of the city are also where there is greater exposure to pollution from traffic, due to the I-605 and I-210 freeways, and where more tree canopy may be beneficial to help reduce air pollution exposure. An individual's exposure to air pollution is directly linked to their proximity to roadways and the volume of traffic on those roadways. Studies have found that greater exposure to pollution from traffic increases risk for health outcomes, including respiratory and cardiovascular conditions, cancer, and adverse birth outcomes (OEHHA 2021a). In addition, people of color and lower-income individuals are more likely to live and go to school in areas with greater traffic exposure, adding disproportionate burden to vulnerable populations. *See the Irwindale Environmental Justice – Public Facilities section for additional information on parks and tree canopy.*

Buildings, homes, and streets can also increase community exposure to air quality. Households without adequate air conditioning may rely on open windows for cooling, increasing their exposure to air pollution. Lack of safe and separated bicycle and pedestrian routes can also increase proximity and exposure to trucks and other sources of air pollution. Several major roadways in Irwindale—including Irwindale Avenue, Arrow Highway, Foothill Boulevard, and Live Oak Avenue—serve as designated truck routes, which creates challenges for reducing pollution exposure for bicyclists and pedestrians (City of Irwindale 2021b).

Days with poor air quality can also result in secondary impacts, such as missed days of work and school and the need for sheltering indoors. This can lead to financial instability as well as impacts to mental health due to restrictions in outdoor activities, social gathering, and access to community services.



SOURCE: TreePeople 2022; LMU CUREs 2022; ESA 2022

FIGURE SAF-4 Existing Tree Canopy



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## Local Initiatives

Industrial uses in the city largely contribute to greater levels of air pollution, making residents and visitors more vulnerable to impacts. Climate change will also increase pollution issues, due to extreme temperatures, storms and urban runoff, and wildfires.

While the city currently lacks policies within its General Plan and Local Hazard Mitigation Plan to address air quality issues, the City provides a Resident Benefit program for residents to access health care and prescription benefits to alleviate potential air quality impacts, and also requires businesses to apply for conditional use permits to mitigate for potential impacts due to emissions generated.

### SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

The South Coast Air Quality Management District (SCAQMD) is the regional air pollution control agency for the counties of Los Angeles, Orange, Riverside, and San Bernardino. SCAQMD manages the local and regional air quality through rules, incentive programs, and air quality plans. The SCAQMD maintains the Air Quality Management Plan (AQMP), Clean Communities Plan, and the Vision for Clean Air. Additionally, the SCAQMD

creates guidance documents to assist local governments with air quality planning.

New businesses are required to get approval for their proposed use from the SCAQMD, as a way to help monitor and improve air quality. The SCAQMD also provides wildfire smoke and ash health and safety tips, complaint hotlines for smog, and incentive programs to replace older, heavy-duty diesels with electric, alternative-fuel or cleaner diesel technologies (i.e., Carl Moyer Program).

The SCAQMD also works with the California Air Resources Board on AB 617 implementation for the Community Air Protection Program, which identifies communities most impacted by local air pollutants and provides funding for monitoring and emission reduction plans that help reduce exposure. Several communities near Irwindale have been selected to participate in the AB 617 program for air quality monitoring and emission reduction planning, including East Los Angeles, Boyle Heights, and West Commerce to the southwest of the city, and San Bernardino and Muscoy to the northeast. As air quality is a regional issue and extends beyond jurisdictional boundaries, improvements to air quality in nearby communities can improve air quality within Irwindale.

## SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

The Southern California Association of Governments (SCAG) is the regional planning organization for the Southern California region that includes the counties of Los Angeles, Imperial, Orange, Riverside, San Bernardino, and Ventura. SCAG's Air Quality Planning Program works in collaboration with the SCAQMD to develop the AQMD for the region, as well as to ensure transportation projects are in compliance with federal, state, and regional air quality standards and requirements.

## Key Findings Related to Air Quality

- Irwindale currently experiences Good and Moderate air quality according to the EPA's daily reporting for quality.
- Local and regional air quality is affected primarily by ozone, PM<sub>2.5</sub> and diesel PM. This pollution is produced from vehicles, factories, construction, mining pits, dry cleaners, wood burning, and diesel engines and equipment.
- A majority of land uses in Irwindale are dedicated to industrial activity (44 percent), which contributes to greater air pollution than commercial uses (3 percent) and residential uses (less than 1 percent).
- Irwindale has relatively high levels of pollution among other census tracts in California. Ozone is in the 83rd percentile; PM<sub>2.5</sub> is in the 66th percentile, and diesel PM is in the 68th percentile.
- Some populations in Irwindale have greater vulnerability to air pollution. These include seniors, children, and individuals experiencing pregnancy, homelessness, lack of health care, and preexisting health conditions, among others.
- Greater levels of and exposure to air pollution can affect physical health, such as respiratory



and cardiovascular systems, cancers, and low birth weight in infants.

- Days of poor air quality may require sheltering in place, or missed work and school days. This has the potential to affect financial stability, mental health, social gathering, and access to community resources and services.
- While parks and open space make up 31% of land uses, the city has a low percentage (7 percent) of tree canopy. There is potential to increase tree canopy by almost 73 percent.
- There is lower tree canopy along major freeways and roads, where exposure to air pollution can be greater. This includes areas along I-605, I-210, including Arrow Highway, Rivergrade Road, Los Angeles Street, Buena Vista Street, Azusa Canyon Road, and northern Irwindale Avenue.
- Buildings and homes without adequate cooling (e.g., air conditioning) may rely on open windows during extreme heat temperatures. This increases exposure to poor air quality.
- Major roadways serve as designated truck routes, increasing risk for pollution exposure for bicyclists, pedestrians, and other outdoor and active commuters.
- The City provides a residential benefits program to help residents access health care and medication to alleviate impacts due to

poor air quality and requires business to apply for permits to mitigate for potential impacts from emissions. However, there is a lack of policies within long-range planning documents (General Plan and Local Hazard Mitigation Plan) that address sources of air pollution and increase community **resiliency** to poor air quality.

- The SCAQMD provides programs to help improve local and regional air quality. These include resources for wildfire smoke and ash, pollution reporting hotline, and incentive programs for replacing diesel fuels with cleaner alternatives.

*Resiliency is the capacity of populations or systems to recover from events, such as earthquakes and extreme weather impacts.*

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### Resiliency

## Community Feedback

The City of Irwindale conducted a community survey to identify priorities and concerns relating to safety in the community. These survey results are summarized below and represent a sample of the population.

Regarding pollution and air quality, both Irwindale residents and employees identified “air quality” to be a significant hazard concern with an emphasis on pollution from neighboring industrial uses.

- Of the residents surveyed, 53 percent identified poor air quality to be a primary concern, second only to crime (59 percent).
- In a survey asking for priority concern of environmental hazards, including fire, extreme temperatures, drought, pandemic, flooding, 45 percent of residents selected poor air quality as the primary hazard of concern.
- In a survey on specific pollution concerns, the majority (77 percent) of Irwindale residents and most Irwindale employees (44 percent) identified “bad air pollution or dangerous fumes from industrial land uses” as the greatest concern.
- “Bad air pollution from cars and trucks” was identified as a concern by 46 percent of residents and 33 percent of employees.
- Employees identified air quality as a principal health concern in the community.





## Drought

### Introduction

Drought occurs when a prolonged period of abnormally low rainfall leads to a water shortage. Drought can also occur from a decrease in snowpack for regions that depend on this for water supply. During periods of drought, less water is available for delivery to communities, which affects drinking water as well as water for other uses such as landscaping and irrigation, agriculture, energy, and cooling. Water demand and water quality conditions can also change during drought. Other climate hazards such as extreme heat, sea-level rise, strong winds, and flooding can add pressure on water supplies and exacerbate drought conditions.

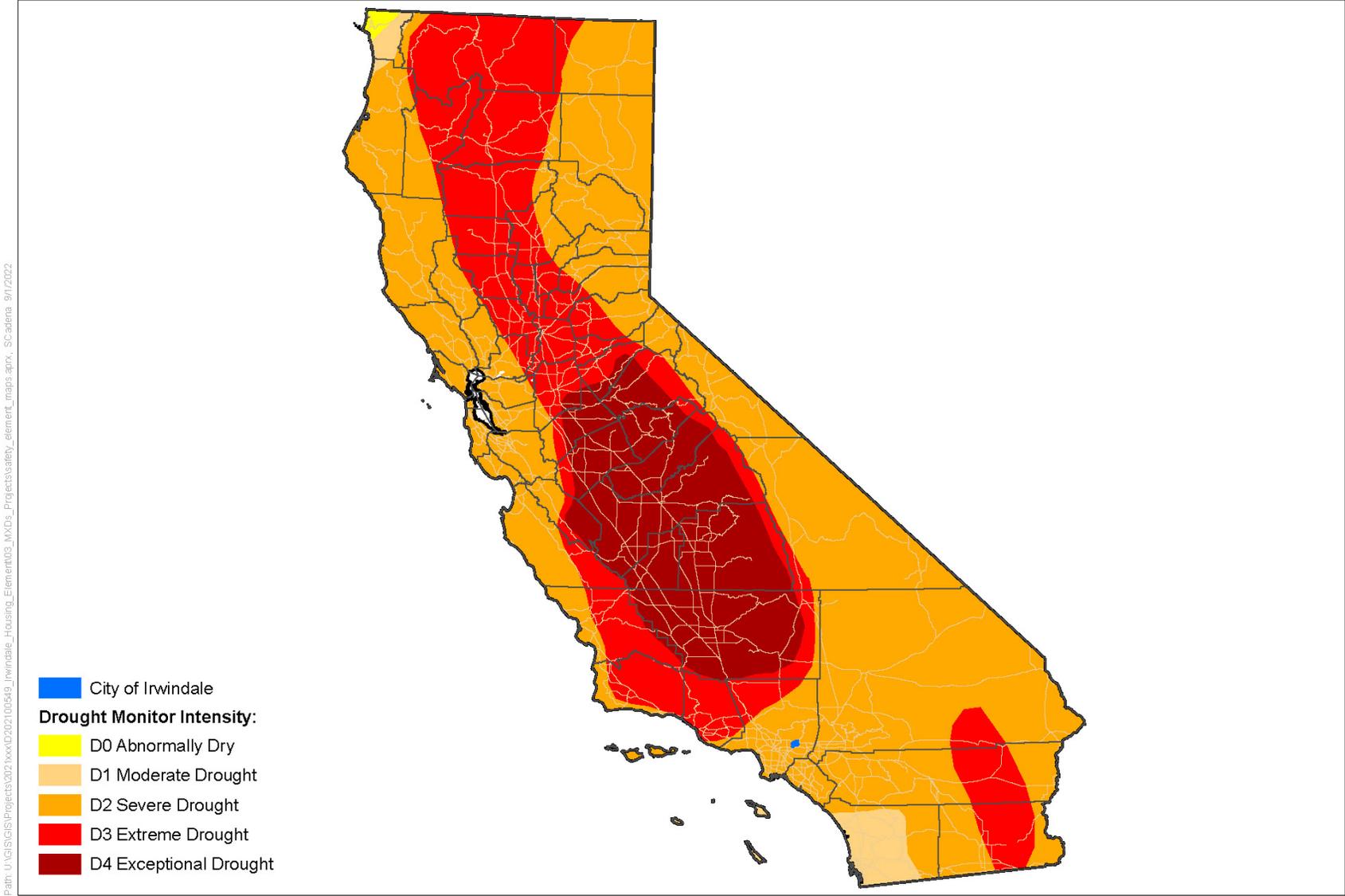
### Local Conditions

Approximately 75 percent of Southern California's potable water is delivered from the Colorado Aqueduct and the California Aqueduct through the State Water Project. The city's main water resources include groundwater from the San Gabriel Mountains, surface water resources, and treated water that is imported via water companies. As a member of the Upper San Gabriel Valley Municipal Water District (MWD), the City of Irwindale receives water purchased from

the Metropolitan Water District of Southern California through several public and private water suppliers, including water districts and divisions from neighboring jurisdictions, as well as private water companies. Agencies that provide this service to businesses and residents in Irwindale include the City of Azusa Light and Water Department, the Monrovia Water Division, the San Gabriel Valley Water Company, Golden State Water, and Cal American Water, and the Valley County Water District.

Local drought conditions vary depending on location since water sources and conditions vary by community. The City of Irwindale is vulnerable to drought conditions due to its Mediterranean climate, low levels of precipitation, and dependence on outside water resources. According to the Main San Gabriel Basin Watermaster, statewide rainfall and snowpack at the end of the wet season were far below normal for the second year in a row. Snowpack was 59 percent below the average, which affects the amount of groundwater that is available to be used by the community. Annual precipitation levels will likely decrease in the next century and create worsening drought conditions over time.

**Figure SAF-5** shows that Los Angeles County,



SOURCE: USDM 2022; ESRI 2022; ESA 2022

FIGURE SAF-5 State Drought Conditions



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which includes Irwindale, is currently experiencing Extreme and Severe Drought conditions. Historically, extreme drought conditions have resulted in recreational activity being affected because of low water flow in rivers, lakes, and reservoirs and because of water conservation measures being implemented for urban and agricultural needs.

## PAST DROUGHT OCCURRENCES IN IRWINDALE

From 1961 to 1990, the City of Irwindale saw an average of 19.3 inches of annual precipitation. This is expected to decrease to an average of 19 inches by mid- to late century. Dry periods, or dry spells, historically averaged 130 days. Future conditions will likely increase up to 138 days by mid-century and up to 145 days by late-century.

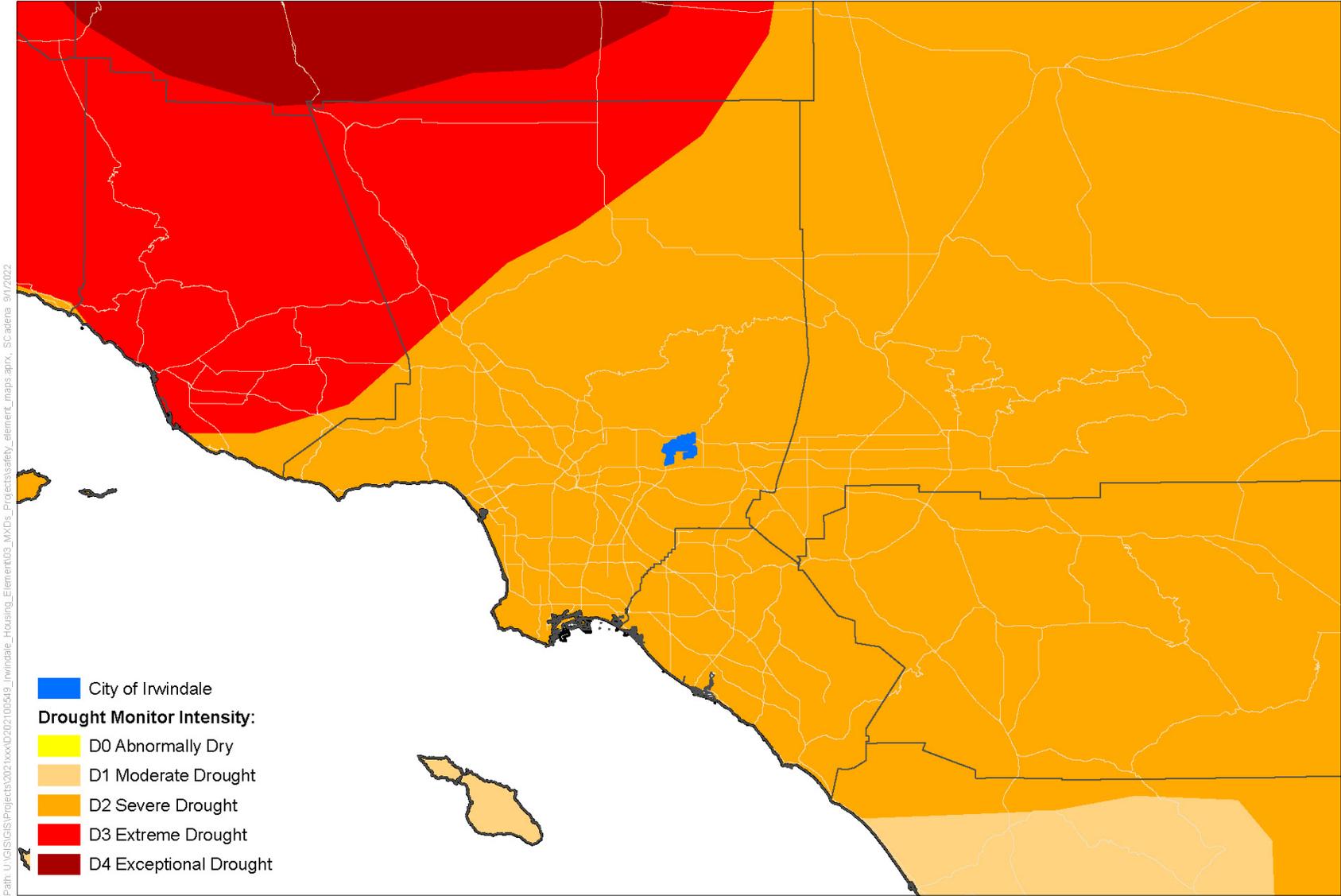
Southern California has experienced more frequent and extended periods of drought in the past decade. The most recent 5-year drought period from 2012 through 2016 saw much of the state in severe drought conditions due to unusually dry and warm climate, reduced snowpack and runoff, little precipitation, and increased temperatures. These conditions resulted in water shortages to natural ecosystems, hydropower activities, drinking water supply, agriculture, and municipalities. Statewide, the drought affected biological and ecological

resources, households, and businesses and resulted in economic losses.

## Local Vulnerabilities

Unlike hazards such as wildfire and flooding, which provide direct impacts, drought produces a web of impacts beyond the areas experiencing physical drought.

**Figure SAF-6** shows that Irwindale is currently experiencing Severe Drought conditions. All people, property, and environments in the Irwindale planning area would be exposed to some degree to the impacts of moderate to extreme drought conditions. Industries that rely on water are affected in terms of potential revenue and employment. Physical assets and infrastructure are also at risk from drought conditions, particularly public facilities and services that rely on water to operate. Extreme and Severe Drought conditions are defined in **Table SAF-3**, which lists the drought monitor classifications, their descriptions and impacts as defined by the National Drought Mitigation Center.



SOURCE: USDM 2022; ESRI 2022; ESA 2022

FIGURE SAF-6 County Drought Conditions



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TABLE SAF-3 U.S. Drought Monitor Classifications

CATEGORY	DESCRIPTION	IMPACTS
<b>Drought</b>		
D0	Abnormally Dry	Short-term dryness
D1	Moderate Drought	Growth of crops and pastures is slowed
D2	Severe Drought	Impacts on crops and pastures
D3	Extreme Drought	Water shortages developing in reservoirs, streams, and wells
D4	Exceptional Drought	Voluntary water restrictions

SOURCE: National Drought Mitigation Center (2021).

## Local Initiatives

In addition to regulations and planning efforts that work to conserve water at the state level, the City provides water conservation and water pollution prevention guidelines through development of programs for carpet cleaning activities, food service facilities and operations, stormwater discharge activities, and car washes. The Irwindale Municipal Code, which includes the Green Building Code, contains requirements for water-efficient and drought-resistant landscaping and plant materials and automatic drip irrigation systems. The City has also adopted the state Model Water Efficient Landscape Ordinance guidelines to promote water savings through efficient landscaping.

The City also provides information on its website for water conservation and water pollution prevention for residents, and promotes the following best practices:

- Avoid water runoff and overwatering of lawns.
- Follow watering days as set by the water districts.
- Install high-efficiency sprinkler nozzles.
- Consider installing weather-based irrigation controllers.
- Plant drought-tolerant landscaping to reduce water needs and ensure water efficiency.
- Use synthetic turf or irrigation-less ground cover that helps eliminate yard water needs.
- Clean driveways by sweeping instead of hosing.

- Use shut-off nozzles on hoses.
- Use biodegradable, phosphate-free detergents and non-toxic cleaning products when washing vehicles.
- If possible, wash cars on a permeable surface where wash water can percolate into the ground (e.g., gravel or grassy areas).
- Contact the City prior to draining.

### Key Findings Related to Drought

- The city relies on local groundwater and surface water sources, including water from the State Water Project and the Colorado River.
- As a member of the Upper San Gabriel Valley MWD, the City of Irwindale receives water purchased from the Metropolitan Water District of Southern California through several public and private water purveyors. Irwindale is considered to be in Extreme Drought conditions.
- As of 2021, the State of California has implemented statewide regulations and special projects in response to drought conditions. These types of regulations work to effectively manage water resources under drought conditions and ensure community health and safety as a result.

- Although the City engages in local outreach and engagement efforts to educate the community about preserving and protecting water resources, the City should consider greater emphasis on local interventions, as these types of programs are limited in scope.

### Community Feedback

- Drought was identified as a primary hazard of concern for residents in Irwindale, but was behind crime, poor air quality, and pandemic in order of priority.



## Extreme Weather

### Introduction

Global warming temperatures from climate change are causing shifts in weather patterns and conditions that are expected to worsen over time, resulting in **extreme weather**. Climate change will cause these extreme weather conditions to intensify and become more extreme, with some climate conditions occurring more often and lasting for longer periods of time. Human populations and the built environment are not used to experiencing extreme weather conditions, so it will be necessary to address adaptation and resiliency to climate change.

### Local Conditions

Weather in Irwindale is characterized by a Mediterranean and semi-arid climate, with mild winters and hot, dry summers. The climate is expected to be warm; however, increases in global average temperatures will result in hotter temperatures that can become dangerous to human health and the environment. **Figure SAF-7** shows how increasing average temperatures will

shift and result in hotter weather over time, with colder weather events becoming less frequent. Southern California is heating up faster than other regions of the state and country, making extreme heat one of the greatest climate change threats to the City of Irwindale.

### EXTREME TEMPERATURES

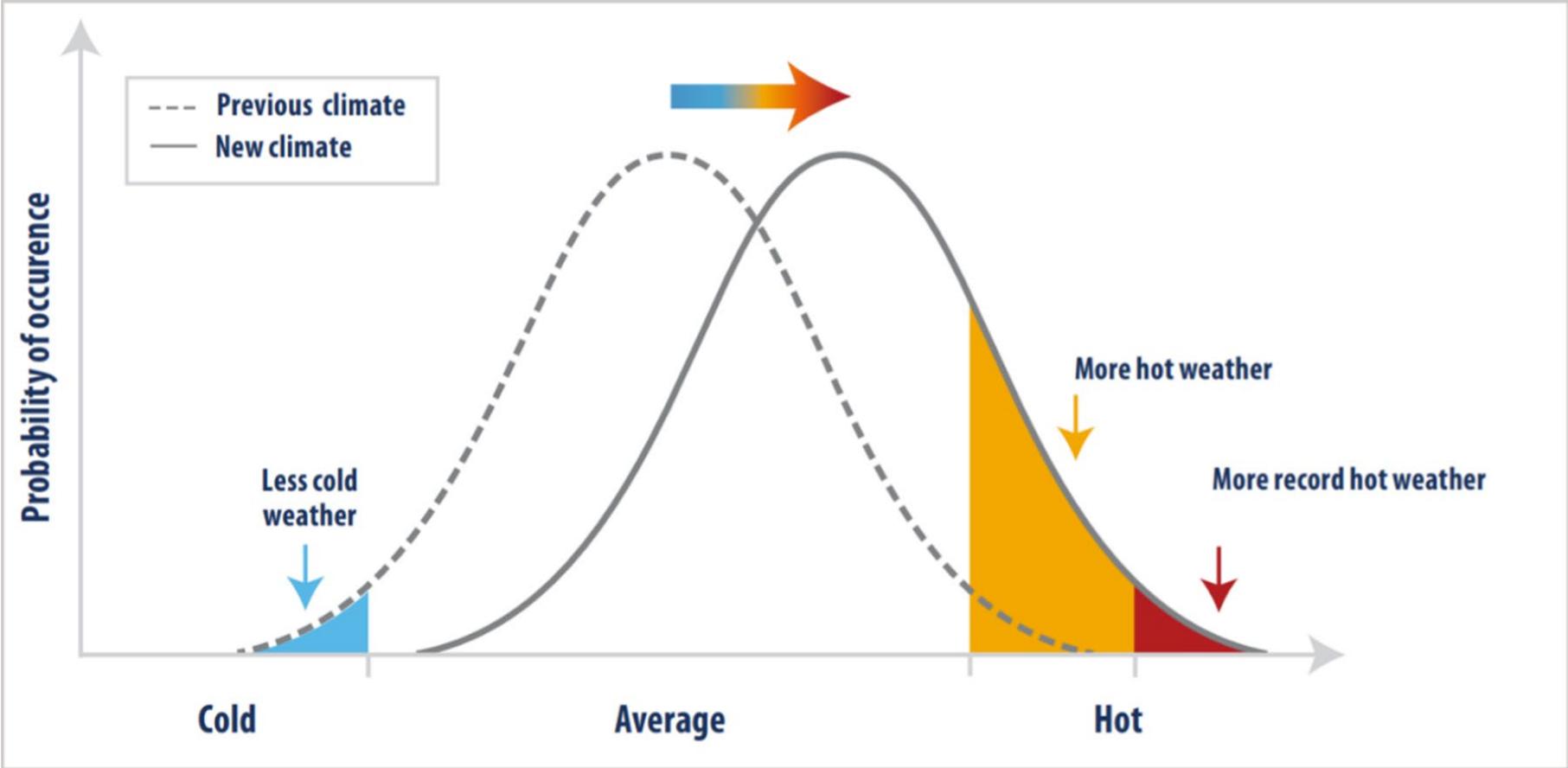
**Extreme heat days** are defined as days when daily maximum temperatures rise above a threshold temperature of 101.3 degrees Fahrenheit (°F) and persist over a period of time, from a couple of days to weeks or months (Cal-Adapt 2018). Historically, the maximum average temperature in Irwindale is 79°F; this maximum is expected to increase up to 91°F by 2100 (Cal-Adapt 2018).<sup>3</sup>

Increasing temperatures will make extreme heat events and heat waves more common and they will occur with greater intensity, frequency, and for longer durations. Historically, the City of Irwindale has experienced an average of 4 extreme heat days per year. This is expected to increase up to 97 by 2100 (Cal-Adapt 2018).

*Extreme weather* refers to highly unusual climate conditions and events that are significantly different from those previously recorded in history. This includes conditions such as extreme heat, precipitation or rainfall, and windstorms.

#### Extreme weather

<sup>3</sup> Future extreme weather levels assume a high emissions scenario (RCP 8.5).



SOURCE: USEPA 2022

FIGURE SAF-7 Extreme Weather Chart



Compared to other regions, Los Angeles County is among the fastest warming counties in the country. In addition to increased average temperatures, Los Angeles County will also likely experience increased duration of heat days, higher levels in humidity, and increased risk of heat-related illnesses.

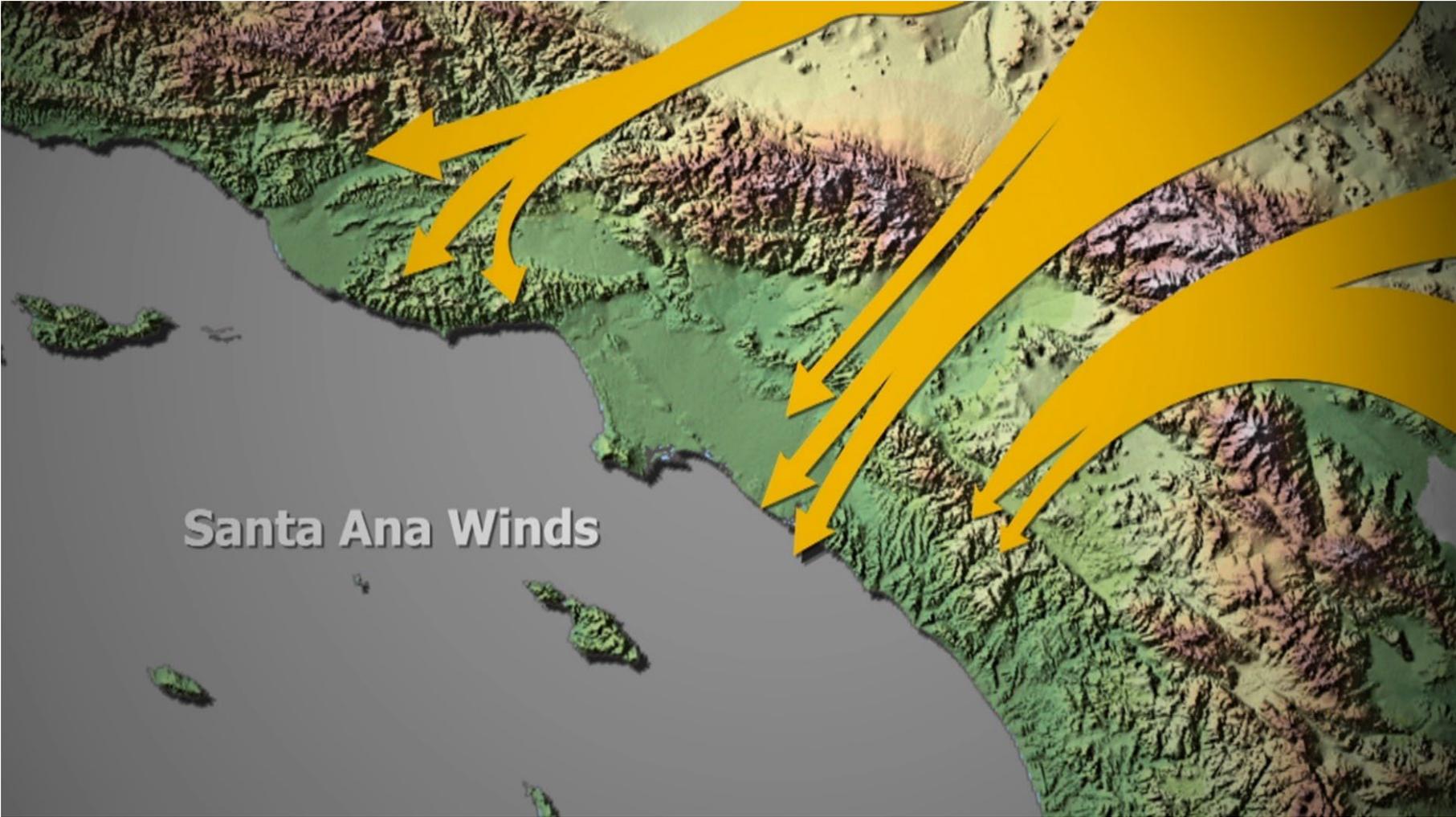
This shift in temperatures also means there is greater likelihood of worsening **dry spells**, which are periods of dry weather with no precipitation (Cal-Adapt 2021). Dry spells are expected to increase from a historic average of 130 days up to 179 days. However, rainfall events that do occur are expected to have greater intensity, with more rainfall in shorter periods of time. Annual precipitation levels are expected to increase from a historic average of 19 inches up to 27 inches by 2100.

## WINDSTORMS

Windstorms are another extreme weather event that poses significant risk to people and the environment in Irwindale, and they are expected to increase in frequency and severity due to climate change. **Windstorms** are storms characterized by high winds or violent gusts that can be strong enough to damage trees and buildings, and disrupt essential systems, including public utilities and transportation corridors.

The high winds seen in windstorms are caused by air moving from an area of high pressure to an area of low pressure. High winds have destructive impacts, especially to trees, power lines, and utility services, and also have the potential to cause tornado-like damage to properties, including homes and businesses. Of the most severe are **damaging winds**, classified as those exceeding 58 miles per hour (mph) and accounting for half of all severe weather reports in the contiguous United States (NOAA 2020).

The Santa Ana Winds are the most common wind conditions that affect Irwindale, with winds greater than 29 mph. These are warm, dry winds that blow from the east or northeast in the Santa Ana Canyon with exceptional speed. **Figure SAF-8** shows the direction of the Santa Ana Winds. The Santa Ana Winds most commonly occur between September through May, with the greatest frequency of winds in December.



SOURCE: USGS 2021

FIGURE SAF-8 Santa Ana Winds



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## Local Vulnerabilities

All people and the environment are at risk from extreme temperatures and windstorms, with the greatest hazard coming from extreme heat. Extreme heat is the cause of more annual deaths across the United States than other weather hazards, including floods, storms, and lightning combined (Bedsworth 2018). This is due to high numbers of **heat-related illnesses**, including heat exhaustion and heat stroke, which can worsen existing health conditions such as asthma, heart disease, and respiratory illnesses. In severe cases, such as heat stroke, heat events can lead to mental status changes, confusion, coma, and death.

Populations living within urban heat islands, such as Los Angeles County, are at higher risk of prolonged exposure to heat conditions. Extreme heat impacts will disproportionately affect minority and low-income communities, as these groups are more likely to live in areas with aging infrastructure, limited resources and funding, limited parks and tree canopy, and heat-retaining surfaces that contribute to the heat-island effect. There is greater risk to elderly populations, infants and children, unhoused individuals, and outdoor workers, as well as individuals who are unable to access health care or cooling amenities

or afford increases in energy costs and water usage associated with cooling.

Higher temperatures can contribute to increases in harmful air pollutants, thereby exacerbating health conditions for some individuals.

Extreme heat can also impact economies and job sectors, particularly health care industries and government operations that are critical to emergency response. These industries are likely to experience increased pressure from heat-related illnesses in the community. The tourism industry in Southern California will also likely be impacted. This may include the Santa Fe Recreational Dam Area in Irwindale, as well as other natural trails and open space amenities that experience plant and biodiversity impacts from extreme heat.

Local and regional energy demand will also likely increase as communities seek cooling relief. Extreme heat can reduce the ability of the grid to transmit electricity, and this can be further compounded by energy spikes during heat waves (SCAG 2020).

Extreme heat and windstorms also provide suitable conditions for wildfire events to occur more easily and last longer. Regional fires can affect air quality and temperatures for Irwindale and surrounding communities, putting those with

*Heat exhaustion* is an imbalance of electrolytes caused by body dehydration that can lead to headache, dizziness, nausea, pale skin, cramps, weakness, and profuse perspiration.

*Heat stroke* is a severe and life-threatening medical emergency that results from the body's inability to cool down from a high temperature. Heat stroke symptoms are similar to those of heat exhaustion except that there is no perspiration; additional symptoms include rapid pulse, hot and dry skin, changes in mental state, seizures, loss of consciousness, and kidney failure. Heat stroke can lead to death if not treated promptly.

SOURCE: California Governor's OES 2018

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### Heat-Related Illnesses

existing health conditions at greater risk. Increased temperatures can also worsen drought conditions, affecting plants, agriculture, and wildlife.

*See the Safety Element – Wildfire section for additional information on fire hazards and the Environmental Justice Element – Public Facilities section for additional information on community facilities and resources to help provide relief from extreme heat.*

## Local Initiatives

### CITY OF IRWINDALE

As with many climate events, extreme temperatures and windstorms can generally be anticipated and prepared for in advance. The City of Irwindale relies on the Irwindale Police Department to provide public safety services and alerts, including for weather hazards, and on the community development department for planning initiatives that address hazards. These include:

- **The Local Global Warming Initiative.** This program is implemented through the city's Local Hazard Mitigation Plan and the Irwindale Police Department to identify households at risk from extreme heat. Police department personnel aid elderly individuals during extreme heat days when temperatures rise above 90°F. Police department personnel
- check in on seniors and encourage the use of the Senior Center as a cooling center.
- **City Outreach.** The City will initiate an outreach effort at the community/senior center that will provide information regarding the risk and resources that are available in upgrading units and assisting in the payment of utility bills.
- **CivicReady.** The City delivers critical and timely information to community members, including emergency alerts and notifications on public safety delivered from the Irwindale Police Department through the internet, email, text messages, and phone calls.
- **Irwindale Police Department Coordination.** During high heat events, the Irwindale Police Department conducts visits to residents who are at risk of heat related health complications. The Police department coordinates with these at-risk individuals to ensure that they have access to cooling centers.



## LOCAL HAZARD MITIGATION PLAN

The city's 2014 Local Hazard Mitigation Plan addresses extreme heat through mitigation strategies to reduce the community's vulnerability to increasing temperatures:

- **Local Mitigation Action #16 - NOAA Weather Radio.** The City will encourage the use of National Oceanic and Atmospheric Administration (NOAA) weather radios among its residents. At least one set of counties surrounding a chemical stockpile has provided NOAA weather radios to all homes and businesses within the area. NOAA Weather Radio continuously broadcasts National Weather Service forecasts, warnings, and other crucial weather information. NOAA Weather Radio also provides direct warnings to the public for natural, man-made, or technological hazards, and it is the primary trigger for activating our country's Emergency Alert System on commercial radio, television, and cable systems.

## Key Findings Related to Extreme Weather

- Extreme heat is one of the greatest climate change threats to people, places, and the environment and is among the deadliest natural hazards.
- Climate change will increase average temperatures in Irwindale, resulting in a new "normal" of longer and hotter days.
- Average temperatures are expected to increase by 12°F, from a historic 79°F up to 91°F by 2100.
- Length of dry spells are expected to increase, from 130 days up to 179 days by 2100.
- Rainfall events are expected to be shorter and occur less frequently, though with more severity. Annual precipitation levels increasing from 19 inches up to 27 inches by 2100.
- Climate change will increase the frequency and severity of windstorms, with winds expected over 29 mph that can impact people, property, and public infrastructure.
- High winds are expected from September through May.
- Heat-related illnesses are expected to increase (heat stroke, heat exhaustion).
- All persons are vulnerable to extreme heat; however, some groups are more likely to

experience disproportionate impacts than others; this includes households without air conditioning or proper insulation, and individuals living in areas where there is less urban greening. Vulnerable populations include seniors, children, unhoused, low-income, outdoor workers, uninsured, and individuals with existing health conditions.

- Lack of tree canopy, access to parks, access to cooling centers, and lack of air conditioning at home increases vulnerability to heat impacts.
- Increasing severity of extreme temperatures puts pressure on critical response systems, including health care and government sectors.
- Recreation areas, including the Santa Fe Recreational Dam Area, are expected to have reduced visitors in the future, and see impacts to local plants and animals.
- Energy demand and costs are expected to increase, especially during heat waves.
- Extreme heat and windstorms can worsen fire conditions and air quality.
- The city has existing programs and policies through the Irwindale Police Department and Irwindale Community Development Department that help address extreme temperatures.

## Community Feedback

The City of Irwindale conducted a community survey to identify priorities and concerns relating to safety in the community. These survey results are summarized below and represent a sample of the population:

- Approximately 12 percent of residents identified extreme heat and windstorms as primary hazards of concern. This is low compared to other climate/environmental hazards (53 percent for air quality; 35 percent for drought; 18 percent for fire, and 12 percent for flooding).
- Approximately 24 percent of employees identified extreme heat as a hazard and 10 percent identified windstorm as a hazard. (Employees identified air quality as the top hazard of concern, at 45 percent).
- Irwindale employees identified extreme heat as a principal health concern.
- Employees suggested increasing trees and green infrastructure in the city to help reduce the urban heat island effect.





## Flooding

### Introduction

Flooding typically occurs as a result of heavy, intense precipitation events that create water flows large enough to overtop natural waterways or exceed the capacity of stormwater infrastructure. Flood-prone areas generally include river floodplains, areas adjacent to drainage systems, low-lying areas where stormwater can collect, and areas with inadequate storm drain infrastructure or large amounts of impermeable surface. Climate change will likely worsen inland flooding due to changes in precipitation patterns. Periods of concentrated, intense precipitation “will worsen inland flooding, especially in highly urbanized areas.”

### Local Conditions

As shown in **Figure SAF-9**, the city is not in a designated flood hazard zone. There are no 100-year floodplains or 500-year floodplains within the city. There is a 500-year flood zone adjacent to the city to the south, near West Covina.

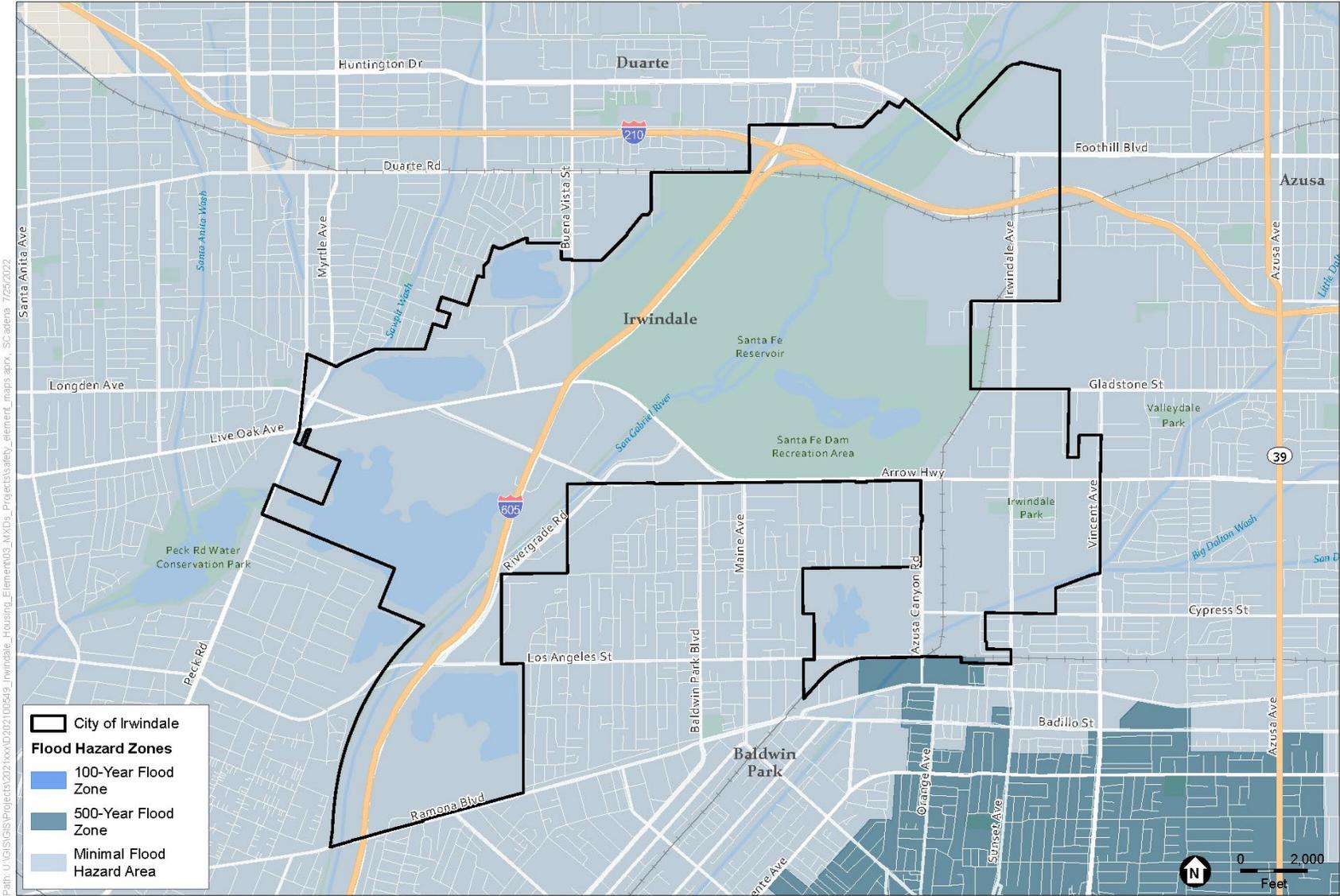
The City of Irwindale is at risk of one type of inland flooding, which would be dam failure flooding as defined below.

**Dam Failure Flooding.** Dams can fail because of a number of reasons, including overtopping due to flooding, structural failure of materials used in dam construction, poor maintenance, and failure of upstream dams, among others. Flooding from dam failure is typically far more severe as residents have little warning time, and the volume of water can lead to swift, severe flooding with a catastrophic loss of life and property.

### DAMS IN THE CITY OF IRWINDALE

Within the City of Irwindale, there is one major dam, the Santa Fe Dam and Reservoir. Built in 1949, the Santa Fe Dam is located on the San Gabriel River about 4 miles downstream from the San Gabriel Canyon. The dam is a component of the Los Angeles County Drainage Area flood control system, and the primary purpose of the dam is to reduce the risk of flood damage for areas downstream of the dam. The dam area also includes approximately 835 acres that were granted to Los Angeles County for recreational use.

The expected inundation area in the event of dam failure is shown in **Figure SAF-10**. In the event of a dam failure, water would likely flow in a southwesterly direction and inundate the area



SOURCE: FEMA 2022; ESRI 2022; ESA 2022

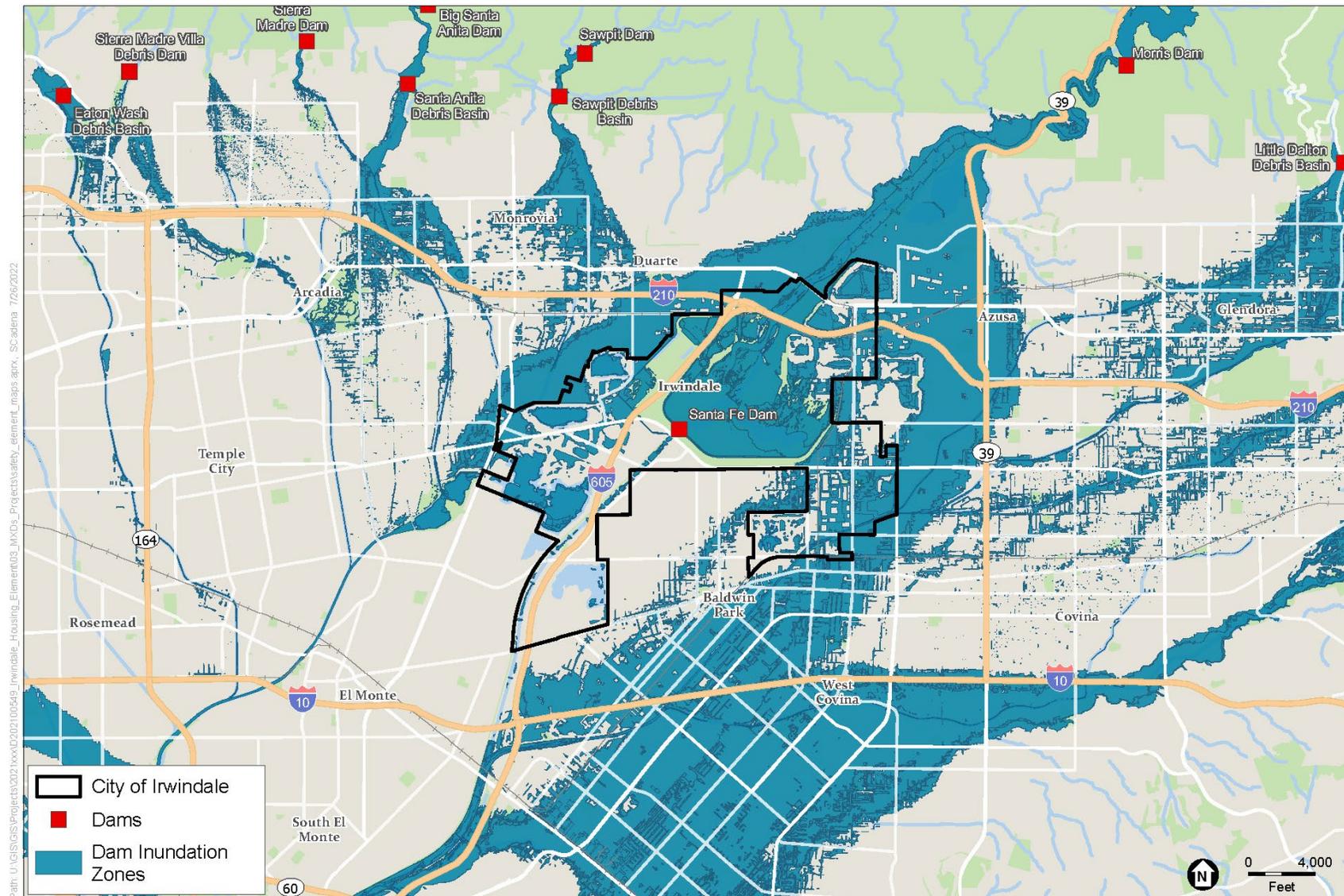
FIGURE SAF-9 Flood Hazard Zones



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SAFETY ELEMENT

SECTION 2 EXISTING CONDITIONS



SOURCE: USDOT BTS 2022; DWR DSOD 2022; ESRI 2022; ESA 2022

FIGURE SAF-10 Dam Inundation Zones

west of Irwindale Avenue, which includes commercial and residential properties in the city, as well as the southwestern portion of the city, which includes primarily commercial and industrial land uses, mining pits, and a small amount of residential land uses.

### Local Vulnerabilities: Surface Flooding

Potential vulnerabilities to flooding include population, property, and infrastructure. Low-lying populations and infrastructure, such as roads, are especially vulnerable to flood hazards and serve critical access functions for residents and emergency responders.

#### POPULATION

In general, flooding can impact communities by resulting in injury or death, or isolating individuals or families and cutting them off from essential services. Property damage from flooding can be particularly burdensome for low-income families or renters who may face challenges rebuilding following a flood event. Flooding also has the potential to result in mold in buildings, which can result in long-term health impacts following flooding.

Employees working in Irwindale are also vulnerable to flooding and may encounter

transportation and evacuation challenges in the event of flooding related to dam failure. Flooding may result in economic impacts within the city if commercial or industrial properties are inundated, resulting in interruptions to employment and businesses.

### Local Vulnerabilities: Dam Failure

In the event of dam failure, vulnerable populations include populations downstream from dam failures that are incapable of escaping the area within the allowable time frame. The entire population in a dam failure inundation zone is exposed to the risk of a dam failure. Within the City of Irwindale, preliminary investigation suggests that residential areas west of Irwindale Avenue and south of Arrow Highway; residential areas along Calle Burolla, Fraijo Avenue, and Nora Avenue; and residential areas on the western edge of the city south of Meridian Street may be vulnerable to inundation in the event of dam failure. Populations that are particularly vulnerable to the impacts of flooding are those who may be less mobile and may be unable to get out of the inundation area. These populations include the elderly, the young, and individuals or families who may not receive adequate warning from warning systems, televisions, radios, reverse 911 systems, or cell phones.



## VULNERABLE DEVELOPMENT, CRITICAL FACILITIES, AND INFRASTRUCTURE

According to the California Governor's Office of Planning and Research Guidelines, critical facilities are facilities that either (1) provide emergency services or (2) house or serve many people who would be injured or killed in case of disaster damage to the facility. Examples include hospitals, fire stations, police or emergency service facilities, utilities, or communications facilities. Low-lying areas are vulnerable to dam failure inundation, especially transportation routes. In the City of Irwindale, this includes all roads, railroads, and bridges in the flow path of water. In the event of a flood, transportation assets such as emergency evacuation routes, routes used by emergency responders, and public transportation may experience delays in emergency response that may impact the ability of residents to evacuate in the event of flooding. Utilities such as the stormwater drainage system and the wastewater system may be compromised by the increase in discharges to these systems.

Additionally, as dams are built to protect communities from flooding, buildings located in the dam inundation area are often not built to withstand flooding. All critical infrastructure and facilities in the dam inundation zone are

vulnerable to inundation. This includes the fire station on East Arrow Highway. Critical facilities such as emergency response facilities, emergency shelters, hospitals, and utilities may be vulnerable to flooding if located below grade or in the dam inundation area and may lose function if located below grade.

### Local Initiatives

Flood risk within the city is managed between the City of Irwindale Public Services Department, Los Angeles County Flood Control District (LACFCD), and US Army Corps of Engineers (USACE). In addition, the Public Works/Engineering (PWE) Department has the sole responsibility of dedicating resources to stormwater management. Lastly, the City utilizes a civic alert system to alert residents to flood risk.

With respect to stormwater management efforts in the city looking forward, the PWE Department is planning to perform a storm drain master plan study in 2022–2023 to look for deficiencies in the storm drain infrastructure.

## Key Findings Related to Flooding Hazards

- The City of Irwindale is not in a designated flood hazard zone. However, risk related to failure of the nearby Santa Fe Dam is high.
- In the event of a dam failure, the areas most susceptible to flooding hazards would be those west of Irwindale Avenue, south of Arrow Highway; residential areas along Calle Burolla, Fraijo Avenue, and Nora Avenue; and residential areas on the western edge of the city south of Meridian Street, as shown in Figure SAF-10. Land uses in these areas include primarily commercial and industrial land uses, mining pits, and a small amount of residential land use.
- Flood risk within the City of Irwindale is managed between the City of Irwindale Public Services Department, LACFCD, and USACE. In addition, the Public Works/Engineering Department has the sole responsibility of dedicating resources to stormwater management and is planning to perform a storm drain master plan study in 2022–2023 to identify deficiencies in the storm drain infrastructure.

## Community Feedback

- The City released a community survey to elicit input on topics related to environmental hazards to get a better understanding of how we can improve safety in the City of Irwindale. 12% of residents and 3% of employees cited flooding as a hazard of concern.





## Geologic and Seismic Hazards

### Introduction

Geologic hazards are those effects associated with earthquakes. An earthquake is the shaking of the ground caused by an abrupt shift of rock along a crack in the earth or a contact zone between tectonic plates.

Earthquakes represent a major concern for all cities in Southern California, including the City of Irwindale. The city is located in a seismically active region and is subject to the potential risks typically associated with earthquakes, such as ground shaking, landslides, and dam failure, among others. The effects of an earthquake may take many forms, depending on a number of factors, including distance from the epicenter, type of soil, groundwater, and forms and features of land surface or topography.

### Local Conditions

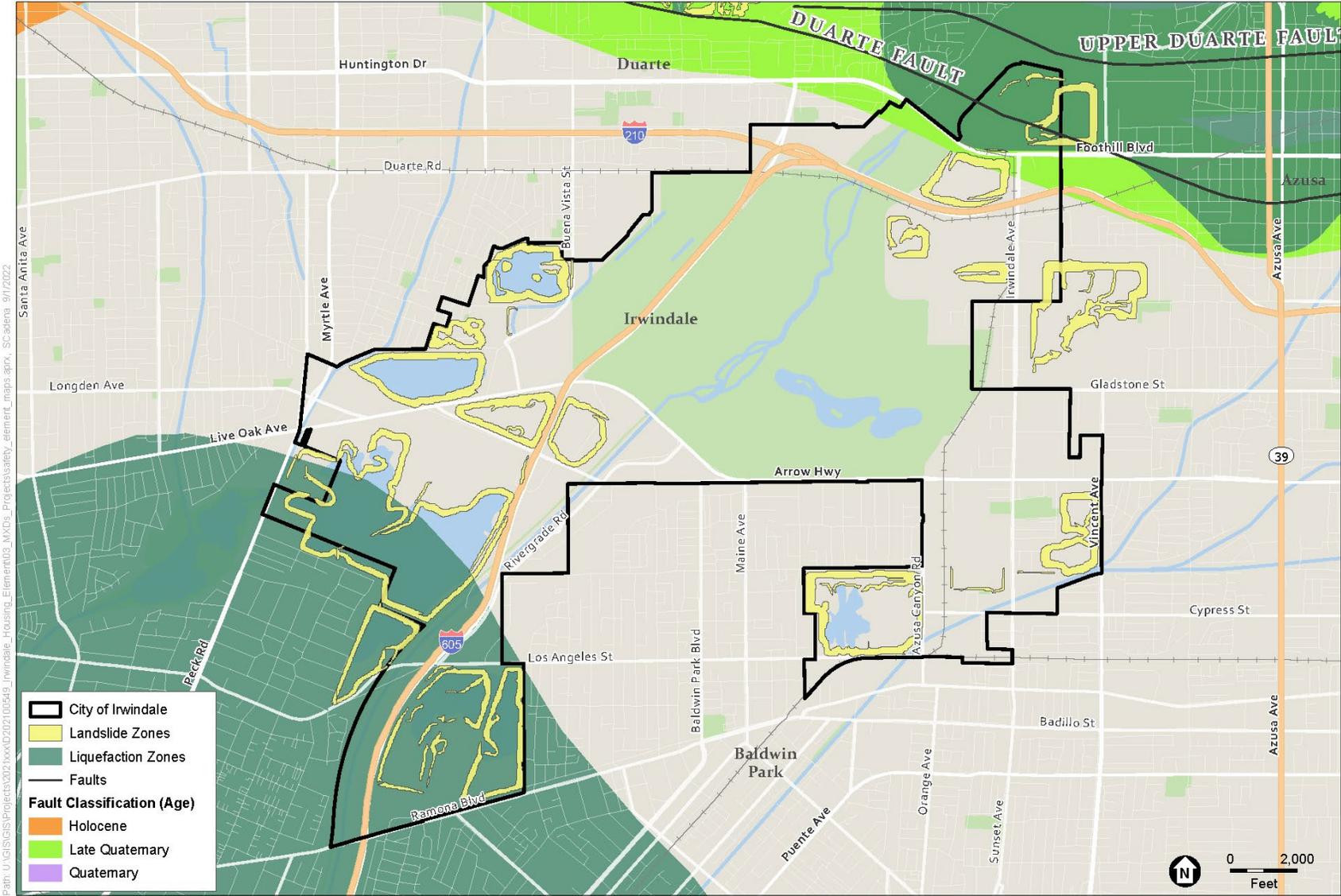
The primary geologic hazards for Irwindale are identified in this section. The city is at risk for surface rupture, ground shaking, landslides, and liquefaction. **Figure SAF-11** shows the fault, liquefaction, and landslide zones within the city. Major faults near the city include the Duarte and San Andreas Faults.

The Duarte Fault is located within the City of Irwindale and is a component of the larger Sierra Madre fault zone. The Sierra Madre fault is located approximately 2 miles north of the City of Irwindale along the southern foothills of the San Gabriel Mountains. The San Andreas Fault system, located approximately 31 miles north of the city, is more than 800 miles long.

### Surface Rupture

Fault rupture refers to the actual ground surface tearing apart as a result of an earthquake, which typically occurs along a fault trace line. A fault trace line is the line where the ground surface meets a fault, which is also the line commonly plotted on geologic maps to represent a fault.

**Figure SAF-12** shows fault zones proximate to the city. The closest faults include the Duarte Fault located within the northeast corner of the city, the Sierra Madre Fault approximately 2 miles to the north, and the Clamshell-Sawpit Fault 3 miles to the west. The Duarte Fault is a component of the larger Sierra Madre Fault zone. A buried segment of the active Duarte Fault is known to cross the southwestern corner of the Reliance I pit, continuing along Foothill Boulevard to the east. Major active faults near Irwindale that



SOURCE: CalGEM 2022; DOC 2022; ESRI 2022; ESA 2022

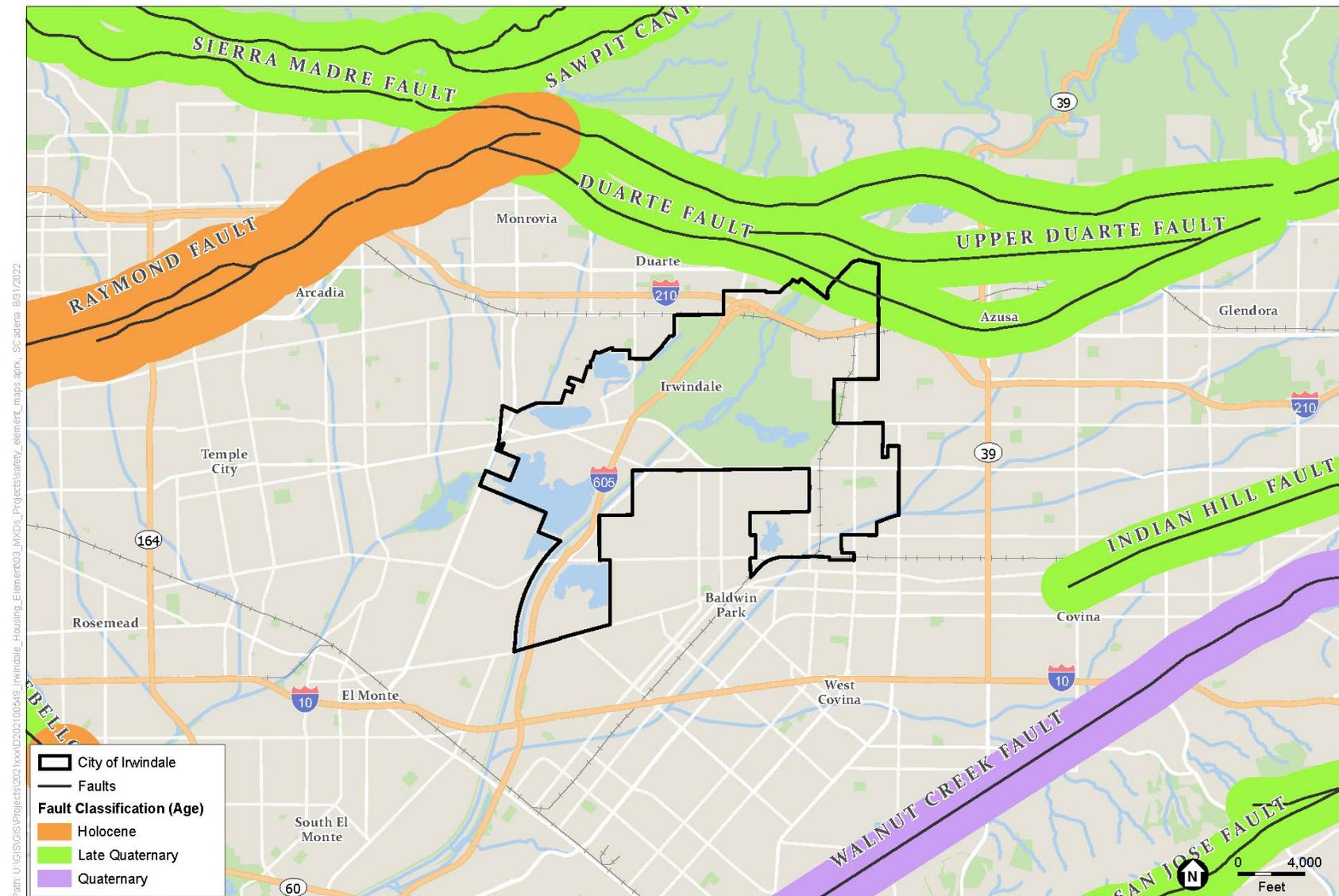
FIGURE SAF-11 Geologic and Seismic Hazards



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SAFETY ELEMENT

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SOURCE: DOC 2022; ESRI 2022; ESA 2022

FIGURE SAF-12 **Earthquake Faults**

pose a risk to the city's existing or future structures include Duarte; Sierra Madre; Clamshell-Sawpit; Northridge; Elysian Park Zone; San Andreas; Newport-Inglewood; Whittier-Elsinore; and Raymond Hill.

## Ground Shaking

Ground shaking causes the most damage (it is the primary cause of collapsed buildings) and has the potential for the greatest loss of life. Ground shaking can cause movement of soils and disruption of foundation leading to liquefaction and seismic settlement. Liquefaction is often responsible for damage to bridges, buildings, buried pipes, and underground storage tanks. Seismic settlement is when soil is compacted in response to ground shaking. The entire City of Irwindale is at risk for ground shaking during an earthquake with concentration surrounding existing mines and areas closest to active faults, which are located in the northeast and southwest corners of the city.

## Landslides

Areas with the potential for earthquake-induced landslides generally occur in areas of previous landslide movement, or where local topographic, geological, geotechnical, and subsurface water conditions indicate a potential for permanent ground displacements.

Areas considered to have potential for earthquake-induced landslides are shown in Figure SAF-11. The areas shown in the figure indicating the landslide potential zones within the city were compiled from the California Department of Conservation.

City areas at greatest risk for earthquake-induced landslides include the steep slopes typically found within the mining pits. The city is historically known for its mining activity. It currently has 17 mines and has had 19 recorded mines in its history. There are six active mines, and four pit mines have been reclaimed. Of the seven remaining mines, two are idle pits, one is under reclamation with potential plans for redevelopment, and the other four are and will remain inactive with no plans for future development.



## Liquefaction

Liquefaction generally occurs during significant earthquake activity, and structures located on soils such as silt or sand may experience significant damage during an earthquake due to the instability of structural foundations and the moving earth. Many communities in Southern California are built on ancient river bottoms and have sandy soil. In some cases, this ground may be subject to liquefaction, depending on the depth of the water table. Buildings and their occupants are at risk when the ground can no longer support these structures. The California Department of Conservation has evaluated liquefaction susceptibility for most of the City of Irwindale area. The southwestern corner of the city is identified as having a potential for liquefaction, as shown in Figure SAF-11 above.

## Local Vulnerabilities

Earthquakes are a considerable threat to life and property in the City of Irwindale. All people, property, and environments in the city would be exposed to direct and indirect impacts from earthquakes.

A moderate to severe seismic incident on any fault zone proximate to the city is expected to cause any of the following:

- Injury and loss of life

- Commercial and residential structural damage
- Disruption of and damage to public utilities and services
- Damage to transportation routes, resulting in loss of mobility
- Loss of communications
- Negative impact on commercial and residential property values
- Economic impact

According to the city's Local Hazard Mitigation Plan, the major form of direct damage from most earthquakes is damage to construction. Bridges are particularly vulnerable to collapse, and dam and water tank failure may generate major downstream flooding. Buildings vary in susceptibility, depending on construction and the types of soils on which they are built. Earthquakes can destroy power and telephone lines, as well as gas, sewer, and water mains, which in turn may set off fires and/or hinder firefighting or rescue efforts.

The *Emergency Support Function* concept was developed by FEMA in the late 1980s to address the potential management concerns that would be necessary to coordinate a federal response to a catastrophic earthquake in California.

### Emergency Support Function

In the event of an earthquake, extensive federal assistance may be required and may continue for an extended period. Efforts may be required to remove debris and clear roadways, demolish unsafe structures, assist in reestablishing public services and utilities, and provide continuing care and welfare for the affected population, including temporary housing for displaced persons.

Emergency medical care, food, and temporary shelter may be required for injured or displaced persons. Emergency operations could be seriously hampered by the loss of communications and damage to transportation routes within, and to and from, the disaster area as well as by the disruption of public utilities and services. The economic impact on the city from a major earthquake would be considerable in terms of loss of employment and loss of tax base. The loss of communications through power outages could seriously disrupt the operations of banks, insurance companies, and other elements of the financial community. In turn, this could affect the ability of local government, businesses, and the population to make payments and purchases.

## Local Initiatives

The City of Irwindale uses local programs such as the **CivicReady** service and the **Emergency Support Function (ESF)** to address earthquake hazards. CivicReady is used to deliver important and timely information, including emergency messages and alerts, at no cost to the community. The CivicReady service delivers trustworthy and important public safety and community event notifications directly from the Irwindale Police Department via internet, email, text messages, and voice calls. This service could be used as a warning system during an earthquake event. Seconds and minutes of advance warning can allow people and systems to take actions to protect life and property from destructive shaking. Even a few seconds of warning can enable protective actions such as:

- Citizens can drop, cover, and hold on; turn off stoves; safely stop vehicles.
- Business personnel can move to safe locations, automated systems ensure that elevator doors open, production lines are shut down, and sensitive equipment is placed in a safe mode.
- Medical, healthcare facilitators, dentists, and others can halt delicate procedures.



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- Emergency responders such as fire departments can open firehouse doors, and have personnel prepare immediate response.
- Power lines and electrical facilities can be protected from strong seismic shaking.

To address years of mining, the City has adopted regulations in accordance with the Surface Mining and Reclamation Act (SMARA) of 1975 that govern mining, remediation, and reclamation. These regulations, along with City adopted Reclamation Plans address the operational timeline of the 17 pits. These plans ensure proper handling of the slopes, mining depths, runoff, and environmental impacts and the filling and ultimate development of the site.

According to the city's Emergency Operations Plan (EOP), when a threat or potential threat is first detected, the city Emergency Operations Center (EOC) is activated to a level appropriate to the magnitude of the event. The City's response effort is then initiated through the City Emergency Organization, which comprises designated ESF Coordinators from tasked city departments, non-governmental organizations, and volunteer organizations. The City must be prepared to respond quickly and effectively on a 24-hour basis to developing emergency events, such as earthquakes. These ESF Coordinators are authorized to deploy the resources of their

respective department or organization to carry out response and recovery missions that are assigned in the EOP including keeping an activity log in the event of an earthquake in order to anticipate potential situation changes, such as severe aftershocks. In the event of an earthquake, ESF Coordinators will provide guidance regarding actions to be taken in preparation for aftershocks.

The City also encourages residents and businesses to be prepared for an earthquake or other natural or major disaster by providing education and awareness on the **Emergency Preparedness** webpage (<https://www.irwindaleca.gov/118/Emergency-Preparedness>). The City recommends that everyone be prepared to provide for their care and safety before and after an earthquake event through proper planning and preparedness. The Emergency Preparedness webpage includes a link to download an earthquake preparedness flyer from the Los Angeles County Fire Department (LACoFD) as well as links to local, state, and federal emergency preparedness

## Key Findings Related to Geologic and Seismic Hazards

- Ground shaking levels are higher on the northeastern and southwestern fringes of the city.
- A buried segment of the active Duarte fault is known to cross the southwestern corner of the Reliance I pit.
- Landslide risk is high around the unfilled mining pits located in the city.
- Liquefaction zones are located in the northeastern and southwestern corners of the city. Building and road foundations may lose strength and sink into what was previously solid ground.
- Outdated infrastructure and building damage could result in mold and lead exposure as a result of an earthquake event.
- Transportation problems, such as roadways blocked by debris, unsafe structures, and damaged routes.
- Employees working in the city could be stranded if transportation problems occur during an earthquake event.
- Earthquakes could trigger other natural hazard events, such as dam failures, which could severely impact the city considering the Santa Fe Dam.
- Hazardous materials can be released during an earthquake event, causing significant damage to the environment and people.

## Community Feedback

The City released a community survey to both residents and employees of Irwindale to obtain input on topics related to community hazards, pollution, hazardous materials, and air quality to get a better understanding of how the City can improve safety in Irwindale. There was no community input from the survey that related to geologic hazards. However, at a community workshop, residents expressed a concern for outdated housing and infrastructure, which would present a risk of exposing lead and/or mold during or after an earthquake event.



## Hazardous Materials

### Introduction

**Hazardous material** is generally defined as any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or future hazard to human health and safety or to the environment if released. Hazardous materials are found throughout any urban environment in businesses and homes. Industrial businesses use or process potentially hazardous materials and/or hazardous wastes, whereas homeowners often store hazardous materials, including used batteries, car oil, pesticides, cleaners, and paint, all of which are potentially hazardous.

The use of hazardous products in households, businesses, and construction activities is common. However, the amount, concentration, and/or types of these products are often not significant enough to pose a substantial risk to human health and safety or to the environment. As such, these are often referred to as household hazardous wastes, universal waste, and electronic waste.

### Local Conditions

There are 61 documented hazardous material sites listed within the city that are active or being remediated (SWRCB, EPA, DTSC 2023).

**Table SAF-4** identifies **registered hazardous waste generators** and handlers in the city. Most, if not all, hazardous sites in Irwindale have been closed and cleaned, and remaining sites include hazardous material storage that properly and safely store per government regulation.

**Figure SAF-13** identifies the approximate locations of the hazardous sites listed in Table SAF-4. These sites were identified by the U.S. Environmental Protection Agency (USEPA), California Department of Toxic Substances Control (DTSC), and the State Water Resources Control Board (SWRCB).

The USEPA prepared a **Toxic Release Inventory (TRI)**, which is a database that tracks the management of certain toxic chemicals that may pose a threat to human health and the environment. Certain industrial facilities in the U.S. must report annually how much of each chemical is recycled, combusted for energy recovery, treated for destruction, and disposed of or otherwise released on- and off-site. The USEPA TRI lists approximately 16 sites in the City of Irwindale.



*Hazardous waste facilities (courtesy of the County of Los Angeles Fire Department)*

A registered hazardous waste generator is any person, by site, whose act or process produces hazardous waste that is subject to regulation.

SOURCE: California Department of Toxic Substances Control

**What is a “registered hazardous waste generator”?**

TABLE SAF-4 Generators and/or Users of Hazardous Materials in Irwindale

FACILITY NAME	ADDRESS	FACILITY TYPE	DATABASE
Agritech Int. dba CleanTech Environmental Inc.	5820 Martin Rd	Hazardous Waste Facility	EnviroStor
All American Asphalt	13646 Live Oak Ln	Toxic Release Site	USEPA TRI
Allied Diagnostic Imaging Resources	16018 Adelante St	Toxic Release Site	USEPA TRI
Alpha II/Irwindale	2432–2536 Bateman Ave	Cleanup Site	EnviroStor
American Capacitor Corp	5367 Third St	Cleanup Site	GeoTracker
AP Propane	6226 Irwindale Ave	Cleanup Site	GeoTracker
ARCO #82167	16000 Foothill Blvd	Underground Storage Tank	GeoTracker
Arrow Field Service	1580 Arrow Highway	Underground Storage Tank	EnviroStor
Arrow Petrol Inc	15875 Arrow Hwy	Underground Storage Tank	GeoTracker
CalMart Irwindale Inert Landfill	4829 N. Irwindale Blvd	Land Disposal Site	GeoTracker
Cal Shake Inc	5355 North Vincent Ave	Toxic Release Site	GeoTracker
Calportland Co. Live Oak Plant	590 E Live Oak Ave	Toxic Release Site	USEPA TRI
CFS 123 Arrow Hwy	1200 Arrow Hwy	Underground Storage Tank	GeoTracker
CFS 126 Irwindale	600 E Live Oak Ave	Underground Storage Tank	EnviroStor
City of Irwindale	2455 Buena Vista St	Cleanup Site	GeoTracker
Durbin Landfill	13000 Los Angeles St	Hazardous Waste Facility	GeoTracker
Durham School Services LP	15636 Cypress St	Underground Storage Tank	GeoTracker
ES Housewares Inc	14808 Los Angeles St	Underground Storage Case	GeoTracker
Flood Maintenance Longden Yard	160 Longden Ave	Underground Storage Tank	GeoTracker
Gentry Brothers Inc	384 Live Oak Ave	Underground Storage Tank	GeoTracker
Harrison/Nickols Gravel Yard	5265 4th St	Underground Storage Tank	GeoTracker
Holcomb Trucking Facility Former	14808 Los Angeles St	Underground Storage Tank	GeoTracker



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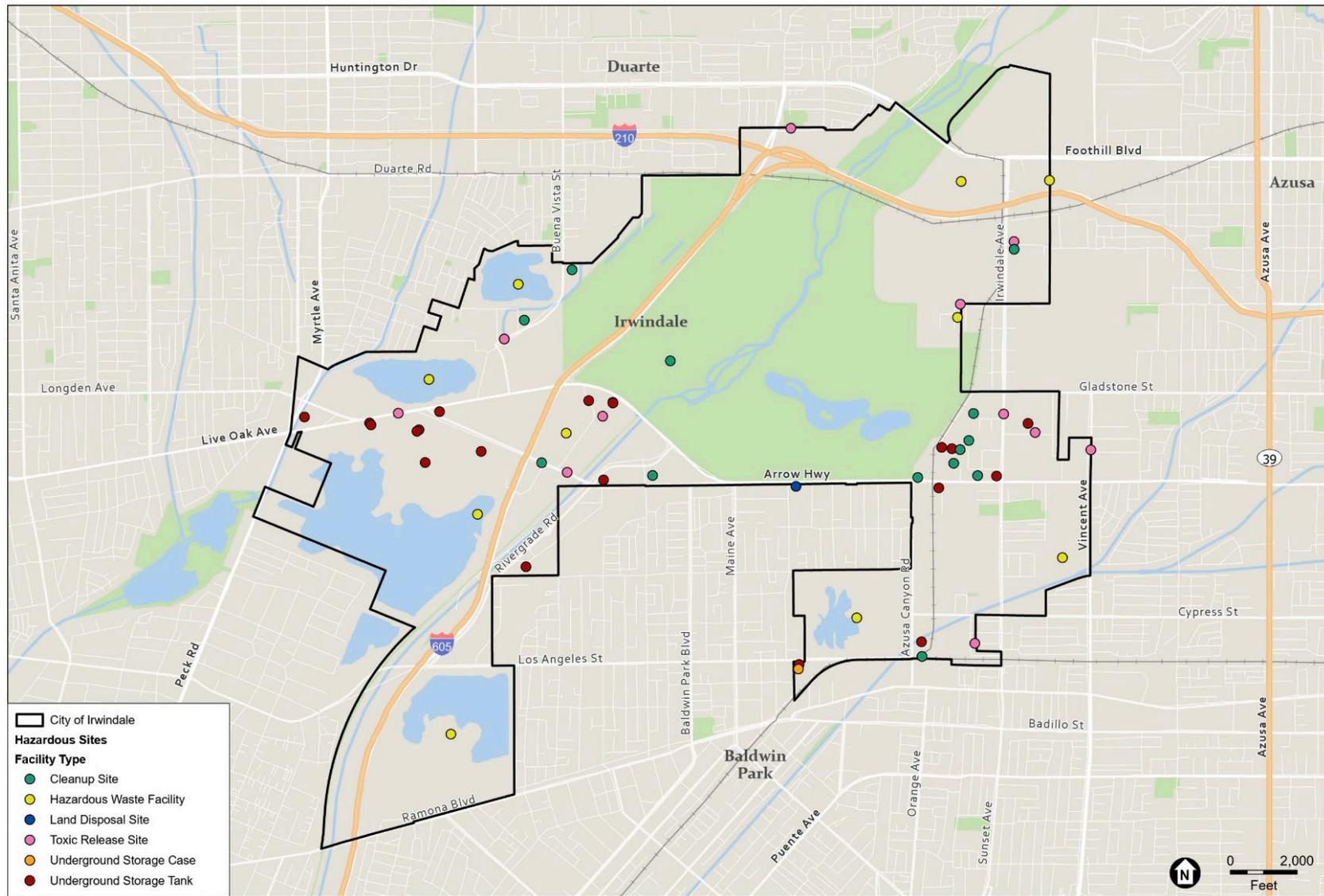
FACILITY NAME	ADDRESS	FACILITY TYPE	DATABASE
Irwindale-Brew Yard (IBY LLC)	15801 E First St	Toxic Release Site	USEPA TRI
Ioptex Inc	15715 Arrow Hwy	Cleanup Site	GeoTracker
Irwindale Plant 13	13631 Live Oak Ave	Toxic Release Site	USEPA TRI
Irwindale Quarry Inert Landfill	13550 Live Oak Ave	Hazardous Waste Facility	GeoTracker
Irwindale Service Station	600 Live Oak Ave	Underground Storage Tank	GeoTracker
Irwindale Outlet Partners LLC	500 Speedway Dr	Underground Storage Tank	GeoTracker
Jasco Wood Products	15519 Arrow Hwy	Cleanup Site	GeoTracker
Kline's Kustom Heating & Air Inc	2320 Central Ave	Toxic Release Site	EnviroStor
Koll Business	14041 Live Oak Ave	Cleanup Site	GeoTracker
Livingston-Graham Inc.	13550 Live Oak Ave	Cleanup Site	GeoTracker
Manning Brothers Landfill/Manning Pit Sediment Placement	16158 Central St	Hazardous Waste Facility	GeoTracker
Matheson Tri Gas	16125 Ornelas St	Toxic Release Site	GeoTracker
National Ready Mix Concrete Co.	2620 Buena Vista St	Toxic Release Site	USEPA TRI
North Kincaid Pit	6570 N Irwindale Ave	Hazardous Waste Facility	GeoTracker
Nu-Way Industries	400 Live Oak E	Underground Storage Tank	GeoTracker
Nu-Way Live Oak Reclamation Landfill	13623 Live Oak Ave	Hazardous Waste Facility	GeoTracker
Old Dominion Freightline	600 Live Oak	Underground Storage Tank	GeoTracker
Olive Pit Inert Landfill	4407 Azusa Canyon Rd	Hazardous Waste Facility	GeoTracker
Pepsi Beverages Co.	4416 Azusa Canyon Rd	Underground Storage Tank	GeoTracker
Powers Lumber Co.	4407 Azusa Canyon Rd	Cleanup Site	GeoTracker
Ready Pac Produce Inc	4401 Foxdale Ave	Toxic Release Site	GeoTracker
Refrigerant Exchange	5263 4th Street	Cleanup Site	GeoTracker
Reliance Pit No 2 Landfill	15990 Foothill	Hazardous Waste Facility	GeoTracker
Rivergrade Service Station LP	5200 Rivergrade Rd	Underground Storage Tank	GeoTracker

FACILITY NAME	ADDRESS	FACILITY TYPE	DATABASE
Robertson's Ready Mix	13631 Live Oak Ln and 13623 Live Oak Ln Ave	Underground Storage Tank	GeoTracker
San Gabriel Valley Corp Campus	4900 Rivergrade Rd #A-110	Underground Storage Tank	GeoTracker
San Gabriel Valley Corp Campus	4920 Rivergrade Rd	Underground Storage Tank	GeoTracker
Southwest Products/Irwindale	2240 Buena Vista St	Cleanup Site	EnviroStor
Spot Not Auto Wash and Gas	15612 E Arrow Hwy	Underground Storage Tank	GeoTracker
Spragues Rock and Sand Company	230 Longden Ave	Underground Storage Tank	GeoTracker
The Davis Wire Co	5555 Irwindale Ave	Cleanup Site	EnviroStor
TWR Technar Inc	5462 N Irwindale Ave	Toxic Release Site	EnviroStor
United Rock Products Pit No. 2 Landfill	1245 Arrow Hwy	Hazardous Waste Facility	GeoTracker
United Rock Products Pit No. 3	1137 Meridian Hwy	Hazardous Waste Facility	GeoTracker
Valley Clutch Co. Inc.	5396 Third St	Cleanup Site	GeoTracker

SOURCE: California Department of Toxic Substances Control (DTSC) EnviroStor 2024; Environmental Protection Agency (USEPA) Toxic Release Inventory (TRI) 2024; State Water Resources Control Board (SWRCB) GeoTracker 2024.



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SOURCE: DTSC 2023; USEPA 2023; SWRCB 2023; ESRI 2023; ESA 2024

FIGURE SAF-13 Hazardous Materials Sites

DTSC maintains the **EnviroStor** data management system, which provides information on hazardous waste facilities (both permitted and corrective action), as well as any available site cleanup information. **GeoTracker** is the SWRCB's internet-accessible database system used by the SWRCB, regional boards, and local agencies to track and archive compliance data from authorized or unauthorized discharges of waste to land, or unauthorized releases of hazardous substances from underground storage tanks (USTs).

Table SAF-4 identifies registered hazardous waste generators and handlers in the city. There is one permitted operational facility handling the proper disposal of hazardous waste in the city, CleanTech Environmental, and there are six hazardous waste generators. The six sites were identified in the USEPA TRI. They represent various industries producing nonmetallic minerals, beverages, and petroleum. Because these businesses use hazardous materials, they are required to obtain necessary permits from various public agencies.

## Local Vulnerabilities

Communities and neighborhoods near hazardous materials sites are the most vulnerable. All residential neighborhoods in the City of Irwindale that are located in or within the vicinity of industrial areas known to have potential hazardous material (including Irwindale Avenue, Arrow Highway, and Cypress Street) are physically vulnerable to a hazard caused by release of hazardous materials due to their proximity to hazardous materials sites. Public safety issues involve not only the use of these materials in populated areas but also the transportation and disposal of chemicals and other hazardous substances through the city. Two major freeways (the Foothill Freeway [I-210] and the San Gabriel River Freeway [I-605]), numerous railway lines, and the urban arterials that traverse the city carry traffic that is involved in the transport of hazardous materials. These transportation routes carry a variety of materials that could pose health risks to city residents in the event of an accident.

Additional potential secondary hazards of hazardous materials spills include the following, as identified in the 2014 Hazard Mitigation Plan:

- Fires and explosions
- Disruption of transportation systems
- Need for specialized emergency responders



- Destruction of utilities and other public services
- Damage to public infrastructure and facilities
- Residential displacement (including evacuations)
- Individuals trapped and injured in unsafe conditions
- Health issues related to discharges or releases
- Need for emergency food, shelter, and medical care
- Economic impacts, both short and long term
- Water pollution and quality degradation

## Local Initiatives

The City coordinates with LACoFD, who is the Certified Unified Program Agency (CUPA) for Irwindale (LACoFD 2022). LACoFD requires hazardous materials users and generators to store and handle hazardous materials in accordance with best management practices approved by the LACoFD Health Hazardous Materials Division, and to identify safety procedures for responding to accidental spills and emergencies. The LACoFD Health Hazardous Materials Division requires facilities and businesses to report hazardous materials that exceed the hazardous materials reporting thresholds outlined in its Hazardous Materials Reporting Matrix as well as the thresholds under state law, pursuant to the California Health and Safety Code. Hazardous materials that are non-compliant must be reported using the California Environmental Reporting System (CERS). CERS is a statewide web-based system that supports the electronic exchange of required Unified Program information among businesses, local governments, and USEPA. State law requires that specified changes or updates to a facility's reportable inventory be submitted in CERS within 30 days (HSC Section 25508.1). In addition, a facility is required to submit the hazardous materials inventory annually by the deadline set by the LACoFD Health Hazardous Materials

Division. Other county programs applicable to Irwindale include a UST program, an aboveground storage tank program, the Hazardous Materials Release Response Plans and Inventory Program, and the California Accidental Release Prevention Program.

The City also encourages residents to properly dispose of household hazardous waste through the support of Hazardous Materials Collections conducted at specific locations and times within the city. Common household hazardous waste includes batteries, paint, adhesives, drain openers, automotive products, grease and rust solvents, fluorescent lamps, mercury, televisions, computer monitors, and pool chemicals. Periodic household hazardous waste drop-off events are held throughout the year by Los Angeles County. The City keeps the community aware of these events through flyer announcement mail-outs and posts the events on its Household Hazardous & Electronic Waste webpage.

The City requires businesses that handle hazardous materials to obtain permits from various public agencies, including the city Building Division, LACoFD, LA County Department of Public Health, and South Coast Air Quality Management District.

City programs are used to help address water pollution by regulating potential discharges into

local water sources by local businesses, ensuring that they meet National Pollutant Discharge Elimination System requirements. This includes the preparation of a Stormwater Pollution Prevention Plan to prevent on-site contaminants being released into area storm drains.

In addition, due to mining operations, the City has staff trained in the Surface Mining and Reclamation Act to address hazardous materials releases created through mining operations to help ensure that potential hazards are mitigated at the source.

The City of Irwindale's Municipal Code (Code, or IMC) addresses a variety of hazards and related topics, including hazardous materials and waste and safety. The California Fire Code is adopted as Chapter 15.12 of the Code.

- Chapter 13.04 of the Code is the Sanitary Sewer and Industrial Waste Ordinance, which regulates the following:
  - Discharge, deposit, and disposal of all waste, including any material that may cause pollution of underground or surface waters, in, upon, or affecting the city.
  - The design, construction, alteration, use, and maintenance of public sewers and house laterals, industrial connection sewers, water pollution control plants, sewage pumping plants, industrial liquid-



waste pretreatment plants, dairy screen-chambers, sand and grease interceptors, and appurtenances.

- The issuance of permits and the collection of fees thereof, and fees to pay the cost of checking plans, inspecting the construction, and making record plans of the facilities permitted.
- Chapter 13.08 of the Code establishes regulations for underground utility districts. Any business operation requesting the use, sale, or storage of hazardous materials would also be subject to Conditional Use Permit per IMC Subsection 17.80.030(27).

With respect to the freeways and railroad, the City has less control over such activities due to the interstate nature of this traffic. Communication with state and federal regulatory agencies is critical to reduce the risk of accidents and ensure that response to transportation-related hazardous materials incidents is immediate and effective. The California Highway Patrol (CHP) regulates the transportation of hazardous materials in California. Vehicles and drivers involved in the transportation of hazardous materials must obtain a hazardous materials transportation license from the CHP (CHP 2022).

## Key Findings Related to Hazardous Materials

- All residential neighborhoods in the city that are located in or within the vicinity of industrial areas, including along Irwindale Avenue, Arrow Highway, and Cypress Street, are physically vulnerable to hazards caused by release of hazardous materials.
- Public safety issues involve the use, transportation, and disposal of chemicals and other hazardous substances within the city.
- CleanTech Environmental handles disposal of hazardous waste in the city.

## Community Feedback

The City released a community survey to both residents and employees of Irwindale to obtain input on topics related to community hazards, pollution, hazardous materials, and air quality to get a better understanding of how the City can improve safety in Irwindale. Overall, respondents indicated the following relating to hazardous materials with respect to safety in Irwindale:

- Hazardous materials were identified as a primary hazard of concern, following crime, poor air quality, pandemic, and drought. Within the community survey, approximately 18 percent of residents and 22 percent of employees selected hazardous materials as a primary hazard concern.
- “Accountability from the City regarding co-ownership of properties that are in danger of hazardous substances.”
- Approximately 19 percent of residents surveyed expressed concern with hazardous material and chemical waste dumping.





## Law Enforcement and Crime

### Introduction

The Irwindale Police Department is responsible for law enforcement, patrolling, traffic enforcement, emergency and disaster services, and regional coordination to address crime and safety in Irwindale. Established in November 1960, the Irwindale Police Department has grown from one police unit and five motorcycles to 38 staff across five bureaus:

- The **Administration Bureau** includes the police chief, captain, lieutenant, and public information officer, who manage the department's leadership activities.
- The **Communications Bureau** includes dispatchers and clerks, who are the first line of response to calls for service. Dispatchers and clerks monitor and maintain communication with law enforcement officers on duty, and support officers with information on criminal history, warrant, and vehicle record checks.
- The **Detective Bureau** conducts crime investigations, including those of theft and assault. Detective staff are trained in investigative and interview techniques and collaborate with county and federal task

forces on narcotic, automobile, and theft investigations.

- The **Records Bureau** maintains documentation of all police incidents, provides support for court documentations, and processes public records requests.
- The **Patrol Bureau** includes sergeants, corporals, and sworn police officers. With the largest number of staff, the Patrol Bureau is the most visible bureau within the Police Department and regularly conducts preventive patrols and responds to services and requests. The primary responsibilities of the Patrol Bureau staff are to protect life and property, conduct arrests, and provide law enforcement.

The Irwindale Police Department is located at the southeast area of the city at 5050 N. Irwindale Avenue and has a response time of up to 5 minutes for most areas within the city. Through a mutual aid contract with the Los Angeles County Sheriff's Department, the City of Irwindale receives special weapons team services as necessary as well as other specialized equipment and services to assist with law enforcement. The City also has contracts with the West Covina Police Department and Baldwin Park Police Department for jail facility services and the

Foothill Air Support Team, hosted by Pasadena Police Department, for air support services.

## Local Conditions

The Irwindale Police Department reports crime relating to five main offenses, which are violent crimes, property crimes, arson, burglary, larceny-theft, and motor vehicle theft. In Irwindale, property crime has the greatest number of reports followed by larceny-theft, while hate crime and arson have the least.

In 2020 there were 17 reports of violent crime, 182 of property crime, and no reported hate crimes.<sup>4</sup>

## VIOLENT CRIME

**Violent crimes** involve force or threat of force and include four main offences: homicide (murder and non-negligent manslaughter), rape, robbery, and aggravated assault (FBI 2021). **Figure SAF-14** provides a chart illustrating violent crimes reported in the City of Irwindale from 2010 to 2020. Red represents all violent crimes reported, while blue represents crimes that have been cleared or closed. Violent crime rates in the past 10 years have fluctuated, with peaks in 2011, 2015, and most recently in 2019 (FBI 2021). The year 2015 saw the highest number of crimes, with

<sup>4</sup> Crime numbers refer exclusively to reported crimes only, and do not account for unreported crimes or crimes that do not meet certain data collection guidelines by the FBI (FBI 2021).

27 reports submitted. Overall, a total of 210 violent crimes were reported within this time period, averaging to 19 reported crimes per year. Approximately 44 percent of violent crimes in this time period have been cleared.<sup>5</sup>

In 2020, the total 17 violent crimes were reported, including aggravated assault (12 reports), robbery (3 reports), and rape (2 reports). No homicides were reported in 2020.

The City of Irwindale has a relatively higher violent crime rate (18th percentile) than the statewide average (4th percentile), which means there are more violent crimes per person reported in Irwindale than the state average (FBI 2019).

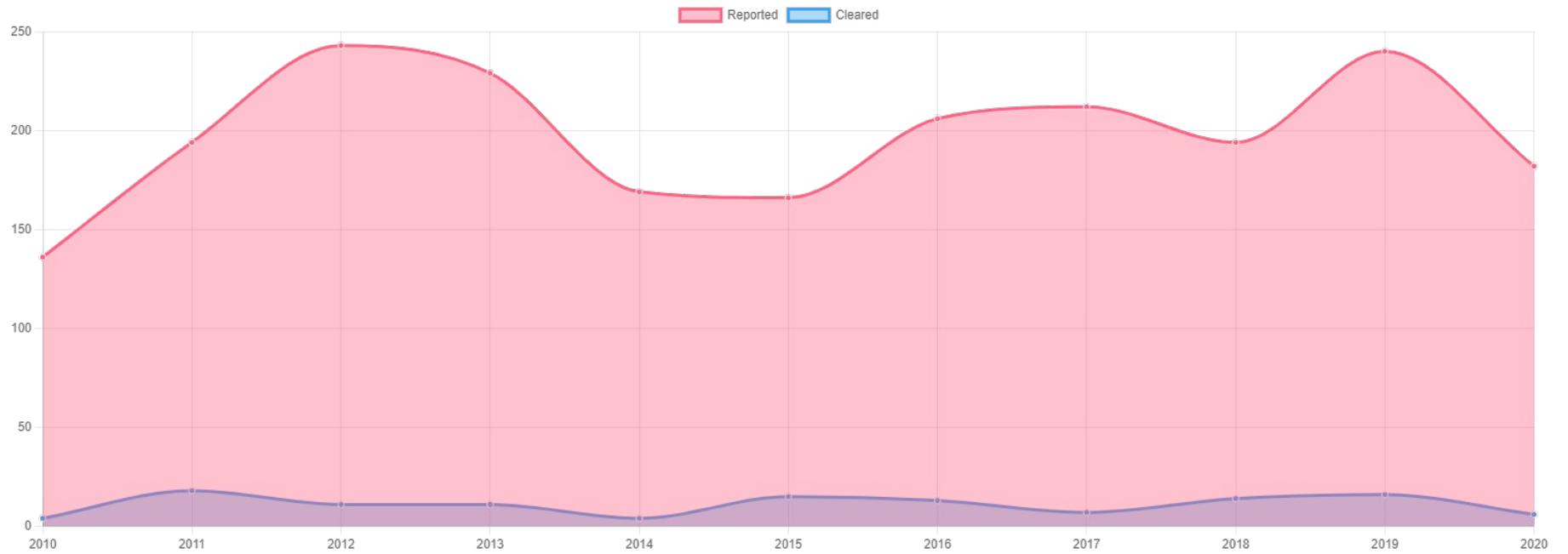
## PROPERTY CRIME

**Property crime** refers to arson, burglary, larceny-theft, and motor-vehicle theft. **Figure SAF-15** illustrates reports of property crimes from 2010 to 2020. In total, 2,171 property crimes were reported from 2010 to 2020, with an annual average of 197 reports per year (FBI 2021). Of these, 5 percent have been cleared. The highest number of property crime was reported in 2019, with 240 reports.

<sup>5</sup> Crimes may not be cleared in the year that they occur (FBI 2021).

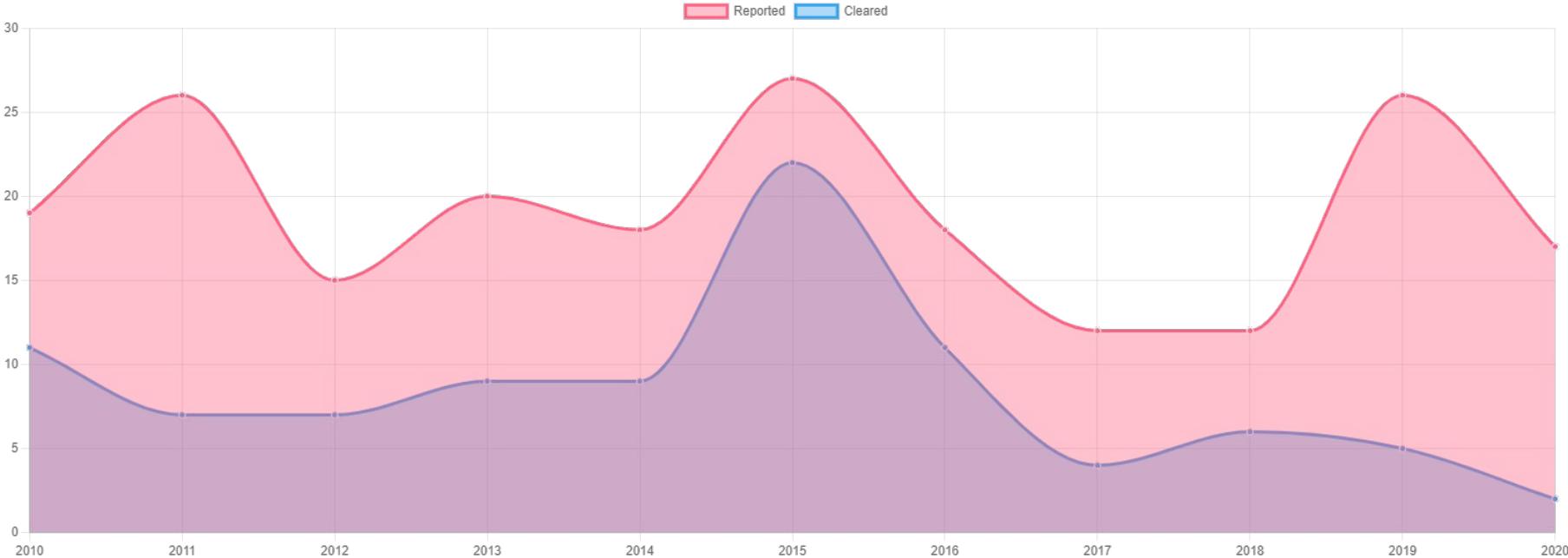


SECTION 2 EXISTING CONDITIONS



SOURCE: FBI 2021

FIGURE SAF-14 **Violent Crime Chart**



SOURCE: FBI 2021

FIGURE SAF-15 Property Crime Chart



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Property crimes in 2020 were greatest due to larceny-theft (104 reports), followed by burglary (52 reports), vehicle theft (26 reports), and arson (2 reports) (FBI 2021).

The city has a greater rate of property crime (16th percentile) compared to the state average (6th percentile) (FBI 2019).

## HATE CRIME

**Hate crimes** are criminal offenses committed that are motivated in whole or in part by bias against race or ethnicity, nationality, disability, gender or gender identity, religion, sexual orientation, or associations with person(s) having these actual or perceived characteristics (DOJ 2021). In 2021, there were a total of 1,763 hate crimes reported in California and 630 reported in Los Angeles County, one of which occurred in Irwindale (DOJ 2021). Factors that influence reporting numbers in communities include population density, cultural diversity, community policing, and law enforcement training for identification of hate crimes.

## Local Vulnerabilities

Neighborhoods with no or low crime contribute to healthier, safer, and more active communities. Vulnerable groups who experience and are targeted by more crime include persons of color and younger individuals, who are disproportionately impacted by violent crime. In 2020, the majority of homicide crime victims in California were Hispanic people (45.3%), followed by Black people (30.7%). Additionally, the majority of homicides occurred outdoors (38.7%) on a street or sidewalk (California DOJ 2021). Individuals affected by crime are more likely to experience post-traumatic stress and mental health impacts. Separately, physical structures and operations are also at risk of crime. The local police stations, dispatch centers, and emergency response facilities are critical facilities as they are involved in first response to crime situations.

Crime can cause secondary impacts on people, finances, and communities. Neighborhoods with higher levels of crime may have individuals less likely to spend time outdoors and use public/recreational amenities, including parks, playgrounds, and trails. High levels of reported crime can also impact real estate and economic development in cities.

## Local Initiatives

The Irwindale Police Department provides essential services relating to law enforcement, patrol, investigative services, and public safety dispatch and communications, as well as serving as a first responder to support emergencies, disaster response, evacuations, and movement and escorting of people and vehicles. The Police Department also manages the City's emergency operations, serving as the lead organization for prevention, mitigation, preparedness, protection, response, and recovery relating to disasters (City of Irwindale 2021a). As part of this responsibility, the Police Department manages emergency response and alerts, and is responsible for coordinating with local and state agencies for public alerts and warnings. *See the Emergency Preparedness section for additional information.*

The following programs and operations are also maintained by the Irwindale Police Department:

- Managing the City's CivicReady services for public alerts on emergencies, warnings, and events through email, text messages, phone calls, and online platforms.
- Managing the Safe Medication Disposal Program and providing substance abuse services.
- Voluntary reporting of Police Department crime data to the FBI for violent crime, property crime, arson, burglary, larceny-theft, and hate crimes.
- Coordinating with local, regional, and state entities for safety services through mutual aid agreements for law enforcement, crime response, and other emergencies and situations.
- Engaging community members through events, including National Night Out.

## Key Findings Related to Law Enforcement and Crime

- The Irwindale Police Department has existing agreements with the Los Angeles County Sheriff's Department, West Covina Police Department, Baldwin Park Police Department, and Pasadena Police Department for support services relating to law enforcement.
- The city has a relatively higher crime rate than the state average for violent crime and property crime.
- In 2020 the greatest reports of crime were property crimes with 182 reports, due primarily to larceny-theft (104 reports). Violent crime reports totaled 17, due primarily to aggravated assault (12 reports). There were no hate crimes reported in 2020.
- Approximately 44 percent of violent crimes reported from 2010 to 2020 have been

cleared, while only 5 percent of property crimes have been cleared.

- Populations vulnerable to crime include people of color, especially Hispanic and Black people, younger individuals, and individuals who spend more time outdoors.
- High crime areas can impact public spaces, social gathering, parks and recreation uses, active commuting and transportation, and public health. Real estate and businesses may also be impacted.
- The City regularly reviews law enforcement services and implements programs for increasing safety through its Neighborhood Watch.
- The Police Department shares information, warnings, and other alerts through its CivicReady public alert system, which provides updates and information to individuals through the internet, email, phone calls, and text messaging.
- The Police Department contracts with California Consulting to identify grant funding. As a result, the Police Department has received Office of Traffic Safety Grants for active transportation safety improvements.
- The Police Department conducts active shooter trainings for businesses and organizations in Irwindale.

## Community Feedback

A community survey of a sample of the population revealed crime to be in the top three hazards of concern for both residents and employees of Irwindale. Community members noted shootings, larceny and theft, and lack of law enforcement and surveillance as significant issues. Community engagement with Irwindale residents and employees revealed information on sense of safety and crime in the city:

- Approximately 82 percent of community engagement participants said they feel safe in the city.
- Irwindale residents identified crime as the greatest hazard of concern (59 percent), followed by poor air quality and pandemic. Employees identified crime as the third-greatest (36 percent) concern, following poor air quality and pandemic.
- Approximately 55 percent of residents and 24 percent of employees said they do not feel safe from crime when they are walking or biking.
- Employees want increased law enforcement, especially in industrial areas, and fast response times to help address crime and increase safety.
- Community members would like to see increased security and surveillance at

businesses and other private properties to help discourage break-ins.

- Community members would like to see safety measures implemented in public spaces to help reduce crime, including more security and law enforcement, faster response times, surveillance/monitoring, and street lighting, particularly in alleyways and along Arrow Highway.



## Wildfire

### Introduction

Wildfires are a natural part of the landscape across California. In Southern California, fire has a critical role in ecosystem function for fire-adapted habitat types. In recent years, the fire season in California has gotten worse with more frequent and destructive fires. Recent fires in Los Angeles County have highlighted the direct and indirect impacts that fires can have on public health, property, and infrastructure. In Los Angeles County, hot, dry summer and fall weather combined with Santa Ana Winds and low fuel moisture levels often create severe wildfire conditions across the county. These conditions, which can lead to dangerous wildfire conditions, are expected to worsen with climate change.

In California, local, state, tribal, and federal organizations all have legal and financial responsibility for wildfire protection. Within Irwindale, the Santa Fe Dam Recreational Area falls under Los Angeles Parks and Recreation Department and is serviced primarily by the LACoFD. The California Department of Forestry and Fire Protection (CAL FIRE) has adopted Fire Hazard Severity Zone (FHSZ) mapping throughout the state. These maps rate wildfire hazards as “moderate,” “high,” or “very high” based on fuel

loading, slope, fire weather, and other relevant factors.

### Local Conditions

The City of Irwindale is relatively flat and does not have steep slopes, other than slopes created by sand and gravel mining. The vegetation in the undeveloped areas of the city that are designated as Very High Fire Hazard Severity Zones (VHFHSZs) is primarily alluvial scrub, which is an assortment of drought-tolerant shrubs and large evergreen woody shrubs that are flammable. Alluvial areas in Irwindale have been highly disturbed by sand and gravel extraction and other activities. Land cover in other areas of the city includes industrial uses, areas disturbed by sand and gravel mining, commercial and residential areas, and parks and open space (City of Irwindale 2008). There are no significant fuel loads in the city outside of the areas designated as VHFHSZs, which are located to the north and northeast.

Because of its mostly urban setting, large wildfires within the City of Irwindale are limited; however, brush fires do occur in areas of open space within the city limits, such as the Santa Fe Dam Recreation Area. For example, a brush fire

ignited on June 15, 2021, and burned approximately 50 acres.

injuries and no structures were threatened or damaged in these fires (SGVCityWatch 2022).

Another brush fire was ignited on August 1, 2021, in the Santa Fe Dam Recreation Area burned approximately 26 acres. More recently, on May 11, 2022, a brush fire ignited at the Santa Fe Dam between the San Gabriel River Bike path and the San Gabriel River burned 2 acres. LACoFD responded quickly to these brush fires and no

Additionally, the city is approximately 1.5 miles from the base of the San Gabriel Mountains, which are located in a VHFHSZ and have a history of frequent wildfires as recorded by CAL FIRE (CAL FIRE 2021a). Recent larger wildfires in the nearby San Gabriel Mountains are listed in **Table SAF-5**.

TABLE SAF-5 **Wildfire Events near and in the City of Irwindale, 2000–2022**

DATE	EVENT NAME	SIZE (ACRES)	APPROXIMATE DISTANCE FROM IRWINDALE (MILES)
9/6/2020	Bobcat	115,796	2.2
8/13/2020	Ranch 2	4,119	1.8
7/30/2020	Dam	226	3.0
11/6/2020	San Dimas	131	12.0
6/20/2016	San Gabriel Complex (Fish Fire)	4,246	4.2
6/20/2016	San Gabriel Complex – Reservoir Fire	1,147	0.8
1/15/2014	Colby	1,952	1.6
9/2/2012	Williams	4,192	9.4
8/26/2009	Station Fire	160,833	7.2
8/25/2009	Morris	2,237	4.4
10/21/2003	Grand Prix	50,618	14.0
9/22/2002	Williams	38,199	3.1

SOURCE: CAL FIRE (2021a)



## Local Vulnerabilities

Land use within the City of Irwindale is primarily urban; therefore, the majority of fire risk in the city is anticipated to be the risk of structure fires within the city. However, within the city boundary, there are large areas of open space that are susceptible to brush fires, particularly around the Santa Fe Dam.

As shown in **Figure SAF-16**, within the city boundary, approximately 2 square miles, or 1,321 acres, of land are designated by CAL FIRE as a VHFHSZ. This includes areas of open space east of I-605 and south of the I-210 freeways around the Santa Fe Dam Recreation Area and adjacent quarry (see Figure SAF-16).

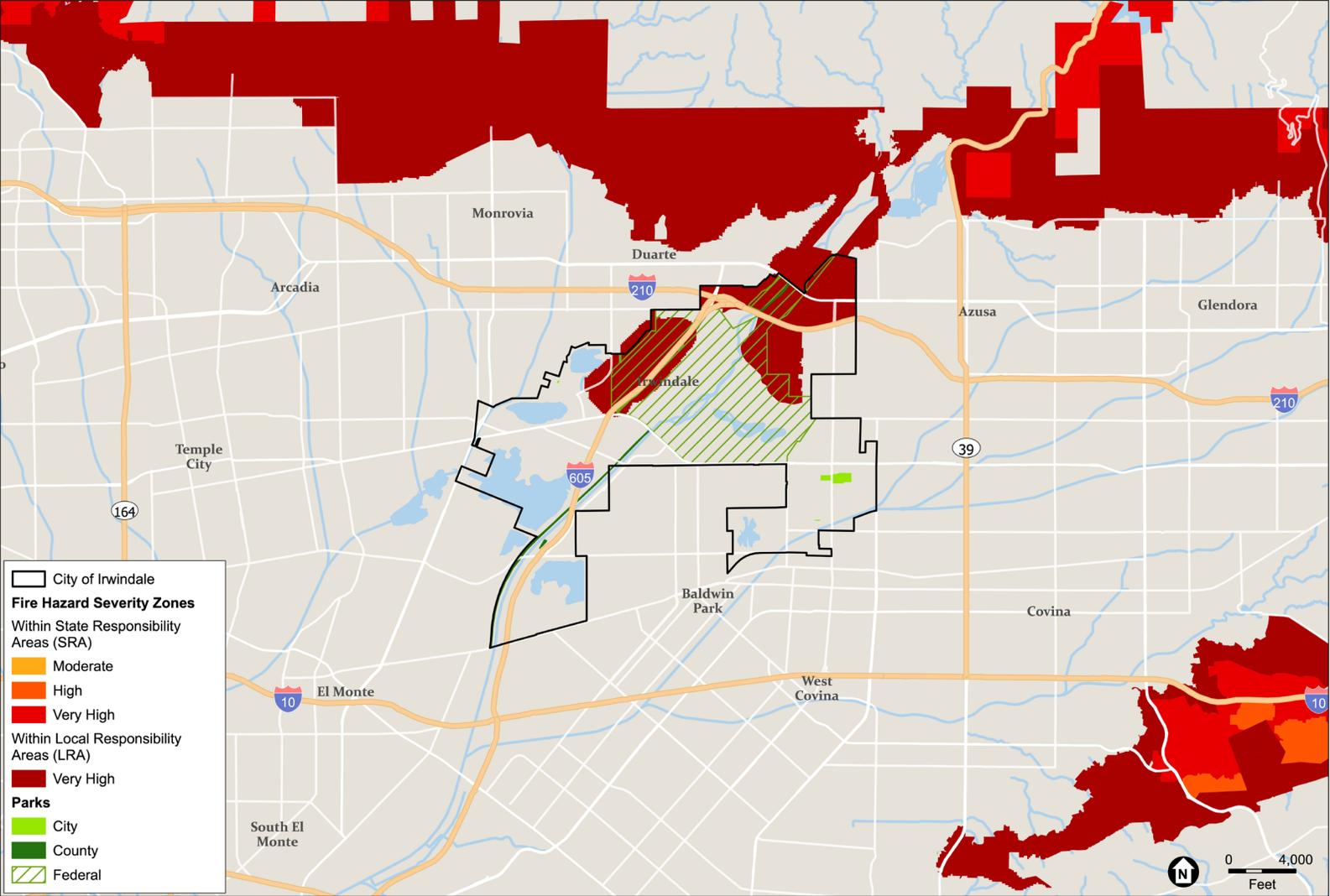
Individuals who live or work near the areas of the city designated as a VHFHSZ are the most vulnerable to the direct health and property loss impacts from wildfires. These areas include business areas east of Buena Vista Street and south of Village Road on the City of Hope Campus, residential areas east of Mountain Avenue between Meridian Street and Schrode Avenue on the western edge of the city, businesses north and northeast of the Santa Fe Dam, and business areas along and north of the I-210 freeway on the eastern edge of the city.

## VULNERABLE DEVELOPMENT, CRITICAL FACILITIES, AND INFRASTRUCTURE

As defined in the state's Office of Planning and Research Guidelines, critical facilities include "facilities that either (1) provide emergency services or (2) house or serve many people who would be injured or killed in case of disaster damage to the facility." Examples include hospitals, fire stations, police or emergency service facilities, utilities, or communications facilities.

The following critical facilities and infrastructure are located in VHFHSZs in the City of Irwindale (**Figure SAF-17**):

- Two electrical substations near the western edge of the city
- An electrical transmission line that runs from the northeast corner of the city to the southwest corner of the city
- An urgent care clinic in the northeastern corner of the city
- The I-210 freeway and the I-605 freeway, which are critical transportation and access routes for the City of Irwindale



SOURCE: CAL FIRE 2022; ESRI 2022; ESA 2022

FIGURE SAF-16 Fire Hazard Severity Zones



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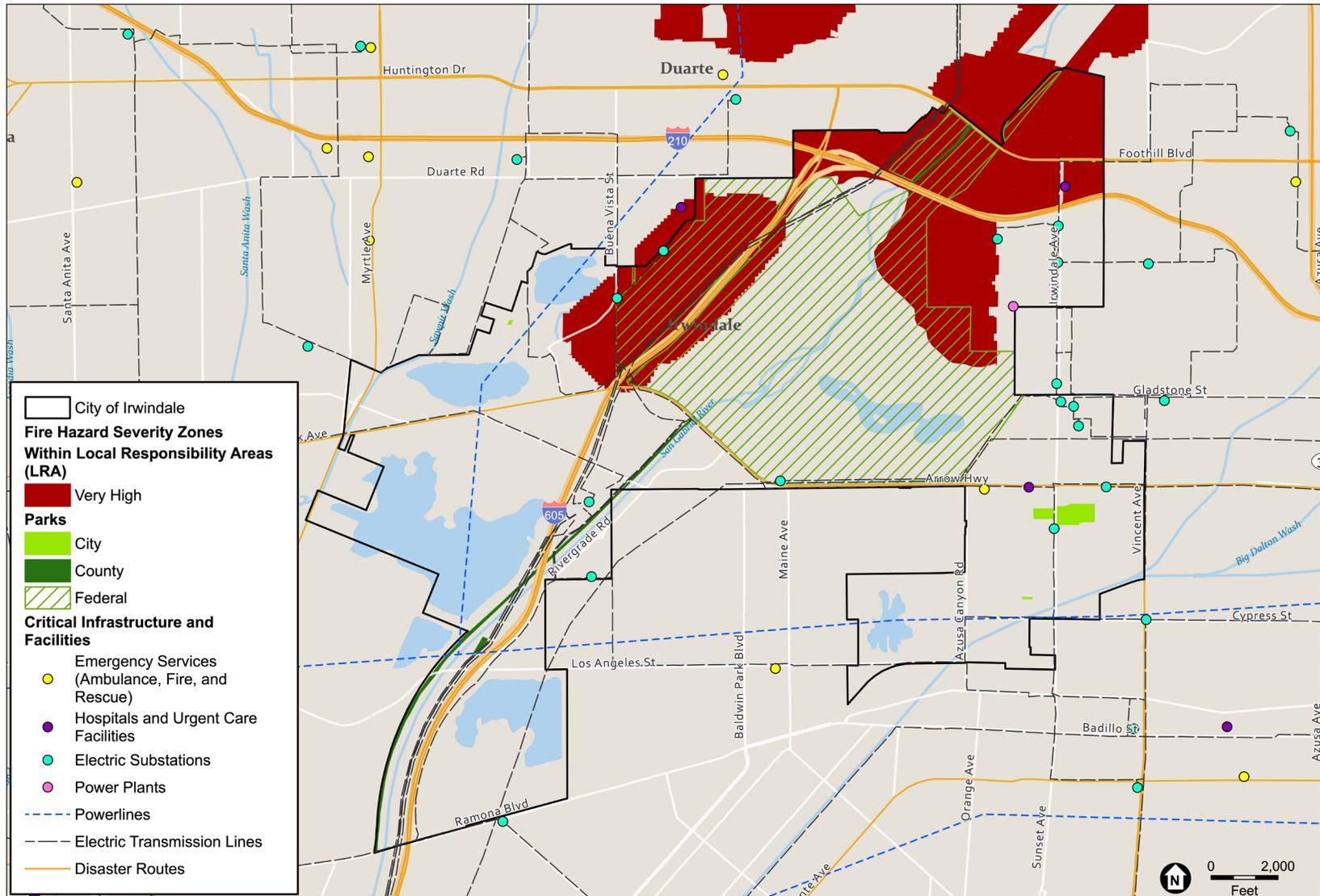
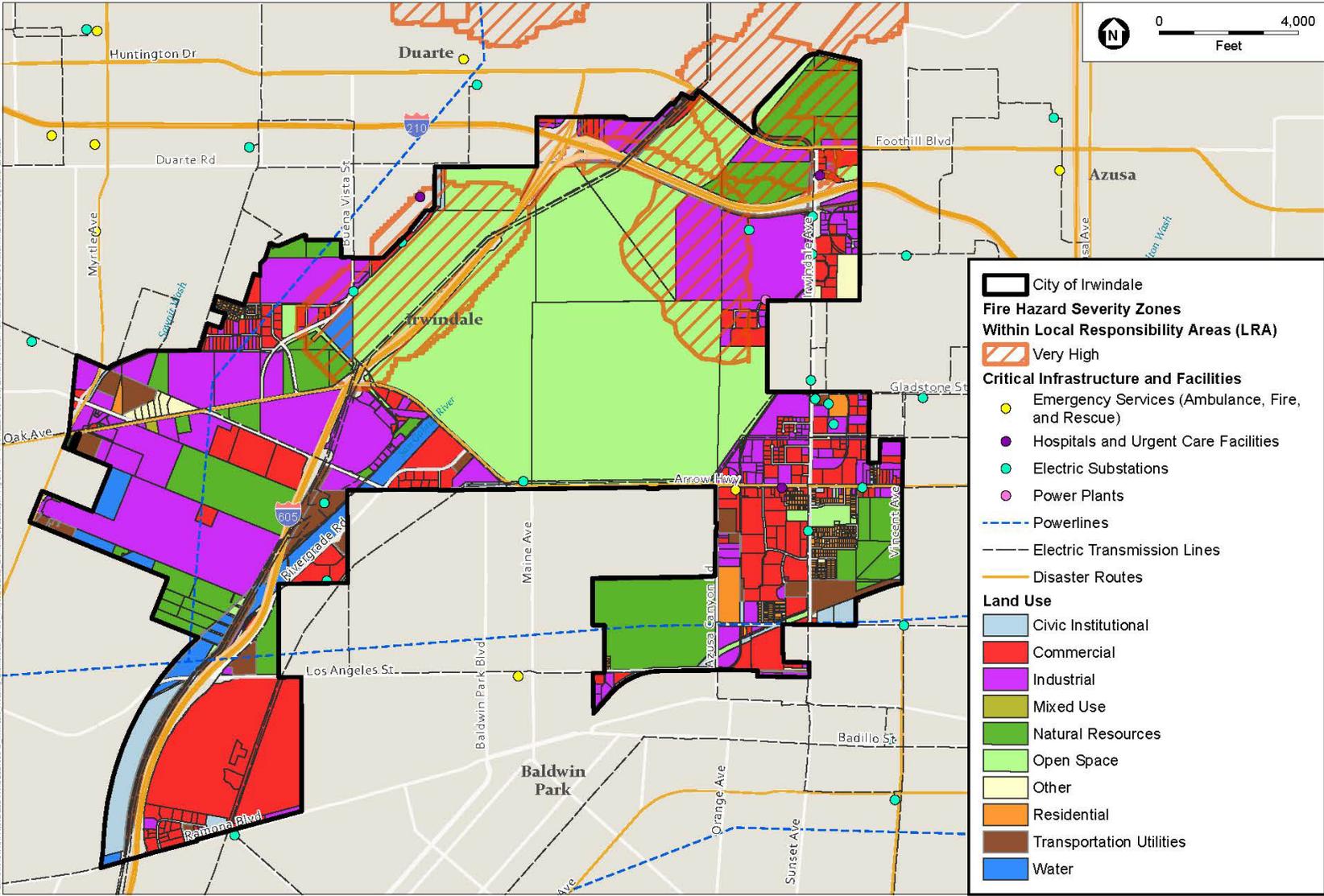


FIGURE SAF-17 Fire Hazard Severity Zones, Critical Infrastructure



SOURCE: CAL FIRE 2022; CEC 2022; DHS 2022; LA County DPW 2022; USEPA 2022; USGS 2022; ESRI 2022; ESA 2022

FIGURE SAF-18 Fire Hazard Severity Zones, Critical Infrastructure, and Land Uses



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## Emergency Access

Senate Bill (SB) 99 requires that the Safety Element include information to identify residential developments in hazard areas that have fewer than two emergency evacuation routes (CLI 2019). In essence, this legislation assists in identifying neighborhoods and households within a hazard area that have limited accessibility. Even though this legislative requirement applies specifically to designated hazard areas, this evacuation assessment has identified all residential developments in the city, including those that are not in a designated hazard area, that have only one emergency evacuation route. This is intended to assist the City with identifying opportunities to improve connectivity and evacuation capacity generally.

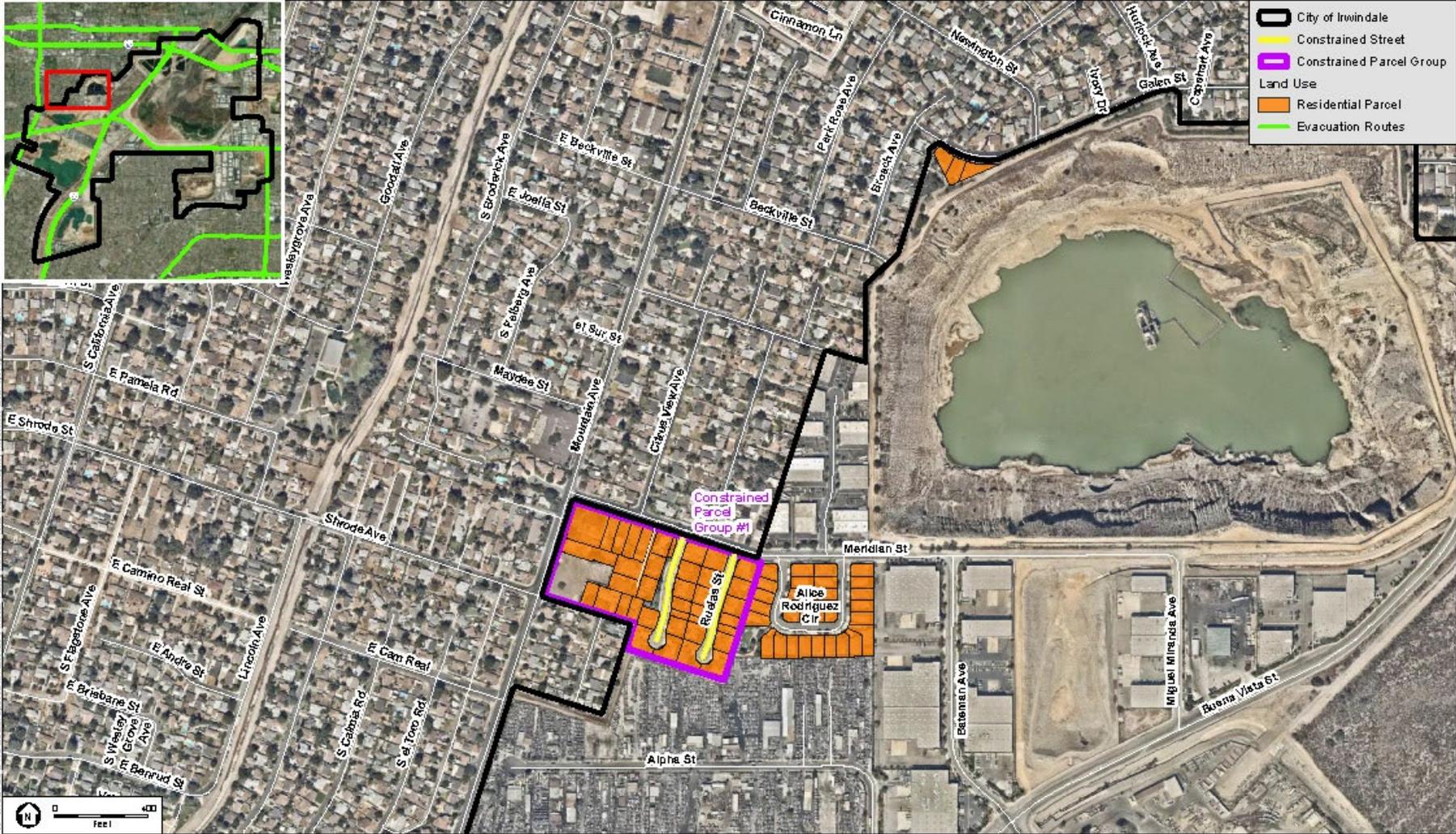
There are two residential areas highlighted in **Figure SAF-19** and **Figure SAF-20** that have fewer than two points of access to designated emergency evacuation routes. These include the neighborhood located east of Mountain Avenue and south of Meridian Street; and the neighborhood located on the eastern side of the city, including homes on Progress Lane, west of Allen Street. Emergency access routes adopted by the City are designated by Los Angeles County and also shown in Figure SAF-19 and

Figure SAF-20 (see also **Figure SAF-21** in the *Emergency Preparedness* section below).

This Safety Element includes policies to improve emergency evacuation procedures throughout the city, including in the most vulnerable areas. Assembly Bill 747, which went into effect on January 1, 2022, requires cities to evaluate route capacity, safety, and viability under a range of emergency scenarios. This requirement will be addressed in the Hazard Mitigation Plan update.

## Local Initiatives

The city does not have its own fire department; therefore, it relies on fire protection services from LACoFD. Fire protection is provided by the LACoFD fire station located within the city on Arrow Highway. The fire station has 16 full-time firefighters and equipment. The city does have an emergency alert system, **CivicReady**, that could be used to alert residences of fire and smoke risk. Depending on the capacity of the LACoFD, if there are multiple fires or emergencies to respond to within an area, it may reduce the Fire Department's ability to provide fire protection services to the City of Irwindale.



SOURCE: ESA 2023

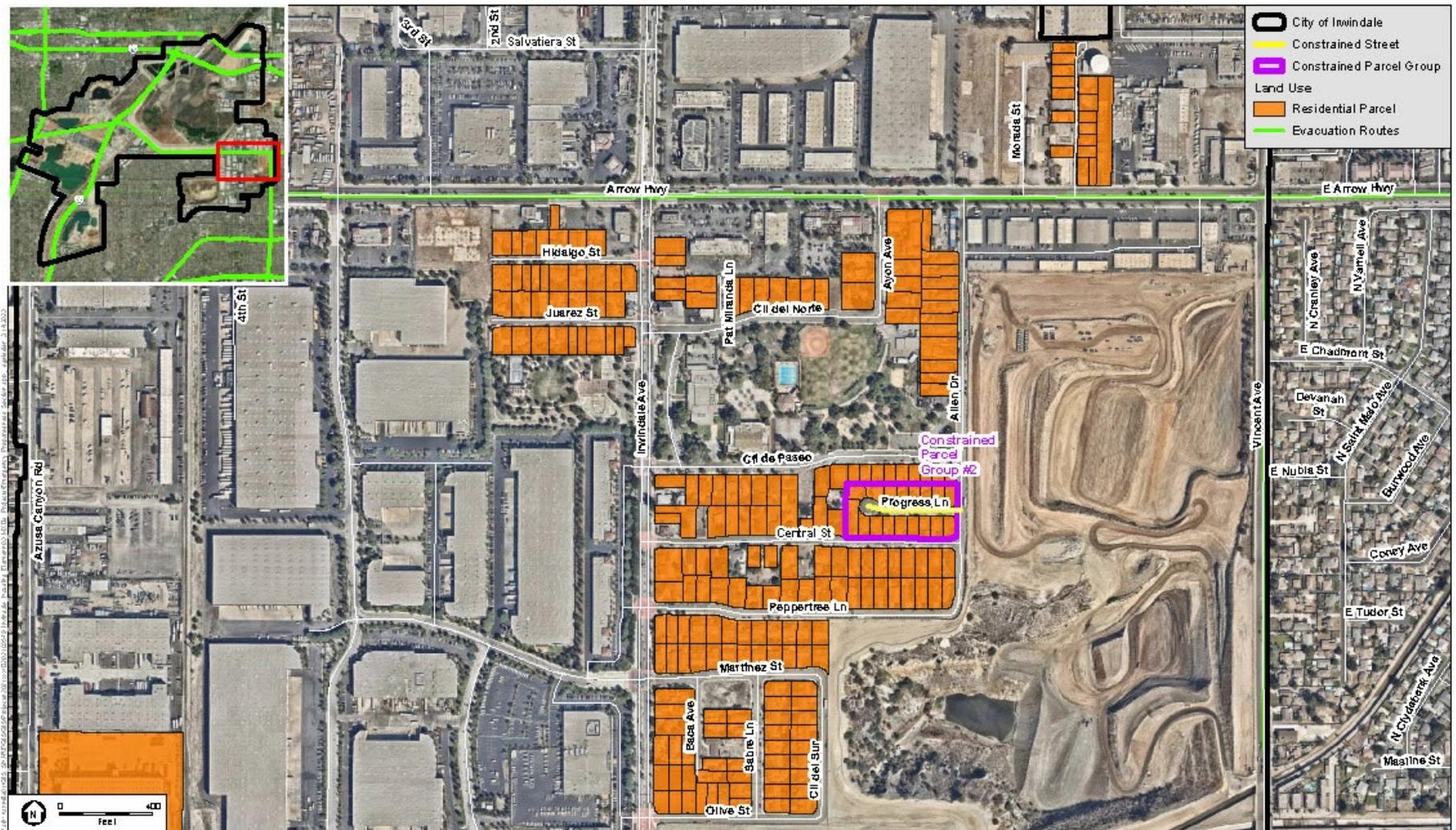
FIGURE SAF-19 Constrained Parcel Groups and Street



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SAFETY ELEMENT

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SOURCE: ESA 2023

FIGURE SAF-20 Constrained Parcel Groups and Street

With regard to reducing fire risk in the areas of the city that are designated as VHFHSZs, LACoFD works with a local task force to address the issue of hillside brush fires through vegetation removal to reduce fire hazard in the San Gabriel River Basin. In addition, the City ensures that new plant and landscape plans are reviewed by contracted landscape architects, which includes checking plant types for suitability and flammability.

The frequency and severity of wildfire will likely increase with climate change. California's Fourth Climate Change Assessment Los Angeles Regional Report stated that climate projections indicated a 60 percent increase in area burned as a result of Santa Ana driven wildfire events, and a 75 percent increase in non-Santa Ana driven events in the Los Angeles Region by the mid-21st century (California Governor's OPR 2022). In the nearby San Gabriel Mountains, climate change could increase the number of burned acres by 40 to 50 percent by mid-century (Cal-Adapt 2021). The City of Irwindale will continue to experience the impacts of fires within the areas of the city that are designated as VHFHSZs, as well as the potential for structure fires. The city is also at risk of potential fires in the San Gabriel Mountains to spread to Irwindale and to create far-reaching smoke impacts. The increase of wildfire with climate change may test the capacity of local and regional fire protection services.

## Key Findings Related to Wildfire

- Areas designated by CAL FIRE as VHFHSZs are located to the north and northeast of the city, primarily around the Santa Fe Dam.
- Vegetation in the areas of the city that are designated as VHFHSZs are primarily alluvial scrub, which is an assortment of drought-tolerant shrubs and large evergreen woody shrubs that are flammable.
- Irwindale is located approximately 1.5 miles from the base of the San Gabriel Mountains, which are located in a VHFHSZ and have a history of frequent wildland fires.
- There are large areas of open space that are susceptible to brush fires, particularly around the Santa Fe Dam.
- Individuals who live or work near the areas of the city designated as a VHFHSZ are the most vulnerable to the direct health and property loss impacts from wildfires, including business areas east of Buena Vista Street and south of Village Road on the City of Hope Campus, residential areas east of Mountain Avenue between Meridian Street and Schrode Avenue on the western edge of the city, businesses north and northeast of the Santa Fe Dam, and business areas along and north of the I-210 freeway on the eastern edge of the city.

- There are critical facilities and infrastructure located in VHFHSZs.
- The neighborhood located on the western side of Galen Street; the neighborhood east of Mountain Avenue, south of Meridian Street; and the neighborhood located on the eastern part of Park Avenue, north of Los Angeles street, have fewer than two points of access to designated emergency evacuation routes.
- Due to climate change, Irwindale will continue to experience the impacts of fires within areas that are designated as VHFHSZs.
- The increase of wildfire with the progression of climate change may test the capacity of local and regional fire protection services.

## Community Feedback

The City released a community survey to residents and employees of Irwindale to obtain input on topics related to community hazards, pollution, hazardous materials, and air quality to get a better understanding of how the City can improve safety in Irwindale.

Overall, respondents indicated the following relating to wildfire with respect to safety in Irwindale:

- Approximately 18 percent of residents and 14 percent of employees selected fire as a primary hazard concern.
- There was an overall concern with wildfire impacts expressed by the community.



## Emergency Preparedness

### Introduction

Emergency preparation is key to the safety of a community in the event of a disaster. Emergency situations can arise from natural disasters such as earthquakes, floods, and fires, or human-caused events like hazardous materials spills, security incidents, or train accidents. All of the hazards that are identified in this General Plan Element have the ability to affect the greater Irwindale community at varying intensities and would require consistent collaboration across city departments and private organizations to effectively address. This section identifies and describes the systems, organizations, policies, and programs that the City of Irwindale has in place to respond to hazards and ensure the preparedness, safety, and well-being of its residents.

### City Capacity to Respond to Emergencies and Build Resilience

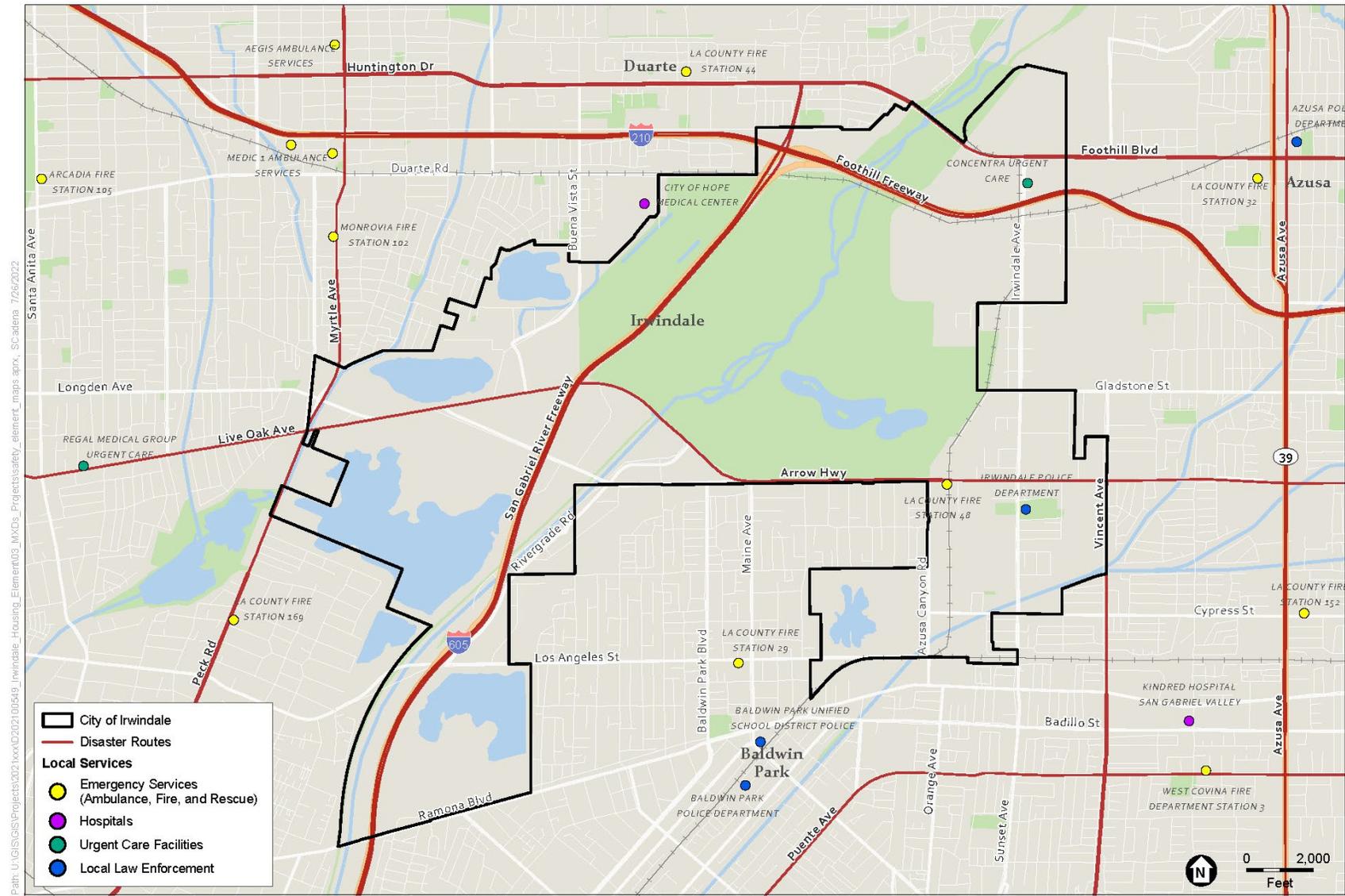
#### LAW ENFORCEMENT AND CRIME PREVENTION SERVICES

Law enforcement and crime prevention services in Irwindale are provided by the City of Irwindale

Police Department. The Irwindale Police Department has a staff of 38 employees and is divided into five distinct bureaus, each of which has its own role within Irwindale Police operations—the Administration Bureau, the Patrol Bureau, the Detective Bureau, the Communications Bureau, and the Records Bureau. The sole police station in Irwindale is within Irwindale City Hall at 5050 N Irwindale Avenue, as shown in **Figure SAF-21**. Police personnel provide several programs and services focused on crime prevention, including Neighborhood Watch, Substance Medication Disposal, and Air Support. The Irwindale Police Department also uses the **CivicReady** system to issue urgent notifications, critical information, emergency instructions, public safety warnings, and other communications to subscribed users via email, text message, and voicemail.

For more detailed information on law enforcement services and crime in Irwindale, refer to the *Law Enforcement and Crime* section above.

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SOURCE: HIFLD 2022; LA County 2022; ESRI 2022; ESA 2022

FIGURE SAF-21 **Emergency Preparedness**

## FIRE PROTECTION

To provide a high level of cost-effective fire protection and prevention services to residents and the business community, the City contracts with LACoFD. In addition to emergency operation services such as firefighting, urban search and rescue, hazardous materials response, and homeland security, LACoFD conducts wildfire prevention activities and administers special programs to make communities more resilient to the effects of wildfire.

LACoFD operates Station 48, located at 15546 E Arrow Highway in Irwindale; see Figure SAF-21. The Station serves not only the City of Irwindale, but also the cities of Azusa, Baldwin Park, Covina, and Duarte.

## HOSPITALS

Two major hospital complexes serve the City of Irwindale, Kaiser Permanente and Citrus Valley Health Partners. In addition, there are three industrial medical clinics in the city, Trans-Valley Medical Clinic, Foothill Medical Clinic, and Irwindale Industrial Medical Clinic. The City of Hope medical complex and hospital is located in nearby Duarte and also serves Irwindale residents.

## Emergency Access

Wildfires can isolate areas of the city and create severe health and safety risks. Senate Bill (SB) 99, adopted August 2020, requires identification of neighborhoods that have fewer than two emergency evacuation routes (CLI 2019). The Wildfire subsection of the Safety Element provides information regarding fire risk in the community and analysis of emergency evacuation routes, pursuant to SB 99.

## EMERGENCY SHELTERS

According to the Los Angeles County Office of Emergency Management, an evacuation shelter may be set up by the Red Cross at the request of the County if an area must be evacuated for an extended amount of time. In general, however, the location for an evacuation shelter will be announced by local officials once a safety assessment is complete and the shelter is ready to accept those affected by the evacuation. Currently, the City of Irwindale does not have any emergency shelters designated within the city in the event of a natural disaster or emergency.

## Additional City Safety Services

### AIR SUPPORT

The Foothill Air Support Team, otherwise known as FAST, is a partnership between the cities of Alhambra, Arcadia, Covina, Glendora, Irwindale, Monrovia, Pasadena, Pomona, San Marino, Sierra Madre, and South Pasadena.

FAST helicopter crews monitor police radio calls within the FAST cities, and they respond on calls where an airborne response would prove beneficial to officers on the ground. Once overhead, the air crew provides an aerial platform for ground operations.

### CIVICREADY

Public safety organizations in Irwindale, such as the Irwindale Police Department, use the **CivicReady** service to deliver important and timely information at no cost to the community.

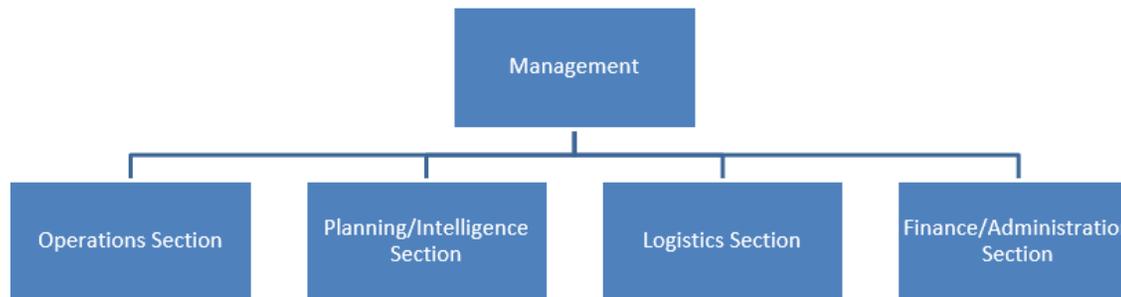
## EMERGENCY OPERATIONS CENTER

According to the city's Emergency Operations Plan, when a threat or potential threat is first detected, the city's Emergency Operations Center (EOC) is activated to a level appropriate to the magnitude of the event. The Irwindale EOC is organized in accordance with the California Standardized Emergency Management System (SEMS) and has five standard functions, as detailed in the chart below.

The City's response effort is then initiated through the City Emergency Organization, which comprises designated Emergency Support Function (ESF) Coordinators from tasked city departments, non-governmental organizations, and volunteer organizations.

*CivicReady* is an alert notification system used by the City to issue urgent notifications, critical information, emergency instructions, public safety warnings, and other communications to subscribed users via email, text message, and voicemail. Non-English speakers have the option of automatically translating messages into one of over 100 languages.

### CivicReady



## EMERGENCY PREPAREDNESS RESOURCES

The City also encourages residents and businesses to be prepared for natural or major disasters by providing education and awareness on the city's Emergency Preparedness webpage (<https://www.irwindaleca.gov/118/Emergency-Preparedness>). The City recommends that everyone be prepared to provide for their care and safety before and after a hazard or emergency event through proper planning and preparedness. The city's Emergency Preparedness webpage includes information related to different types of hazards, such as an earthquake preparedness flyer from LACoFD, as well as links and resources to other local, state, and federal agency emergency preparedness guides.

## MUTUAL AID AGREEMENTS

The City currently maintains inter-agency cooperation agreements for police and fire services with the cities of Arcadia, Azusa, Baldwin Park, Bradbury, Claremont, Covina, Diamond Bar, Duarte, El Monte, Glendora, Industry, La Puente, La Verne, Monrovia, Pomona, Rosemead, San Dimas, Sierra Madre, South El Monte, Temple City, Walnut and West Covina.

## HAZARD MITIGATION PLAN

In 2014, the City adopted the Hazard Mitigation Plan, developed in accordance with the Disaster Mitigation Act of 2000 (DMA 2000) and guidance from FEMA's Local Hazard Mitigation Plan. The Hazard Mitigation Plan identifies hazards, potential losses, mitigation needs, goals, and strategies for the Mitigation Planning process. In addition to profiling hazards in the city, the Plan offers an inventory of critical assets, assesses risks, and provides a vulnerability analysis. Implementing the mitigation strategies outlined in the plan, which include short- and long-term strategies, involves planning, policy changes, programs, projects, and other activities. Many of these mitigation measures have been incorporated into the goals and policies of this Safety Element.

## Key Findings Related to Emergency Preparedness

- Irwindale has a robust emergency management system in place.
- Irwindale engages in partnerships with neighboring communities and county agencies to collaboratively reduce exposure to hazards and ensure effective response and quick recovery following an incident.



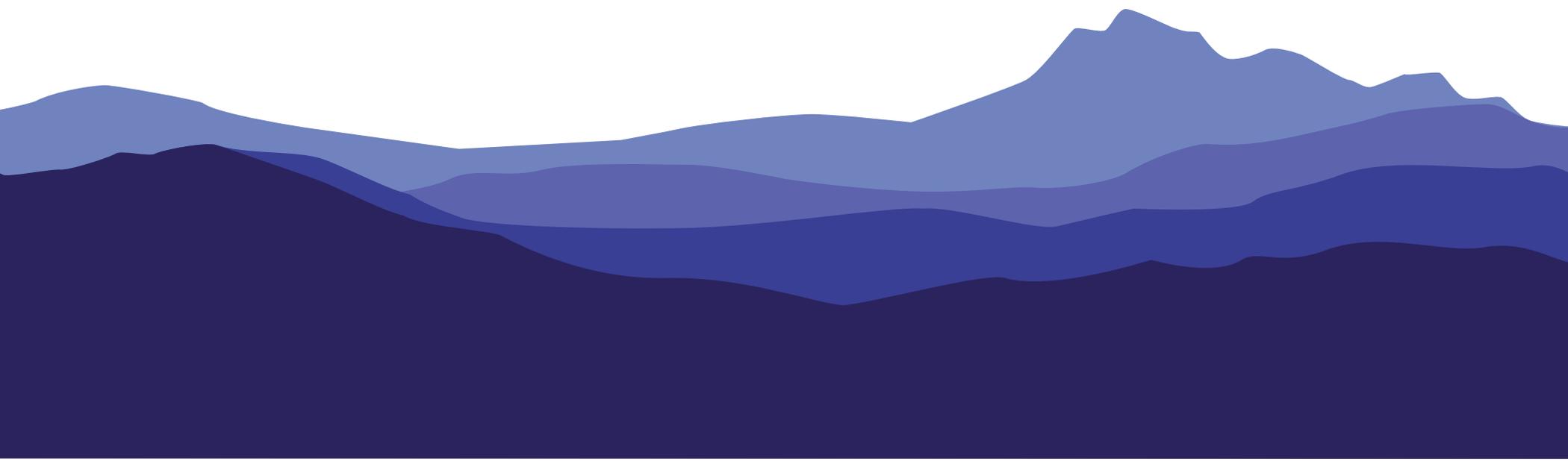
- The City encourages residents and business to be better prepared for disasters through education and preparedness programming.

## Community Feedback

- The City released a community survey to elicit input on topics related to natural disasters to get a better understanding of how the City can improve safety in Irwindale.
- Employee respondents indicated that increased law enforcement presence will be helpful in responding to future emergencies and hazards.
- There was no other community input regarding hazards related to emergency preparedness systems and related efforts in Irwindale.



## SECTION 3    Goals, Policies, and Actions





## Air Quality

### Goal SAF1.

A safe environment with quality air that ensures a healthy and sustainable quality of life for current and future generations.

### Policy SAF1.1

#### **Air Quality Planning and Collaboration.**

Continue to participate in regional planning efforts led by the South Coast Air Quality Management District (SCAQMD) and the Southern California Association of Governments (SCAG) to develop and implement strategies for improving air quality and mitigating pollution from freight, truck traffic, industrial facilities expansions, and other land uses that contribute to poor air quality.

**Resource Management Element Policy 23:** *The City of Irwindale will actively participate in decisions on the site or expansion of facilities of land uses (e.g., freeway expansions), to ensure the inclusion of air quality mitigation measures.*

### Action SAF1.A

Monitor Assembly Bill (AB) 617 Community Air Protection Program implementation in nearby communities (East LA/Boyle Heights/West Commerce and San Bernardino/Muscoy) that affect local and regional air quality, including particulate matter. As feasible, participate in stakeholder discussions for AB 617 communities that may influence air pollution in Irwindale.

### Action SAF1.B

Seek opportunities for City leadership and staff to participate in the San Gabriel Valley Council of Governments' programs for monitoring and improving air quality (such as the Public Works Working Group and the Energy, Environment, and Natural Resources Committee, which receives regular updates from the SCAQMD on regional programs, projects, and incentives). Additionally, lend support to the COG's legislative priorities for increasing funding for pollution reduction and locally-based air quality programs.

**Policy SAF1.2**

**Air Quality Monitoring.** Continue to monitor air quality through the city's Aquatic Centers' outdoor programming and ensure readings are accessible on the City's webpage for community members to be informed of elevated risks and poor air quality days. Ensure that community members have access to information on daily air quality levels and safety measures for days with elevated exposure.

*See the Resource Management Element for related policies on air quality.*

**Resource Management Element Policy 30:** *The City of Irwindale will provide regional and local air quality information on the City's website, including the SCAQMD's 1-800-CUT-SMOG number for the public to report air pollution complaints to the SCAQMD.*

**Resource Management Element Policy 22:** *The City of Irwindale will facilitate communications among residents, businesses, and the South Coast Air Quality Management District (SCAQMD) to quickly resolve air pollution nuisance complaints. The City will distribute information to advise residents on how to register a complaint with SCAQMD (SCAQMD's — "Cut Smog" program).*

**Action SAF1.C**

Track reporting of average air quality levels for ozone and particulate matter through the USEPA AQI on a monthly basis to develop a long-term tracker for assessing trends in local air quality levels. (Currently use the South Coast Air Quality Management District App to track daily air quality. Aquatics Division puts up a flag outside its building to inform the community of the air quality [green, yellow, orange, red]. Aquatics closes if air quality is red.)

**Policy SAF1.3**

**Climate Action and Adaptation.** Develop a climate action and adaptation plan to bring the city into compliance with state carbon emission reduction mandates, further improve air quality conditions and increase community resilience, particularly for vulnerable populations who are most at risk to the impacts of climate change.

**Resource Management Element Policy 19:** *The City of Irwindale will consider environmental justice issues as they are related to potential health impact associated with air pollution and ensure that all land use decisions, including enforcement actions, are made in an equitable fashion to protect residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location from the health effects of air pollution.*

**Action SAF1.D**

Seek grant funding to support the preparation of a climate action and adaptation plan. Work with local and regional agencies to identify funding opportunities for local governments.

**Policy SAF1.4**

**Local Health Services.** Seek partnerships with local health departments and health care agencies to inform community members of physical and mental health impacts relating to air pollution and expand awareness support programs that provide resources and services to community members, such as health screenings, air filters, and smoking cessation.

**Action SAF1.E**

Track public health data through annual reporting from the CDC to monitor respiratory illnesses (asthma, bronchitis, pulmonary diseases, pneumonia, and other infections), cardiovascular illnesses (heart disease, heart failure, and cardiac arrest), non-skin cancers, and low birth-weight of infants, in order to track conditions over time and for use in comparing with air quality trends (see **Action SAF1.C**).

**Action SAF1.F**

Expand the existing Resident Benefit program to provide educational resources from local hospitals, clinics, and other health organizations for increasing safety to air pollution, especially during periods of Moderate to Hazardous air quality, as reported by the AQI.

**Goal SAF2.**

A community with complementary uses that reduce air pollution exposure and prioritize the health and safety of people and the environment.

**Policy SAF2.1**

**Sensitive Uses near Pollution Sources.** Require new residential developments and sensitive uses (e.g., schools, daycares, community centers, senior centers, parks) in proximity to pollution sources to incorporate design elements that provide mitigation or buffers, such as urban greening and landscaping, air conditioning, and ventilation. Where feasible, expand requirements for existing developments to incorporate such design elements.

*See the Resource Management Element for additional policies relating to air quality.*



**Resource Management Element Policy 21:** *The City of Irwindale will encourage the applicant for sensitive land uses (e.g., residences, schools, daycare facilities, playgrounds, and medical facilities) to incorporate design features (e.g., pollution prevention, pollution reduction, barriers, landscaping, ventilation systems, or other measures) in the planning process to minimize the potential pollution impacts on sensitive receptors.*

#### **Action SAF2.A**

Update design guidelines to facilitate sustainable landscaping and promote greater density of urban greening, with increased minimum landscaping requirements and promotion of integrated natural solutions. Create design templates and a checklist to accompany guidelines for sustainable materials.

#### **Policy SAF2.2**

**Protection from Polluting Sites.** Implement pollution mitigation measures to protect community members against air pollution from industrial and commercial uses, including the use of natural buffers, urban canopy, and air filtration. Prioritize residential areas and sensitive uses that are in proximity of industrial land uses.

*See the Hazardous Materials section for additional information and policies.*

#### **Policy SAF2.3**

**Natural Buffers in New Developments.** Require natural buffers in new industrial developments and along designated truck routes to separate polluting sources from residential and commercial uses, and other sensitive uses, to maximize their protection and reduce pollution exposure to the community.

#### **Action SAF2.B**

Evaluate existing, designated truck routes to prioritize locations for new and improved buffers, prioritizing routes near residential and sensitive uses, including homes, community centers, parks, and other social gathering places.

#### **Policy SAF2.4**

**Residential and Industrial Interface.** Protect existing residential neighborhoods from industrial land use activities that may affect public health and air quality through added adequate landscaping, urban greening, and ventilation systems to minimize negative impacts to surrounding neighborhoods and development.

**Goal SAF3.**

A community that maximizes natural elements in design and infrastructure to promote quality air and mitigate pollution.

**Policy SAF3.1**

**New Parks.** Promote the creation of new parks, including pocket parks, with a mix of amenities (trees, trails, ponds, exercise equipment, benches, picnic tables), throughout the community, with priority for areas with residential and sensitive uses such as community centers, social gathering places, and schools. Ensure new park sites are environmentally safe from hazards prior to development.

**Action SAF3.A**

Identify potential sites within existing parks or the public right-of-way for new tree plantings in the western and northern areas of the city, where there is currently lower existing tree canopy and where there is greater exposure to pollution from major corridors. Prioritize tree plantings in residential areas including parkways along I-605, I-210, Arrow Highway, Rivergrade Road, Los Angeles Street, Buena Vista Street, Azusa Canyon Road, and northern Irwindale Avenue.

**Policy SAF3.2**

**Preservation of Parks and Open Spaces.**

Preserve existing parks and open space areas, including the Santa Fe Dam Recreation Area, from development.

**Policy SAF3.3**

**Private Open Spaces.** Develop incentives for private businesses and properties to engage in voluntary creations of open spaces and new tree plantings that promote good air quality.



## Drought

### Goal SAF4.

A sustainable current and long-term supply of water resources that meet domestic, industrial, and recreational needs.

#### Policy SAF4.1

**Interagency Collaboration.** Participate in coordinated local, regional, and statewide water planning programs to support water management, conduct monitoring for groundwater, and improve water resiliency for all users.

#### Action SAF4.A

Continue to support the development and implementation of the Upper San Gabriel Valley Municipal Water District Urban Water Management Plan, for long-term resource planning and storage of water supplies to meet existing and future needs.

#### Action SAF4.B

Seek opportunities to participate in regional initiatives through the San Gabriel Valley Council of Governments', including the Water Committee and Water Working Group. Remain informed of local and regional water initiatives to improve watershed management and water resiliency.

#### Policy SAF4.2

**Potable Water Conservation.** Encourage the use of provisions that conserve potable water for domestic uses. Small-scale interventions for conservation of potable water include watershed restoration, resources for sustainable landscaping, and other home-based interventions.

#### Policy SAF4.3

**Interagency Collaboration for Water Conservation.** Coordinate with local, state, and federal agencies and other local nonprofits to identify and obtain sources of funding for water conservation efforts.

#### Policy SAF4.4

**Water Resource Protection Partnerships.** Partner with local organizations, agencies, and water purveyors that service Irwindale to protect groundwater and surface water resources that are vulnerable to climate change and to ensure a safe and reliable supply of water for future generations.

**Action SAF4.C**

Implement green infrastructure measures (e.g., greenways, community forest, linear parks, vegetated swales, miniparks) to be incorporated into all new development and redevelopment applications to facilitate groundwater recharge. This includes all projects (four units or fewer) that have a land disturbance activity and add, create, or replace more than 500 square feet of impervious area.

**Policy SAF4.5**

**Compliance with LA County Building Code.**

Ensure that city's building, zoning, and subdivision ordinances remain in compliance with LA County Building Code.

**Action SAF4.D**

Create city programs as feasible to incentivize the use of reclaimed wastewater, water conserving appliances, drought-tolerant landscaping, and other water conservation techniques.

**Action SAF4.E**

Install drought-tolerant landscaping at City-owned facilities within the next 5 years.

**Goal SAF5.**

A community that is educated about the effects of drought.

**Policy SAF5.1**

**Water Conservation Education.** Support educational programs targeted at reducing water consumption and enhancing groundwater recharge.

**Action SAF5.A**

Collaborate with the Upper San Gabriel Valley Municipal Water District, Valley County Water District, Azusa Light and Water, and California American Water to develop an educational program to inform residents and employees of the status of the drought and water supply in the state and city, the importance of conservation (and how to conserve) as well as maintaining personal household and/or business emergency water supplies. Components of this program may include informational flyers, community workshops, and participation at community events.





## Extreme Weather

### Goal SAF6.

A resilient community with effective adaptation measures to address extreme weather hazards.

#### Policy SAF6.1

**Extreme Weather Safety.** Reduce the impacts of extreme weather on people and places through safe buildings, public shelters, cooling centers, sustainable materials, tree canopy, and other measures that promote safety and mitigate hazards.

#### Action SAF6.A

Review current design guidelines for areas of opportunity to increase standards that promote urban heat mitigation (see **Action SAF2.A**).

#### Action SAF6.B

Seek funding opportunities for climate adaptation to reduce the urban heat island effect with natural solutions and green infrastructure, such as increasing urban tree plantings, greenways, landscaping, cool roofs, cool pavements, green walls, and other elements that help increase cooling in the community and reduce hazards to people from heat impacts.

#### Action SAF6.C

Promote local and regional agency and utility programs (such as the Efficient San Gabriel Valley (eSGV) Program, EASY Program assessment, and SGV GO Green) that provide assessments and assistance to businesses, schools, and households for weatherization improvements, including insulation, air sealing, window and door replacements, air filter replacements, window shading, and other methods.

*See the Housing Element for related policies on extreme weather.*

**Housing Element, Program No. 9: Promotion of Energy and Water Conservation to Existing Residents and in City Sponsored Housing Projects.**

#### Policy SAF6.2

**Public Improvements.** Enhance existing community infrastructure and amenities, including bus shelters, shading trees, landscaping, public streets, and public facilities, to promote safety and relief from extreme weather hazards. Prioritize improvements to infrastructure that is older or in poor quality or has heat-absorbing materials.

**Action SAF6.D**

Adopt and enforce the latest building and municipal codes to increase resiliency of the built environment in Irwindale and minimize impacts from extreme weather hazards on people, property, and life.

**Action SAF6.E**

Install weatherproof shelters, such as awnings and sunshades, and increase tree canopy in the public right of way that protect residents and visitors from extreme weather, including heat, rainfall, and wind, and that help reduce the urban heat island effect. Prioritize locations for improvements (such as transit stops, active transportation corridors, pedestrian paths, bike lanes, safe routes to school, and outdoor gathering spaces) by assessing level of use and potential benefit to users through community outreach and engagement.

**Action SAF6.F**

Identify facilities where cool roofs, green roofs, and/or green facades can be installed to help reduce the urban heat island effect and daytime temperatures. Seek grant funding for planning and implementation of urban heat island mitigation projects.

**Goal SAF7.**

A community with parks and open spaces, greenways, and trees that help to reduce the urban heat island effect, mitigate extreme heat, and reduce impacts to the community.

**Policy SAF7.1**

**Urban Greening Amenities.** Increase parks, open space amenities, and tree canopy in residential and commercial areas and near schools, community centers, and other social gathering areas.

*See Environmental Justice – Public Facilities for additional information on parks, open spaces, and tree canopy.*

**Action SAF7.A**

Identify park needs in the community, assessing residential neighborhoods that are farther than a half-mile or 10-minute walk from a park or open space area.



**Action SAF7.B**

Maintain a list of drought-tolerant and heat-resistant trees that are suitable for planting for Southern California's weather and soil conditions. Consider partnerships with local and regional organizations for the success of the urban canopy, including the Arbor Day Foundation and TreePeople.

**Action SAF7.C**

Develop guidelines to support "right tree, right place" plantings, where appropriate and approved species are planted according to best practices to avoid conflicts with power lines, buildings, sidewalks, and other issues that risk long-term success of the urban canopy. Consider the space, height, canopy spread, shape, growth rate, growth requirements, and maintenance requirements of trees for plantings.



## Flooding

### Goal SAF8.

A community that is protected from flood hazards, with adequate safety protections in areas subject to inundation.

#### Policy SAF8.1

**Annual Flood Hazard Mapping.** Maintain current floodplain mapping, data, and information throughout the city on a yearly basis, using the latest information available from FEMA.

#### Policy SAF8.2

**Development within Flood Hazard Areas.** Require development within mapped flood hazard areas to be located, designed, and constructed to provide adequate defensibility and minimize the risk of structural loss and life loss resulting from flood hazards.

#### Policy SAF8.3

**New Development.** Require new development to incorporate low-impact designs and nature-based solutions to minimize stormwater impacts on drainage and flood control facilities and promote groundwater recharge, where feasible.

#### Policy SAF8.4

**Storm Drain Master Plan.** Prepare, evaluate, and implement the storm drain master plan study to look for and address deficiencies in the storm drain infrastructure.

#### Action SAF8.A

Prioritize storm drain studies and maintenance on areas that are identified for disaster relief such as the Senior Center & Dan Diaz Recreation Center.

### Goal SAF9.

Minimized personal injury and property damage losses resulting from dam failure.

#### Policy SAF9.1

**Dam Failure Inundation Mapping.** Work with the US Army Corps of Engineers and Los Angeles County Flood Control District to maintain and expand dam failure inundation area mapping, as relevant to the City of Irwindale.

#### Policy SAF9.2

**New Development in Dam Failure Inundation Areas.** Minimize development in areas at risk of dam-inundation, to the extent possible, in order to protect public safety and reduce potential property damage due to dam-failure-induced flooding.

**Action SAF9.A**

Develop a local dam failure evacuation plan in cooperation with the Los Angeles County Flood Control District and US Army Corps of Engineers.

**Action SAF9.B**

Identify secondary evacuation routes that are susceptible to dam-failure-related impacts to ensure adequate evacuation access is available

**Action SAF9.C**

Amend the zoning ordinance to create provisions that protect or restrict sensitive uses (e.g., schools, daycares, community centers, senior centers, and parks), and critical uses (e.g., emergency service facilities, public utilities, or communications facilities) within flood hazard areas and designated dam inundation areas.

**Action SAF9.D**

Identify and retrofit existing city assets that are subject to dam failure.

**Policy SAF9.3**

**County Coordination.** Work with Los Angeles County Parks and Recreation to protect recreational uses around the Santa Fe Dam Recreation Area from dam-failure-related flooding.

**Policy SAF9.4**

**Interagency Cooperation for Flood Standards and Regulations.** Cooperate with the Los Angeles County Flood Control District, Federal Emergency Management Agency, and US Army Corps of Engineers every 5 years in preparing and implementing flood standards and regulations.



## Geologic and Seismic Hazards

### Goal SAF10.

community protected from seismic and geologic hazards that ensures public health and safety as well as city infrastructure and services are maintained.

### Policy SAF10.1

**Building Codes.** Ensure that new and retrofitted buildings comply with the most recently adopted applicable city, county, and state building codes governing seismic safety to minimize the potential for damage from earthquakes.

### Policy SAF10.2

**Geotechnical Study.** Require detailed geologic, geotechnical, or soil investigations in areas of potential seismic or geologic hazards as part of the environmental and/or development review process.

### Policy SAF10.3

**Structural Hazards.** Mitigate structural hazards related to seismic events through appropriate methods such as excavating and refilling land with engineered fill, slope stabilization, and other appropriate mitigation.

### Action SAF10.A

Implement slope stabilization projects in the highest risk areas, particularly around the existing 17 mines in the city.

### Policy SAF10.4

**Critical Facilities.** Ensure that police and fire stations, emergency operations centers, communications centers, reservoirs, medical facilities, and other essential structures and facilities located in geologic and seismic hazard areas remain safe and in a state of readiness for earthquakes.

### Action SAF10.B

Retrofit City-owned critical facilities and buildings to increase their capability to withstand earthquakes.

### Policy SAF10.5

**SMARA Regulations.** Continue to enforce Surface Mining and Reclamation Act (SMARA) regulations with regard to the mining pits in the city to ensure proper handling of slopes, mining depths, runoff, environmental impacts, and the filling and ultimate development of the site.

*See the Resource Management Element for related policies on mining and reclamation.*

*Resource Management Element Policies:*

*The City will consider the establishment of a systematic environmental monitoring program for mining and landfill operations, and for the strengthening of the existing annual inspection program, including assessments of slope stability, public safety hazards, air and water quality, noise, and security.*

*The City will continue to pursue alternative means to secure adequate financial assurances from mining operator's, through its Joint Powers Authority composed of the City and its Community Development Agency, which benefit from using anticipated fill revenues to offset the amount of financial assurances required to be posted, as well as maintenance of its reclamation fund to further secure reclamation obligations.*

*The City will revise the zoning code to specify post-mining land use designations, with a quarry overlay zone to establish uniform mine operation and reclamation standards.*

*The City will implement improved reclamation planning at targeted sites to ensure post-mining land uses consistent with the City's long-term planning and economic development goals.*

*The City should implement all available measures to update and improve reclamation planning for new entitlements, and to address inadequacies in current reclamation plans. These actions may include more vigorous requirements for identifying end uses and detailed standards for related slope, vegetation, and infrastructure actions for reclamation, and more accurate determination of financial assurances.*



## Hazardous Materials

### Goal SAF11.

A safe and healthy Irwindale that minimizes public health risks and threats from hazardous materials and wastes.

#### Policy SAF11.1

**Hazardous Materials Risk Reduction.** Continue coordination with the Los Angeles County Fire Department to reduce the risk of hazardous materials accidents through conscientious land use planning.

#### Policy SAF11.2

**Hazardous Materials Businesses.** Improve intentional and safe siting of businesses that use, store, or transport hazardous materials and waste near residential neighborhoods and sensitive areas unless mitigation measures comply with Los Angeles County Fire Department standards.

#### Policy SAF11.3

**Hazardous Materials Handlers.** Continue to require businesses, such as CleanTech Environmental, that store, generate, use, or transport large or toxic quantities of hazardous materials or wastes to comply with Los Angeles County Fire Department standards.

#### Policy SAF11.4

**Household Hazardous Waste.** Encourage the proper reduction of household hazardous waste and disposal through comprehensive public education, recycling efforts, and collection programs.

#### Policy SAF11.5

**Transportation.** Work with governmental agencies, such as Caltrans and the San Gabriel Valley COG, to ensure that transporters of hazardous materials and wastes redesignate truck routes away from residential neighborhoods and sensitive areas where spills may occur.

#### Action SAF11.A

Identify and establish specific travel routes for the transport of hazardous materials and wastes, focusing on the capacity to safely accommodate additional truck traffic, avoidance of residential neighborhoods and areas, and use of interstate or state highways as preferred routes.

#### Policy SAF11.6

**Hazardous Waste Spills and Cleanup.** Continue to proactively contain and supervise the cleanup of spills on city streets, catch basins, storm drains, and storm channels, and work with property owners to reduce hazardous materials accidents.

**Action SAF11.B**

Post informational resources on the City's website that link to the websites of the county, state, and federal agencies that regulate hazardous materials.

**Action SAF11.C**

Create a program to work with property owners to identify hazardous materials risks and ensure remediation of hazardous building materials such as asbestos and lead.

**Policy SAF11.7****Certified Unified Program Agency (CUPA)**

**Coordination.** Continue to work with the Los Angeles County Fire Department to administer and enforce state and federal hazardous materials regulations.

**Action SAF11.D**

In cooperation with the CUPA, inventory and regularly inspect buildings and facilities in which hazardous materials accidents would pose a threat to the community. Work with the owners to develop and implement programs for reducing risks associated with these buildings and facilities.

**Policy SAF11.8**

**Existing Mining Pits.** Identify and publicize the status of the mining pits in the city.

*See the Resource Management Element for related policies on mining and reclamation.*

**Resource Management Element Policies:**

*The City of Irwindale will continue to work with the mine operators and other regulatory agencies to facilitate their reclamation.*

*The City of Irwindale will require that ongoing mining activities adhere to any pertinent regulatory controls as a means to protect the public's safety and health.*

*The City of Irwindale will work with the quarry owners and/or operators and regulatory agencies to help facilitate their timely reclamation.*

*The City of Irwindale will continue to protect the use of the area's resources through appropriate land use controls and planning.*

**Action SAF11.E**

Require the planned reclamation of the mining pits with consideration of the land's potential for recreational, scenic uses, residential, or commercial development.

**Action SAF11.F**

Seek grant opportunities and partnerships with state and federal agencies (e.g., U.S. Environmental Protection Agency) to expedite the full cleanup of the remaining sites.

**Action SAF11.G**

Ensure all necessary City staff has Surface Mining and Reclamation Act (SMARA) training to address hazardous materials releases created through mining operations to help ensure that potential hazards are mitigated at the source.

**Action SAF11.H**

In conjunction with **Action SAF11.B**, create a City website that lists the mining pits, operation status, reclamation plans, and other applicable information for residents to access and be aware of the operational timeline of the mining pits.

**Action SAF11.I**

Require that all mining operations are adequately reviewed during the reclamation and closing processes to minimize, to the greatest degree possible, all identified impacts, especially impacts to water quality.



## Law Enforcement and Crime

### Goal SAF12.

A resourced police department with sufficient staffing, equipment, resources, and readiness to address crime, respond to local emergencies, and increase community safety.

### Policy SAF12.1

**Police Services Management.** Continue regular review of staffing, equipment, and resources of the police department to ensure continuous and responsive service for law enforcement, crime reduction, monitoring, investigations, emergency, and other critical operations. Identify potential gaps and needs to carry out services and prioritize capacity-building for the Irwindale Police Department to be able to respond to crime reports and increase safety.

### Action SAF12.A

Review existing mutual aid agreements with partnering agencies providing police and fire services from city departments to assess the need for increased support to reduce crime in the city. Current mutual aid agreements are in place with the cities of Arcadia, Azusa, Baldwin Park, Bradbury, Claremont, Covina, Diamond Bar, Duarte, El Monte, Glendora, Industry, La Puente, La Verne, Monrovia, Pomona, Rosemead, San Dimas, Sierra Madre, South El Monte, Temple City, Walnut, and West Covina.

### Action SAF12.B

Assess Police Department resources and support needed for clearing and/or closing crimes and increasing percentage of crimes cleared. Consider staff capacity, tools, funding, and other resources that may pose barriers for addressing safety and crime in the community.

### Policy SAF12.2

**Patrolling and Surveillance.** Evaluate need for increased patrolling and surveillance through additional officers or increased frequency of patrols using crime reports and feedback from the community to enhance safety in areas of concern within the city.

**Action SAF12.C**

Engage with local businesses, employers, organizations, schools, neighborhood groups, and other community members through public workshops to hear community concerns regarding perceptions of unsafe areas in Irwindale, and discuss increasing surveillance and patrolling such as Neighborhood Watch and Business Watch.

**Action SAF12.D** Conduct a yearly evaluation of local businesses' reliance on police services to assess their usage levels. If certain businesses consistently demand a disproportionate share of police time and resources, require them to employ private security.

**Policy SAF12.3**

**Business Watch.** The Irwindale Police Department will establish and facilitate a Business Watch Program to promote crime prevention, community engagement, and emergency preparedness among businesses within Irwindale.

**Action SAF12.E** Designate a city official or law enforcement liaison as the point of contact for Business Watch Groups.

**Action SAF12.F** Establish a dedicated communication channel for reporting incidents and feedback from community members.

**Action SAF12.G** Provide training sessions on crime prevention, emergency preparedness, and other relevant topics for Business Watch members.

**Action SAF12.H** Promote the Business Watch Program through public awareness campaigns, social media, and local news outlets, encouraging participation and community support.

**Action SAF12.I** Schedule regular meetings to discuss safety concerns, share information, and incorporate community and law enforcement feedback.

**Goal SAF13.**

An engaged and responsive community that contributes to reporting, information sharing, and crime reduction.

**Policy SAF13.1**

**Voluntary Reporting.** Maintain voluntary crime reporting from the Police Department to the FBI for federally monitored offenses, including violent crime, property crime, arson, burglary, larceny-theft, and hate crime to help evaluate trends over time.



**Policy SAF13.2**

**Police and Community.** Continue to build positive relationships between community members and the Irwindale Police Department through programs, mentorship, education, and events that provide opportunities for engagement and connection.

**Action SAF13.A**

Involve the Police Department in community events and programs where officers can engage with community members on information, discussions, and other activities that promote a positive relationship and increase the sense of safety.

**Action SAF13.B**

Conduct regular (monthly, bi-monthly, or quarterly) meetings at public facilities, such as the community center, parks, and city facilities that are near residential neighborhoods and places of employment, to share updates on crime and hear community member concerns.

**Action SAF13.C**

Implement the Park Watch Program to support residents with regular maintenance and patrolling of parks and open spaces. Assess feasibility to implement an **Adopt-a-Park** program under the Park Watch and in collaboration with the Neighborhood Watch, to allow individual neighborhoods, businesses, and organizations to assist with park maintenance, identifying improvements and financing, and security.

**Policy SAF13.3**

**Public Alerts.** Maintain the CivicReady service for public alerts, warnings, events, and other information that promote safety and foster a positive relationship between law enforcement and community members.



**Goal SAF14.**

A built environment that improves public safety, discourages, and prevents crime, and instills a sense of community ownership for people and property in Irwindale.

**Policy SAF14.1**

**Urban Design.** Promote the design of safe neighborhoods to enhance public safety and discourage crime. Require that buildings, streets, and public spaces be designed with safety elements, including lighting, as well as “eyes on the street” and “crime prevention through urban design” features such as gathering areas, sidewalks, walkways and bicycle lanes, street-fronting uses, large and open windows, attractive designs, and other elements that help to connect people in public spaces and maintain public sight.

**Action SAF14.A**

Create citywide objective design standards that address crime prevention through urban design. In the interim, require the following for new developments:

- Require buildings to orient toward public areas, including the street, where they can facilitate surveillance of exterior areas. Ensure doorways, entryways, and emergency exits are located where they are visible to other people and properties.

- Require that new developments expand open spaces and social gathering areas in the city, including plazas, outdoor eating, farmer’s markets, and other public uses and activities that bring people together and foster community ownership.
- Ensure that new tree plantings and landscaping maintain sight lines and do not block visibility. Low hedges, flowerbeds, and tall trees can help maintain sight lines of entryways, streets, and properties (see **Actions SAF2.A** and **SAF6.A**).
- Require businesses to adequately maintain landscaping in and along their property, particularly overgrown palm trees.

**Policy SAF14.2**

**Safe Public Events.** Promote events and social gathering in public spaces in the city to help with “eyes on the street.” Encourage shared use of public facilities, including parks, playgrounds, open spaces, and parking lots.

**Policy SAF14.3**

**Implementation of Safety Features.** Identify areas of the city in need of additional safety features, including lighting and surveillance technology. Prioritize areas of employment, residential neighborhoods, schools, major roads, and alleyways.

Adopt-a-Park is a collaborative effort between the County of Los Angeles Department of Parks and Recreation, the Los Angeles County Parks Foundation, a 501(c)(3) non-profit foundation, and the private sector for the purpose of adopting a new or existing scholastic, recreational, beautification, maintenance project, or unmet needs project for any park, hiking trail, nature area, or garden in Los Angeles County or unincorporated area.

Involvement from the City of Irwindale will enhance visibility and promote the City’s commitment to meeting the needs of the residents who utilize county parks. Funding augments, rather than supplants public funding. Adopt a Park programs have a significant impact within communities that implement them.

**Adopt-a-Park**

**Action SAF14.B**

Assess current street lighting fixtures, with focus on industrial areas, residential neighborhoods, active transportation routes, commuting routes, parking lots, and routes to school, to prioritize needs for increased and/or improved lighting and help deter theft. Identify number, location, and quality of fixtures to help determine where new fixtures may be beneficial.

**Action SAF14.C**

Ensure that minimum standards for streetlights are met, and update standards as necessary for implementing best practices for safety lighting.



## Wildfire

### Goal SAF15.

A city where residents and businesses are safe from wildfires and are prepared for the hazard associated with wildfire spread.

#### Policy SAF15.1

##### Fire Prevention and Suppression Needs.

Coordinate with Valley County Water District, as well as other water service providers within the city and neighboring cities and fire agencies in neighboring cities to plan for future fire prevention and suppression needs including identifying future water supply for fire suppression needs.

#### Policy SAF15.2

##### Emergency Evacuation Route Adequacy.

Coordinate with state agencies and local fire districts to ensure the maintenance and reliability of current evacuation routes that may be compromised by wildfire, and publicly disclose development locations without sufficient emergency route access or capacity.

#### Policy SAF15.3

##### Maintenance of Emergency Evacuation

**Routes.** Proactively manage vegetation along roadsides of emergency/evacuation routes to prevent wildfires.

#### Policy SAF15.4

**Fire Codes.** Ensure that the latest versions of regional and state Fire Codes are adopted and enforced to build resiliency and minimize the potential for damage, personal injury, and loss from fire hazards.

#### Action SAF15.A

Update local zoning and subdivision codes to designate wildfire hazard overlay zones that are designated by CAL FIRE as VHFHSZs to ensure new development within the overlay will meet all state and local requirements for building and vegetation management. Update, as necessary, associated conditional use, site development standards, and design criteria to mitigate wildfire hazards and reduce hazards to new development within the overlay zones.

#### Policy SAF15.5

**Consistency with California Codes.** Ensure that new residential, commercial, and industrial construction and development maintain consistency with California Code of Regulations Title 14, Natural Resources, Division 1.5, Department of Forestry, Chapter 7, Fire Protection.

**Action SAF15.B**

Review and update the city's municipal code as necessary to bring it into compliance with California Code of Regulations Title 14, Natural Resources Division 1.5, Department of Forestry, Chapter 7, Fire Protection.

**Action SAF15.C**

Adopt the most recent County of Los Angeles Fire Department Strategic Fire Plan.

**Policy SAF15.6**

**Existing Structures in VHFHSZ.** Support the retrofitting of existing structures in VHFHSZs built prior to modern fire safety codes or wildfire hazard mitigation guidance to help reduce the hazard of structural and human loss due to wildfire.

**Action SAF15.D**

Prioritize public and private funding for fire risk reduction to assist private landowners in implementing safety measures to achieve a low-hazard condition, specifically for businesses within or near VHFHSZs in the city.

**Policy SAF15.7**

**Development in the VHFHSZ.** Avoid or minimize new residential development in the VHFHSZ. If new development occurs within or near the VHFHSZ, ensure projects comply with all applicable state or local fire safety and defensible space regulations or standards, and any applicable fire protection or hazard-reduction measures identified in locally adopted plans. Discourage land uses that could exacerbate the hazard of ignitions in the VHFHSZ, such as outdoor storage of hazardous or highly flammable materials, automobile service stations, or gas stations.

**Policy SAF15.8****New Development Fire Safety Standards.**

Require that all new development, including new development in the VHFHSZ, prepare a fire protection plan that complies with established fire safety standards. Require that ingress and egress routes be constructed using the most current state Fire Safe Regulations, Fire Code, and or City Code that meets these minimum requirements. Fire protection plans shall be referred to the appropriate fire agency and other public agencies for comment as to:

- 1) Risk analysis
- 2) Location of anticipated water supply
- 3) Adequacy of water supply for new development (i.e., maintenance and long-term integrity)

- 4) Adequacy of fire flow (gallons per minute) to extinguish a fire at the proposed development
- 5) Fire response capabilities including site design for fire department access in and around structures
- 6) Ability for a safe and efficient fire department response
- 7) Traffic flow and ingress/egress for residents and emergency vehicles
- 8) Mitigation measures and design considerations for non-conforming fuel modification
- 9) Potential impacts to emergency services and fire department response
- 10) Wildfire education maintenance and limitations

**Policy SAF15.9**

**Proper Addressing and Signage.** Implement proper addressing and signage for all streets and homes in compliance with the Los Angeles County Fire Department to assist in fire emergencies.

**Policy SAF15.10**

**Vegetation Maintenance Agreement.** Continue to require new development to enter into a long-term vegetation maintenance agreement with the City for defensible space and fuel modification.

**Policy SAF15.11**

**Flammable Plant Species.** Reduce highly flammable plant species that have a low drought tolerance and easily spread.

**Action SAF15.E**

Work with certified arborists or organizations to identify plant species that are highly flammable and pose hazard to the community, with an inventory of their location and hazard level. Prioritize more vulnerable locations (those within VHFHSZ to the north) for removal or replacement of flammable plant species to reduce the hazard of brush fires.

**Action SAF15.F**

Adopt a fire-resistant landscape ordinance to ensure existing flammable vegetation is removed and replaced with fire-adaptive landscaping.

**Policy SAF15.12**

**Defensible Space.** Ensure that defensible space is maintained around residential located in very high fire hazard severity zones, as per Los Angeles County Fire Department guidelines.

**Policy SAF15.13**

**Fire Prevention Techniques.** Preserve and maintain existing fire trails, defensible space and community fire breaks and maintain public and private road clearance.

**Action SAF15.G**

Coordinate with CAL FIRE, Fire Safe Councils, public works, fire districts, and other community organizations to ensure proper maintenance of fire breaks; seek funding opportunities (both federal and state), for fire breaks and their long-term maintenance.

**Action SAF15.H**

Work with the Los Angeles County Fire Department to maintain open spaces within and around the Santa Fe Dam Recreation Area and San Gabriel River Basin so that ground fuels do not promote the spread of wildfire and aerial fuels do not allow the spread of a fire through the tree canopy.

**Policy SAF15.14**

**Location of Public Facilities.** All essential public facilities shall be located outside high fire hazard areas, where feasible.

**Policy SAF15.15**

**Non-Conforming Development.** Mitigate existing non-conforming development to contemporary fire safe standards, in terms of road standards and vegetative hazards, as feasible.

**Action SAF15.I**

Identify existing non-conforming development, prioritizing sensitive uses within Very High Fire Hazard areas, and work with CAL FIRE to create a program for homeowners and business within these areas to bring their properties into conformance, learn about the fire hazard and how to reduce that hazard through fuel modification.



## Emergency Preparedness

### Goal SAF16.

A city that responds with the maximum feasible speed and efficiency to disaster events so as to minimize injury, loss of life, property damage, and disruption to the social and economic life of the city.

### Policy SAF16.1

**Emergency Response Planning.** In cooperation with City emergency response providers, maintain and regularly update emergency plans for floods, earthquakes, fires, hazardous materials, and other disasters. Plans should be consistent with the California Standardized Emergency Management System protocol.

### Action SAF16.A

Review and update the city's Local Hazard Mitigation Plan every 5 years in accordance with federal planning regulations to reduce loss of life and property by minimizing disaster impacts, and ensure the City is eligible to access funding for disaster assistance, pre-disaster planning, and other grant programs for safe community planning.

### Policy SAF16.2

**Interagency Coordination.** Cooperate with other public agencies, nearby cities, community groups, and private enterprises in developing comprehensive disaster preparedness, assistance, and post-disaster recovery plans in order to maximize mutual aid response. Actively collaborate with regional state and federal fire agencies to coordinate and implement wildfire mitigation measures. Participate in regularly scheduled disaster exercises and emergency response drills to better prepare Police, Fire, Public Works, and other city department employees for disaster response.

### Policy SAF16.3

**Private Sector Collaboration.** Engage the private sector (business community) in disaster response planning and coordination through planning outreach and engagement that fosters stronger connections with the business community, increases information sharing on emergency management, and facilitates public-private partnerships. Ensure input from the business community informs the planning process, emergency response strategies, and post-disaster recovery efforts, including short- and long-term restoration of services and operations, and economic recovery.

**Policy SAF16.4****Assessment of Future Emergency Service**

**Needs.** Prepare an assessment and projection of future emergency service needs as part of the city's future General Plan Land Use Element Update and Master Fire Plan, and ensure that future growth projections are coordinated with emergency and fire service capacity and delivery.

**Policy SAF16.5**

**Post-Disaster Evaluation.** Following disasters, conduct an evaluation of the extent of damage and the need for redevelopment, particularly after large fires.

**Action SAF16.B**

Ensure post-fire redevelopment complies with the most current version of the California Building Codes and California Fire Code.

**Policy SAF16.6**

**Community Capacity.** Involve volunteers, community groups, and civic organizations in emergency response activities, including planning and program development to prepare for disasters and disaster recovery. Individuals and businesses should have access to up-to-date information that allows them to engage with the City, regional agencies, and community-based organizations to expand communications, to coordinate hazard preparation and response, and be able to make informed decisions about potential safety hazards and the level of risk they are willing to accept.

**Action SAF16.C**

Collaborate with city departments and public service providers such as the Department of Public Works and the Los Angeles County Fire Department to implement hazard awareness, education, and preparation programming for Irwindale residents and businesses to learn about natural hazards, risks, and risk reduction strategies.



#### Action SAF16.D

Seek partnerships with neighboring jurisdictions and community-based organizations to develop a program for building community safety awareness, with an ongoing series of informational public meetings or seminars, and a community guide on disaster preparedness and procedures. The program should be about minimizing hazards in the home, wildfire mitigation and disaster planning, earthquake preparedness and housing retrofit programs, and developing disaster preparedness and evacuation plans. The program should be promoted through existing community newsletters and in the ongoing emergency preparedness column within the local newspaper.

#### Policy SAF16.7

**Utilities.** Work with local gas, electric, cable, water, sewer, and other utility providers to maintain their facilities and ensure their ability to function (or be quickly restored) during and following a disaster.

#### Policy SAF16.8

**Critical Facilities.** Ensure that critical public facilities and infrastructure that support community health and safety (such as police and fire stations, and water and sewer facilities) are designed to maximize their resilience and ability to function during and after a natural disaster.

#### Action SAF16.E

Collaborate with community-serving utilities and public facilities that are critical to effective disaster response and evaluate their ability to operate efficiently after a major disaster. Support and incentivize emergency action planning for these facilities to ensure they are well prepared for disaster and are accessible during emergencies. Work with the utilities and public facilities to designate alternative facilities for post-disaster assistance in the event that primary facilities are impacted.

#### Policy SAF16.9

**Technology.** Support the use of communication technologies to transmit information to other agencies and the public during emergencies, including:

- CivicReady emergency alert system.
- Social media operated by the Los Angeles County Fire Department, Irwindale Police Department, and other public safety agencies and municipalities.
- Other systems to provide outreach to residents without telephone or Internet service.

#### Policy SAF16.10

**Emergency Evacuation.** Ensure the transportation system provides adequate capacity for safe, efficient, and quick evacuations in the event of an emergency or natural disaster.

**Action SAF16.F**

Provide evacuation information to residents, businesses, and visitors, particularly at-risk populations, to help improve emergency preparedness. Evacuation materials should identify shelter locations, evacuation routes, defensible space and procedures for storing valuable items or taking such items with them.

**Action SAF16.G**

Continue to work with local emergency response providers in Irwindale to review, evaluate, and update emergency evacuation routes upon each update of the city's Safety Element or Local Hazard Mitigation Plan, as understanding of hazard impacts improve and climate change impacts continue.

**Action SAF16.H**

Upon the next update of the Local Hazard Mitigation Plan, update city maps that address the adequacy of evacuation routes and their capacity, safety, and viability in the event of natural hazards and other emergencies that meet Assembly Bill 747 requirements.

**Action SAF16.I**

Consider including the following actions in conjunction with established fire standards when formalizing plans for potential or imminent evacuation routes, particularly in the VHFHSZ:

- Increase capacity through use of contraflow lanes or shoulders

- Manage traffic control, including through turn restrictions and route or ramp closures, to minimize outflows from evacuation areas
- Prohibit or restrict street parking on high-hazard days
- Continually improve communication systems and implement strategies that improve disaster alerts
- Instigate dynamic route guidance and monitoring
- Implement phased evacuations
- Promote reductions in vehicle volumes during evacuations, such as by encouraging households to use only one vehicle to evacuate
- Closely monitor power issues that could affect traffic signals and slow down evacuations

**Action SAF16.J**

The Dan Diaz Recreation Center is designated as a disaster relief center for major disasters. The Senior Center is open as a disaster relief center during smaller emergencies and disasters such as storms and heat waves.

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## SECTION 4 Implementation

This section provides a framework for systematically implementing the actions associated with each policy presented in the Safety Element. It will be used during the City’s planning and budgeting processes to understand safety priorities and how and when to effectively allocate funding and resources to achieve the city’s safety goals. Collectively, these actions work to ensure that the City and community are prepared for a hazardous event and can effectively respond to and recover from a hazardous event. They also work to increase community safety and improve community health and resilience.

**Table SAF-6** presents the implementing actions for the Safety Element. The actions are organized as presented in Section 3: Goals, Policies, and Actions.

Each of the components of the implementation table are described below.

**Lead Agency.** This column identifies the lead agency responsible for managing the implementation of the action. While other city departments may support its implementation, the lead agency is primarily responsible for determining next steps and moving the action forward and could include state agencies such as the California Air Resources Board.

**Partnerships.** This column identifies the local and regional agencies, city departments, and organizations that have authority, influence, or knowledge to assist with implementation of the

associated action. In some cases, several coordinating partners are shown as there may be joint responsibility and/or interest for implementation.

**Relative Cost.** This column provides a relative cost for implementing the associated action using dollar signs (\$). One dollar sign (\$) indicates that the action is lower cost, based on the assumption that it would require the use of existing staff time. Two-dollar signs (\$\$) indicate the action may require additional time and resources, such as hiring new staff. Three-dollar signs (\$\$\$) indicate the action may be part of a capital improvement project and/or include construction.

**Implementation Timeframe.** This column identifies the target timeframe for the action to be implemented. A “short” timeframe indicates the action should be implemented in the near term or within one to three years of adoption. A

“mid” timeframe indicates that the action should be completed within 3 to 5 years of adoption. A “long” timeframe indicates a period of 5 to 10 years or longer for implementation. The exact targeted time to complete an action will be determined during the City’s planning and budgeting processes. An action referred to as “ongoing” indicates that the action should occur periodically.



TABLE SAF-6 Action Implementation Information

ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
 <b>Air Quality</b>					
<b>Goal SAF1.</b> A safe environment with continuously good air quality (i.e., air quality index value of 50 or below) that ensures a healthy and sustainable quality of life for current and future generations.					
<b>Policy SAF1.1: Air Quality Planning and Collaboration.</b> Continue to participate in regional planning efforts led by the South Coast Air Quality Management District (SCAQMD) and the Southern California Association of Governments (SCAG) to develop and implement strategies for improving air quality and mitigating pollution from freight, truck traffic, industrial facilities expansions, and other land uses that contribute to poor air quality.					
SAF1.A	Monitor Assembly Bill (AB) 617 Community Air Protection Program implementation in nearby communities (East LA/Boyle Heights/West Commerce and San Bernardino/Muscoy) that affect local and regional air quality, including particulate matter. As feasible, participate in stakeholder discussions for AB 617 communities that may influence air pollution in Irwindale.	Community Development Department	CARB, SCAQMD	\$	Short
SAF1.B	Seek opportunities for City leadership and staff to participate in the San Gabriel Valley Council of Governments' programs for monitoring and improving air quality (such as the Public Works Working Group and the Energy, Environment, and Natural Resources Committee, which receives regular updates from the SCAQMD on regional programs, projects, and incentives). Additionally, lend support to the COG's legislative priorities for increasing funding for pollution reduction and locally-based air quality programs.	Administration Department	SGVCOG, Public Services Department, Community Development Department	\$	Short

ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
<p><b>Policy SAF1.2: Air Quality Monitoring.</b> Continue to monitor air quality through the city’s Aquatic Centers’ outdoor programming and ensure readings are accessible on the City’s webpage for community members to be informed of elevated risks and poor air quality days. Ensure that community members have access to information on daily air quality levels and safety measures for days with elevated exposure.</p>					
SAF1.C	Track reporting of average air quality levels for ozone and particulate matter through the USEPA AQI on a monthly basis to develop a long-term tracker for assessing trends in local air quality levels. (Currently use the South Coase Air Quality Management District App to track daily air quality. Aquatics Division puts up a flag outside its building to inform the community of the air quality [green, yellow, orange, red]. Aquatics closes if air quality is red.)	Community Development Department	Public Services Department (Recreation & Aquatics divisions), USEPA	\$	Short
<p><b>Policy SAF1.3: Climate Action and Adaptation.</b> Develop a climate action and adaptation plan to bring the city into compliance with state carbon emission reduction mandates, further improve air quality conditions and increase community resilience, particularly for vulnerable populations who are most at risk to the impacts of climate change.</p>					
SAF1.D	Seek grant funding to support the preparation of a climate action and adaptation plan. Work with local and regional agencies to identify funding opportunities for local governments.	Community Development Department	Public Works, SCAG, San Gabriel Valley Council of Governments	\$	Mid



SECTION 4 IMPLEMENTATION

ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
<p><b>Policy SAF1.4: Local Health Services.</b> Seek partnerships with local health departments and health care agencies (such as Kaiser Permanente, Citrus Valley Health Partners, Irwindale Industrial Medical Clinic, Foothill Medical Clinic, and Trans-Valley Medical Clinic) to inform community members of physical and mental health impacts relating to air pollution and expand awareness of support programs that provide resources and services to community members, such as health screenings, air filters, and smoking cessation.</p>					
SAF1.E	Track public health data in Irwindale through annual reporting from the CDC to monitor respiratory illnesses (asthma, bronchitis, pulmonary diseases, pneumonia, and other infections), cardiovascular illnesses (heart disease, heart failure, and cardiac arrest), non-skin cancers, and low birth-weight of infants, in order to track conditions over time and for use in comparing with air quality trends (see <b>Action SAF1.C</b> ).	Community Development Department	CARB, SCAQMD	\$	Short
SAF1.F	Expand the existing Resident Benefit program to provide educational resources from local hospitals, clinics, and other health organizations for increasing safety to air pollution, especially during periods of Moderate to Hazardous air quality, as reported by the AQI.	Administration Department	SCAQMD, CARB, Community Development Department	\$	Mid

ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
<p><b>Goal SAF2.</b> A community with complementary uses that reduce air pollution exposure and prioritize the health and safety of people and the environment.</p>					
<p><b>Policy SAF2.1: Sensitive Uses near Pollution Sources.</b> Require new residential developments and sensitive uses (e.g., schools, daycares, community centers, senior centers, parks) in proximity to pollution sources to incorporate design elements that provide mitigation or buffers, such as urban greening and landscaping, air conditioning, and ventilation. Where feasible, expand requirements for existing developments to incorporate such design elements.</p>					
SAF2.A	Update design guidelines to facilitate sustainable landscaping and promote greater density of urban greening, with increased minimum landscaping requirements and promotion of integrated natural solutions. Create design templates and a checklist to accompany guidelines for sustainable materials.	Community Development Department	LA County	\$\$	Short
<p><b>Policy SAF2.2: Protection from Polluting Sites.</b> Implement pollution mitigation measures to protect community members against air pollution from industrial and commercial uses, including the use of natural buffers, urban canopy, and air filtration. Prioritize residential areas and sensitive uses that are in proximity of industrial land uses.</p>					
<p><b>Policy SAF2.3: Natural Buffers in New Developments.</b> Require natural buffers in new industrial developments and along designated truck routes to separate polluting sources from residential and commercial uses, and other sensitive uses, to maximize their protection and reduce pollution exposure to the community.</p>					
SAF2.B	Evaluate existing, designated truck routes to prioritize locations for new and improved buffers, prioritizing routes near residential and sensitive uses, including homes, community centers, parks, and other social gathering places.	Public Services Department and City Engineering	SCAQMD EJ Department	\$\$	Short
<p><b>Policy SAF2.4: Residential and Industrial Interface.</b> Protect existing residential neighborhoods from industrial land use activities that may affect public health and air quality through added adequate landscaping, urban greening, and ventilation systems to minimize negative impacts to surrounding neighborhoods and development.</p>					



SECTION 4 IMPLEMENTATION

ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
<p><b>Goal SAF3.</b> A community that maximizes natural elements in design and infrastructure to promote quality air and mitigate pollution.</p>					
<p><b>Policy SAF3.1: New Parks.</b> Promote the creation of new parks, including pocket parks, with a mix of amenities (trees, trails, ponds, exercise equipment, benches, picnic tables), throughout the community, with priority for areas with residential and sensitive uses such as community centers, social gathering places, and schools. Ensure new park sites are environmentally safe from hazards prior to development.</p>					
SAF3.A	<p>Identify potential sites within existing parks or the public right-of-way for new tree plantings in the western and northern areas of the city, where there is currently lower existing tree canopy and where there is greater exposure to pollution from major corridors. Prioritize tree plantings in residential areas including parkways along I-605, I-210, Arrow Highway, Rivergrade Road, Los Angeles Street, Buena Vista Street, Azusa Canyon Road, and northern Irwindale Avenue.</p>	Public Services Department	Community Development Department, Los Angeles County Parks and Recreation	\$	Mid
<p><b>Policy SAF3.2: Preservation of Parks and Open Spaces.</b> Preserve existing parks and open space areas, including the Santa Fe Dam Recreation Area, from development.</p>					
<p><b>Policy SAF3.3: Private Open Spaces.</b> Develop incentives for private businesses and properties to engage in voluntary creations of open spaces and new tree plantings that promote good air quality.</p>					
<p> <b>Drought</b></p>					
<p><b>Goal SAF4.</b> A sustainable supply of water resources that meet current and long-term community needs for domestic, industrial, and recreational needs.</p>					
<p><b>Policy SAF4.1: Interagency Collaboration.</b> Participate in coordinated local, regional, and statewide water planning programs to support water management, conduct monitoring for groundwater, and improve water resiliency for all users.</p>					
SAF4.A	<p>Continue to support the development and implementation of the Upper San Gabriel Valley Municipal Water District Urban Water Management Plan, for long-term resource planning of water supplies to meet existing and future needs.</p>	Public Works Engineering Department	Upper District	\$	Mid

ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
SAF4.B	Seek opportunities to participate in regional initiatives through the San Gabriel Valley Council of Governments', including the Water Committee and Water Working Group. Remain informed of local and regional water initiatives to improve watershed management and water resiliency.	Public Works Engineering Department	Administration, SGVCOG, Upper San Gabriel Valley Municipal Water District	\$	Mid
<p><b>Policy SAF4.2: Potable Water Conservation.</b> Encourage the use of provisions that conserve potable water for domestic uses. Small-scale interventions for conservation of potable water include watershed restoration, resources for sustainable landscaping, and other home-based interventions.</p>					
<p><b>Policy SAF4.3: Interagency Collaboration for Water Conservation.</b> Coordinate with local, state, and federal agencies and other local nonprofits to identify and obtain sources of funding for water conservation efforts.</p>					
<p><b>Policy SAF4.4: Water Resource Protection Partnerships.</b> Partner with local organizations, agencies, and water purveyors that service Irwindale to protect groundwater and surface water resources that are vulnerable to climate change and to ensure a safe and reliable supply of water for future generations.</p>					
SAF4.C	Implement green infrastructure measures (e.g., greenways, community forest, linear parks, vegetated swales, miniparks) to be incorporated into all new development and redevelopment applications to facilitate groundwater recharge. This includes all projects (four units or fewer) that have a land disturbance activity and add, create, or replace more than 500 square feet of impervious area.	Community Development Department	Public Services Department, and Public Engineering, Upper San Gabriel Valley Municipal Water District	\$	Long
<p><b>Policy SAF4.5: Compliance with LA County Building Code.</b> Ensure that the city's building, zoning, and subdivision ordinances remain in compliance with LA County Building Code.</p>					
SAF4.D	Create city programs as feasible to incentivize the use of reclaimed wastewater, water conserving appliances, drought-tolerant landscaping, and other water conservation techniques.	Public Services Department, Public Services Department	Community Development Department, LA County, Upper San Gabriel Valley Municipal Water District	\$\$	Mid



SECTION 4 IMPLEMENTATION

ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
SAF4.E	Install drought-tolerant landscaping at City-owned facilities within the next 5 years.	Public Services Department	Community Development Department, LA County, Upper San Gabriel Valley Municipal Water District	\$\$\$	Mid

**Goal SAF5.** A community that is educated about the effects of drought.

**Policy SAF5.1: Water Conservation Education.** Support educational programs targeted at reducing water consumption and enhancing groundwater recharge.

SAF5.A	Collaborate with the Upper San Gabriel Valley Municipal Water District, Valley County Water District, Azusa Light and Water, and California American Water to develop an educational program to inform residents and employees of the status of the drought and water supply in the state and city, the importance of conservation (and how to conserve) as well as maintaining personal household and/or business emergency water supplies. Components of this program may include informational flyers, community workshops, and participation at community events.	Public Services Department	Upper San Gabriel Valley Municipal Water District, Valley County Water District, Azusa Light and Water, California American Water	\$\$	Long
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 **Extreme Weather**

**Goal SAF6.** A resilient community with effective adaptation measures to address extreme weather hazards.

**Policy SAF6.1: Extreme Weather Safety.** Reduce the impacts of extreme weather on people and places through safe buildings, public shelters, cooling centers, sustainable materials, tree canopy, and other measures that promote safety and mitigate hazards.

SAF6.A	Review current design guidelines for areas of opportunity to increase standards that promote urban heat mitigation (see <b>Action SAF2.A</b> ).	Community Development Department	Public Works Engineering Department, LA County	\$	Short
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ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
SAF6.B	Seek funding opportunities for climate adaptation to reduce the urban heat island effect with natural solutions and green infrastructure, such as increasing urban tree plantings, greenways, landscaping, cool roofs, cool pavements, green walls, and other elements that help increase cooling in the community and reduce hazards to people from heat impacts.	Community Development Department	Public Works Engineering Department, Los Angeles County Parks and Recreation	\$	Mid
SAF6.C	Promote local and regional agency and utility programs (such as the Efficient San Gabriel Valley (eSGV) Program, EASY Program assessment, and SGV GO Green) that provide assessments and assistance to businesses, schools, and households for weatherization improvements, including insulation, air sealing, window and door replacements, air filter replacements, window shading, and other methods.	Community Development Department and Public Services Department	SGVCOG, SoCalGas, Southern California Edison, CARB, SCAQMD, LA County, Caltrans	\$	Mid
<p><b>Policy SAF6.2: Public Improvements.</b> Enhance existing community infrastructure and amenities, including bus shelters, shading trees, landscaping, public streets, and public facilities, to increase safety and relief from extreme weather hazards. Prioritize improvements to infrastructure that is older or in poor quality, or has heat-absorbing materials.</p>					
SAF6.D	Adopt and enforce the latest building codes to increase resiliency of the built environment in Irwindale and minimize impacts from extreme weather hazards on people, property, and life.	Code Enforcement	Los Angeles County	\$	Mid



SECTION 4 IMPLEMENTATION

ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
SAF6.E	Install weatherproof shelters, such as awnings and sunshades, and increase tree canopy in the public right of way that protects residents and visitors from extreme weather, including heat, rainfall, and wind, and that helps to reduce the urban heat island effect. Prioritize locations for improvements (such as transit stops, active transportation corridors (pedestrian paths, bike lanes), safe routes to school, and outdoor gathering spaces) by assessing level of use and potential benefit to users through community outreach and engagement.	Public Works Engineering, Public Services Department	Community Development Department, Recreation, Caltrans, CARB, SCAQMD	\$\$\$	Mid
SAF6.F	Identify facilities where cool roofs, green roofs, and/or green facades can be installed to help reduce the urban heat island effect and daytime temperatures. Seek grant funding for planning and implementation of urban heat island mitigation projects.	Public Services Department	Community Development Department, Los Angeles County Parks and Recreation	\$	Mid
<p><b>Goal SAF7.</b> A community with parks and open spaces, greenways, and trees that help to reduce the urban heat island effect, mitigate extreme heat, and reduce impacts to the community.</p>					
<p><b>Policy SAF7.1: Urban Greening Amenities.</b> Increase parks, open space amenities, and tree canopy in residential and commercial areas and near schools, community centers, and other social gathering areas.</p>					
SAF7.A	Identify park needs in the community, assessing residential neighborhoods that are farther than a half-mile or 10-minute walk from a park or open space area.	Community Development Department	Los Angeles County Parks and Recreation, Trust for Public Land, Public Works, Public Services Department	\$	Long

ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
SAF7.B	Maintain a list of drought-tolerant and heat-resistant trees that are suitable for planting for Southern California’s weather and soil conditions. Consider partnerships with local and regional organizations for the success of the urban canopy, including the Arbor Day Foundation and TreePeople.	Public Services Department	Community Development Department, Recreation, Tree People, Los Angeles County Parks and Recreation	\$	Short
SAF7.C	Develop guidelines to support “right tree, right place” plantings, where appropriate and approved species are planted according to best practices to avoid conflicts with power lines, buildings, sidewalks, and other issues that risk long-term success of the urban canopy. Consider the space, height, canopy spread, shape, growth rate, growth requirements, and maintenance requirements of trees for plantings.	Public Services Department	TreePeople, LA County, Southern California Edison	\$\$	Short

 **Flooding**

**Goal SAF8.** A community that is protected from flood hazards, with adequate safety protections in areas subject to potential inundations.

**Policy SAF8.1: Annual Flood Hazard Mapping.** Maintain current floodplain mapping, data, and information throughout the city on a yearly basis, using the latest information available from FEMA.

**Policy SAF8.2: Development within Flood Hazard Areas.** Require development within mapped flood hazard areas to be located, designed, and constructed to provide adequate defensibility and minimize the risk of structural loss and life loss resulting from flood hazards.

**Policy SAF8.3: New Development.** Require new development to incorporate low-impact designs and nature-based solutions to minimize stormwater impacts on drainage and flood control facilities and promote groundwater recharge, where feasible.



SECTION 4 IMPLEMENTATION

ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
<p><b>Policy SAF8.4: Storm Drain Master Plan.</b> Prepare, evaluate, and implement the storm drain master plan study to look for and address deficiencies in the storm drain infrastructure.</p>					
SAF8.A	<p>Prioritize storm drain studies and maintenance on areas that are identified for disaster relief such as the Senior Center &amp; Dan Diaz Recreation Center.</p>	<p>Public Works Engineering Department &amp; Public Services Department</p>	<p>\$</p>	<p>Mid</p>	
<p><b>Goal SAF9.</b> Minimized personal injury and property damage losses resulting from dam failure.</p>					
<p><b>Policy SAF9.1: Dam Failure Inundation Mapping.</b> Work with the US Army Corps of Engineers and Los Angeles County Flood Control District to maintain and expand dam failure inundation area mapping, as relevant to the City of Irwindale.</p>					
<p><b>Policy SAF9.2: New Development in Dam Failure Inundation Areas.</b> Minimize development in areas at risk of dam inundation, to the extent possible, in order to protect public safety and reduce potential property damage due to dam-failure-induced flooding.</p>					
SAF9.A	<p>Develop a local dam failure evacuation plan in cooperation with the Los Angeles County Flood Control District and US Army Corps of Engineers.</p>	<p>Public Works Engineering Department</p>	<p>Us Army Corps of Engineers</p>	<p>\$\$</p>	<p>Short</p>
SAF9.B	<p>Identify secondary evacuation routes that are susceptible to dam-failure-related impacts to ensure adequate evacuation access is available.</p>	<p>Public Works Engineering Department</p>	<p>Us Army Corps of Engineers, LACoFD</p>	<p>\$</p>	<p>Short</p>
SAF9.C	<p>Amend the zoning ordinance to create provisions that protect or restrict sensitive uses (e.g., schools, daycares, community centers, senior centers, and parks), and critical uses (e.g., emergency service facilities, public utilities, or communications facilities) within flood hazard areas and designated dam inundation areas.</p>	<p>Community Development Department</p>	<p>Public Works Engineering Department</p>	<p>\$</p>	<p>Short</p>
SAF9.D	<p>Identify and retrofit existing city assets that are subject to dam failure.</p>	<p>Public Works Engineering Department</p>	<p>TBD</p>	<p>\$\$\$</p>	<p>Long</p>

ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
<p><b>Policy SAF9.3: County Coordination.</b> Work with Los Angeles County Parks and Recreation to protect recreational uses around the Santa Fe Dam Recreation Area from dam-failure-related flooding.</p>					
<p><b>Policy SAF9.4: Interagency Cooperation for Flood Standards and Regulations.</b> Cooperate with the Los Angeles County Flood Control District, Federal Emergency Management Agency, and US Army Corps of Engineers every 5 years in preparing and implementing flood standards and regulations.</p>					
<p> <b>Geologic and Seismic Hazards</b></p>					
<p><b>Goal SAF10.</b> A community protected from seismic and geologic hazards that ensures public health and safety as well as city infrastructure and services are maintained.</p>					
<p><b>Policy SAF10.1: Building Codes.</b> Ensure that new and retrofitted buildings comply with the most recently adopted applicable city, county, and state building codes governing seismic safety to minimize the potential for damage from earthquakes.</p>					
<p><b>Policy SAF10.2: Geotechnical Study.</b> Require detailed geologic, geotechnical, or soil investigations in areas of potential seismic or geologic hazards as part of the environmental and/or development review process.</p>					
<p><b>Policy SAF10.3: Structural Hazards.</b> Mitigate structural hazards related to seismic events through appropriate methods such as excavating and refilling land with engineered fill, slope stabilization, and other appropriate mitigation.</p>					
SAF10.A	Implement slope stabilization projects in the highest risk areas, particularly around the existing 17 mines in the city.	Public Works Engineering Department		\$\$\$	Long
<p><b>Policy SAF10.4: Critical Facilities.</b> Ensure that police and fire stations, emergency operations centers, communications centers, reservoirs, medical facilities, and other essential structures and facilities located in geologic and seismic hazard areas remain safe and in a state of readiness for earthquakes.</p>					
SAF10.B	Retrofit City-owned critical facilities and buildings to increase their capability to withstand earthquakes.	Public Works Engineering Department		\$\$\$	Long
<p><b>Policy SAF10.5: SMARA Regulations.</b> Continue to enforce Surface Mining and Reclamation Act (SMARA) regulations with regard to the mining pits in the city to ensure proper handling of slopes, mining depths, runoff, environmental impacts, and the filling and ultimate development of the site.</p>					



SECTION 4 IMPLEMENTATION

ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
 <b>Hazardous Materials</b>					
<b>Goal SAF11.</b> A safe and healthy community that minimizes public health risks and threats from hazardous materials and wastes.					
<b>Policy SAF11.1: Hazardous Materials Risk Reduction.</b> Continue coordination with the Los Angeles County Fire Department to reduce the risk of hazardous materials accidents through conscientious land use planning.					
<b>Policy SAF11.2: Hazardous Materials Businesses.</b> Improve intentional and safe siting of businesses that use, store, or transport hazardous materials and waste near residential neighborhoods and sensitive areas, and enforce mitigation measures to comply with Los Angeles County Fire Department standards.					
<b>Policy SAF11.3: Hazardous Materials Handlers.</b> Continue to require businesses, such as CleanTech Environmental, that store, generate, use, or transport large or toxic quantities of hazardous materials or wastes to comply with Los Angeles County Fire Department standards.					
<b>Policy SAF11.4: Household Hazardous Waste.</b> Encourage the proper reduction of household hazardous waste and disposal through comprehensive public education, recycling efforts, and collection programs.					
<b>Policy SAF11.5: Transportation.</b> Work with governmental agencies, such as Caltrans and the San Gabriel Valley COG, to ensure that transporters of hazardous materials and wastes redesignate truck routes away from residential neighborhoods and sensitive areas where spills may occur.					
SAF11.A	Identify and establish specific travel routes for the transport of hazardous materials and wastes, focusing on the capacity to safely accommodate additional truck traffic, avoidance of residential neighborhoods and areas, and use of interstate or state highways as preferred routes.	Community Development Department	Public Works Engineering Department, LACoFD	\$	Short
<b>Policy SAF11.6: Hazardous Waste Spills and Cleanup.</b> Continue to proactively contain and supervise the cleanup of spills on city streets, catch basins, storm drains, and storm channels, and work with property owners to reduce hazardous materials accidents.					
SAF11.B	Post informational resources on the City's website that link to the websites of the county, state, and federal agencies that regulate hazardous materials.	Public Works Engineering Department	Community Development Department	\$	Short

ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
SAF11.C	Create a program to work with property owners to identify hazardous materials risks and ensure remediation of hazardous building materials such as asbestos and lead.	Code Enforcement Department	Community Development Department	\$\$	Short
<b>Policy SAF11.7: Certified Unified Program Agency (CUPA) Coordination.</b> Continue to work with the Los Angeles County Fire Department to administer and enforce state and federal hazardous materials regulations.					
SAF11.D	In cooperation with the CUPA, inventory and regularly inspect buildings and facilities in which hazardous materials accidents would pose a threat to the community. Work with the owners to develop and implement programs for reducing risks associated with these buildings and facilities.	Public Works Engineering Department	CUPA	\$\$	Mid
<b>Policy SAF11.8: Existing Mining Pits.</b> Identify and publicize the status of the mining pits in the city.					
SAF11.E	Require the planned reclamation of the mining pits with consideration of the land's potential for recreational, scenic uses, residential, or commercial development.	Public Works Engineering Departments	Community Development Department	\$\$\$	Mid
SAF11.F	Seek grant opportunities and partnerships with state and federal agencies (e.g., U.S. Environmental Protection Agency) to expedite the full cleanup of the remaining sites.	Public Works Engineering Department	USEPA, DTSC	\$\$	Mid
SAF11.G	Ensure all necessary city staff has Surface Mining and Reclamation Act (SMARA) training to address hazardous materials releases created through mining operations to help ensure that potential hazards are mitigated at the source.	Public Works Engineering Department	Community Development Department	\$\$	Short



SECTION 4 IMPLEMENTATION

ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
SAF11.H	In conjunction with <b>Action SAF11.B</b> , create a City website that lists the mining pits, operation status, reclamation plans, and other applicable information for residents to access and be aware of the operational timeline of the mining pits.	Public Works Engineering Department	Administration	\$	Short
SAF11.I	Require that all mining operations are adequately reviewed during the reclamation and closing processes to minimize, to the greatest degree possible, all identified impacts, especially impacts to water quality.	Public Works Engineering Department	Community Development Department	\$	Short

 **Law Enforcement and Crime**

**Goal SAF12.** A resourced police department with sufficient staffing, equipment, resources, and readiness to address crime, respond to local emergencies, and increase community safety.

**Policy SAF12.1: Police Services Management.** Continue regular review of staffing, equipment, and resources of the police department to ensure continuous and responsive service for law enforcement, crime reduction, monitoring, investigations, emergency, and other critical operations. Identify potential gaps and needs to carry out services and prioritize capacity-building for the Irwindale Police Department to be able to respond to crime reports and increase safety.

SAF12.A	Review existing mutual aid agreements with partnering agencies providing police and fire services from city departments to assess the need for increased support to reduce crime in the city. Current mutual aid agreements are in place with the cities of Arcadia, Azusa, Baldwin Park, Bradbury, Claremont, Covina, Diamond Bar, Duarte, El Monte, Glendora, Industry, La Puente, La Verne, Monrovia, Pomona, Rosemead, San Dimas, Sierra Madre, South El Monte, Temple City, Walnut, and West Covina.	Police Department	LA County Fire, cities of Arcadia, Azusa, Baldwin Park, Bradbury, Claremont, Covina, Diamond Bar, Duarte, El Monte, Glendora, Industry, La Puente, La Verne, Monrovia, Pomona, Rosemead, San Dimas, Sierra Madre, South El Monte, Temple City, Walnut, and West Covina	\$	Mid
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ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
SAF12.B	Assess Police Department resources and support needed for clearing and/or closing crimes and increasing percentage of crimes cleared. Consider staff capacity, tools, funding, and other resources that may pose barriers for addressing safety and crime in the community.	Administration	Police Department	\$	Mid
<p><b>Policy SAF12.2: Patrolling and Surveillance.</b> Evaluate need for increased patrolling and surveillance through additional officers or increased frequency of patrols using crime reports and feedback from the community to enhance safety in areas of concern within the city.</p>					
SAF12.C	Engage with local businesses, employers, organizations, schools, neighborhood groups, and other community members through public workshops to hear community concerns regarding perceptions of unsafe areas in Irwindale, and discuss needs for surveillance and patrolling such as Neighborhood Watch and Business Watch.	Police Department	LA County Fire, Administration	\$	Short
SAF12.D	Conduct a yearly evaluation of local businesses' reliance on police services to assess their usage levels. If certain businesses consistently demand a disproportionate share of police time and resources, require them to employ private security.	Police Department		\$	Ongoing
<p><b>Policy SAF12.3: Business Watch.</b> The Irwindale Police Department will establish and facilitate a Business Watch Program to promote crime prevention, community engagement, and emergency preparedness among businesses within Irwindale.</p>					
SAF12.E	Designate a city official or law enforcement liaison as the point of contact for Business Watch Groups.	Police Department			
SAF12.F	Establish a dedicated communication channel for reporting incidents and feedback from community members.	Police Department			



SECTION 4 IMPLEMENTATION

ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
SAF12.G	Provide training sessions on crime prevention, emergency preparedness, and other relevant topics for Business Watch members.	Police Department			
SAF12.H	Promote the Business Watch Program through public awareness campaigns, social media, and local news outlets, encouraging participation and community support.	Police Department			
SAF12.I	Schedule regular meetings to discuss safety concerns, share information, and incorporate community and law enforcement feedback.	Police Department			

**Goal SAF13.** An engaged and responsive community that contributes to reporting, information sharing, and crime reduction.

**Policy SAF13.1: Voluntary Reporting.** Continue voluntary crime reporting from the Police Department to the FBI for federally monitored offenses, including violent crime, property crime, arson, burglary, larceny-theft, and hate crime to help evaluate trends over time.

**Policy SAF13.2: Police and Community.** Continue to build positive relationships between community members and the Irwindale Police Department through programs, mentorship, education, and events that provide opportunities for engagement and connection.

SAF13.A	Involve the Police Department in community events and programs where officers can engage with community members on information, discussions, and other activities that promote a positive relationship and increase the sense of safety.	Recreation	Police Department	\$	Ongoing
SAF13.B	Conduct regular (monthly, bi-monthly, or quarterly) meetings at public facilities, such as the community center, parks, and city facilities that are near residential neighborhoods and places of employment, to share updates on crime and hear community member concerns.	Police Department	Public Services Department	\$	Ongoing

ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
SAF13.C	Implement the Park Watch Program to support residents with regular maintenance and patrolling of parks and open spaces. Assess feasibility to implement an <b>Adopt-a-Park</b> program under the Park Watch and in collaboration with the Neighborhood Watch, to allow individual neighborhoods, businesses, and organizations to assist with park maintenance, identifying improvements and financing, and security.	Public Services Department	Police Department, Public Works	\$\$	12 months to implement Park Watch Program

**Policy SAF13.3: Public Alerts.** Maintain the CivicReady service for public alerts, warnings, events, and other information that promote safety and foster a positive relationship between law enforcement and community members.

**Goal SAF14.** A built environment that improves public safety, discourages and prevents crime, and instills a sense of community ownership for people and property in Irwindale.

**Policy SAF14.1: Urban Design.** Promote the design of safe neighborhoods to enhance public safety and discourage crime. Require that buildings, streets, and public spaces be designed with safety elements, including lighting, as well as “eyes on the street” and “crime prevention through urban design” features such as gathering areas, sidewalks, walkways and bicycle lanes, street-fronting uses, large and open windows, attractive designs, and other elements that help to connect people in public spaces and maintain public sight.

SAF14.A	<p>Create citywide objective design standards that address crime prevention through urban design. In the interim, require the following for new developments:</p> <ul style="list-style-type: none"> <li>Require buildings to orient toward public areas, including the street, where they can facilitate surveillance of exterior areas. Ensure doorways, entryways, and emergency exits are located where they are visible to other people and properties.</li> <li>Require that new developments expand open spaces and social gathering areas in the city, including plazas, outdoor eating, farmer’s</li> </ul>	Community Development Department	Public Works, Code Enforcement, Public Services	\$\$	Mid
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SECTION 4 IMPLEMENTATION

ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
	<p>markets, and other public uses and activities that bring people together and foster community ownership.</p> <ul style="list-style-type: none"> <li>• Ensure that new tree plantings and landscaping maintain sight lines and do not block visibility. Low hedges, flowerbeds, and tall trees can help maintain sight lines of entryways, streets, and properties (see <b>Actions SAF2.A</b> and <b>SAF6.A</b>).</li> <li>• Require businesses to adequately maintain landscaping in and along their property, particularly overgrown palm trees.</li> </ul>				
<p><b>Policy SAF14.2: Safe Public Events.</b> Promote events and social gathering in public spaces in the city to help with “eyes on the street.” Encourage shared use of public facilities, including parks, playgrounds, open spaces, and parking lots.</p>					
<p><b>Policy SAF14.3: Implementation of Safety Features.</b> Identify areas of the city in need of additional safety features, including lighting and surveillance technology. Prioritize areas of employment, residential neighborhoods, schools, major roads, and alleyways.</p>					
SAF14.B	<p>Assess current street lighting fixtures, with focus on industrial areas, residential neighborhoods, active transportation routes, commuting routes, parking lots, and routes to school, to prioritize needs for increased and/or improved lighting and help deter theft. Identify number, location, and quality of fixtures to help determine where new fixtures may be beneficial.</p>	<p>Public Works Engineering Department &amp; Public Services Department</p>	<p>Community Development Department, Recreation</p>	<p>\$</p>	<p>Short</p>
SAF14.C	<p>Ensure that minimum standards for streetlights are met, and update standards as necessary for implementing best practices for safety lighting.</p>	<p>Public Works Engineering Department &amp; Public Services Department</p>		<p>\$\$</p>	<p>Short</p>

ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
 <b>Wildfire</b>					
<b>Goal SAF15.</b> A city where residents and businesses are safe from wildfires and are prepared for the hazards associated with wildfire spread.					
<b>Policy SAF15.1: Fire Prevention and Suppression Needs.</b> Coordinate with Valley County Water District, as well as other water service providers within the city and neighboring cities and fire agencies in neighboring cities to plan for future fire prevention and suppression needs including identifying future water supply for fire suppression needs.					
<b>Policy SAF15.2: Emergency Evacuation Route Adequacy.</b> Coordinate with state agencies and local fire districts to ensure the maintenance and reliability of current evacuation routes that may be compromised by wildfire, and publicly disclose development locations without sufficient emergency route access or capacity.					
<b>Policy SAF15.3: Maintenance of Emergency Evacuation Routes.</b> Proactively manage vegetation along roadsides of emergency/evacuation routes to prevent wildfires.					
<b>Policy SAF15.4: Fire Codes.</b> Ensure that the latest versions of regional and state Fire Codes are adopted and enforced to build resiliency and minimize the potential for damage, personal injury, and loss from fire hazards.					
SAF15.A	Update local zoning and subdivision codes to designate wildfire hazard overlay zones that are designated by CAL FIRE as VHFHSZs to ensure new development within the overlay will meet all state and local requirements for building and vegetation management. Update, as necessary, associated conditional use, site development standards, and design criteria to mitigate wildfire hazards and reduce risks to new development within the overlay zones.	Community Development Department	CAL FIRE	\$\$	Short
<b>Policy SAF15.5: Consistency with California Codes.</b> Ensure that all residential, commercial, and industrial construction and development maintain consistency with California Code of Regulations Title 14, Natural Resources, Division 1.5, Department of Forestry, Chapter 7, Fire Protection.					
SAF15.B	Review and update the city's municipal code as necessary to bring it into compliance with California Code of Regulations Title 14, Natural Resources Division 1.5, Department of Forestry, Chapter 7, Fire Protection.	Community Development Department	CAL FIRE	\$\$	Short



SECTION 4 IMPLEMENTATION

ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
SAF15.C	Adopt the most recent County of Los Angeles Fire Department Strategic Fire Plan.	Community Development Department	LA County Fire	\$	Short

**Policy SAF15.6: Existing Structures in VHFHSZ.** Support the retrofitting of existing structures in VHFHSZs built prior to modern fire safety codes or wildfire hazard mitigation guidance to help reduce the risk of structural and human loss due to wildfire.

SAF15.D	Prioritize public and private funding for fire risk reduction to assist private landowners in implementing safety measures to achieve a low-risk condition, specifically for businesses within or near VHFHSZs in the city.	Community Development Department	LA County Fire	\$	Ongoing
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**Policy SAF15.7: Development in the VHFHSZ.** Avoid or minimize new residential development in the VHFHSZ. If new development occurs within or near the VHFHSZ, ensure projects comply with all applicable state or local fire safety and defensible space regulations or standards, and any applicable fire protection or risk-reduction measures identified in locally adopted plans. Discourage land uses that could exacerbate the risk of ignitions in the VHFHSZ, such as outdoor storage of hazardous or highly flammable materials, automobile service stations, or gas stations.

**Policy SAF15.8: New Development Fire Safety Standards.** Require that all new development prepare a fire protection plan that complies with established fire safety standards. Require that ingress and egress routes be constructed using the most current state Fire Safe Regulations, Fire Code, and or City Code that meets these minimum requirements. Fire protection plans shall be referred to the appropriate fire agency and other public agencies for comment as to:

- 1) Risk analysis
- 2) Location of anticipated water supply
- 3) Adequacy of water supply for new development (i.e., maintenance and long-term integrity)
- 4) Adequacy of fire flow (gallons per minute) to extinguish a fire at the proposed development
- 5) Fire response capabilities including site design for fire department access in and around structures
- 6) Ability for a safe and efficient fire department response
- 7) Traffic flow and ingress/egress for residents and emergency vehicles
- 8) Mitigation measures and design considerations for non-conforming fuel modification
- 9) Potential impacts to emergency services and fire department response
- 10) Wildfire education maintenance and limitations

ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
<p><b>Policy SAF15.9: Proper Addressing and Signage.</b> Implement proper addressing and signage for all streets and homes in compliance with the Los Angeles County Fire Department to assist in fire emergencies.</p>					
<p><b>Policy SAF15.10: Vegetation Maintenance Agreement.</b> Continue to require new development to enter into a long-term vegetation maintenance agreement with the City for defensible space and fuel modification.</p>					
<p><b>Policy SAF15.11: Flammable Plant Species.</b> Reduce highly flammable plant species that have a low drought tolerance and easily spread.</p>					
SAF15.E	Work with certified arborists or organizations to identify plant species that are highly flammable and pose risks to the community, with an inventory of their location and risk level. Prioritize more vulnerable locations (those within VHFHSZ to the north) for removal or replacement of flammable plant species to reduce the risk of brush fires.	Public Services Department	TreePeople, Recreation, Community Development	\$	Ongoing
SAF15.F	Adopt a fire-resistant landscape ordinance to ensure existing flammable vegetation is removed and replaced with fire-adaptive plants.	Community Development	Public Works Engineering Department, Public Services Department	\$	Short
<p><b>Policy SAF15.12: Defensible Space.</b> Ensure that a defensible space is maintained around residential located in high or very high wildfire hazards zones, as per Los Angeles County Fire Department guidelines.</p>					
<p><b>Policy SAF15.13: Fire Prevention Techniques.</b> Preserve and maintain existing fire trails, defensible space and community fire breaks and maintain public and private road clearance.</p>					
SAF15.G	Coordinate with CAL FIRE, Fire Safe Councils, public works, fire districts, and other community organizations to ensure proper maintenance of fire breaks; seek funding opportunities (both federal and state) for fire breaks and their long-term maintenance.	Public Works Engineering Department & Public Services Department	CAL FIRE, LA County Fire	\$\$	Ongoing



SECTION 4 IMPLEMENTATION

ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
SAF15.H	Work with the Los Angeles County Fire Department to maintain open spaces within and around the Santa Fe Dam Recreation Area and San Gabriel River Basin so that ground fuels do not promote the spread of wildfire and aerial fuels do not allow the spread of a fire through the tree canopy.	Public Works Engineering Department & Public Services Department	Community Development Department	\$\$	Ongoing
<b>Policy SAF15.14: Location of Public Facilities.</b> All essential public facilities shall be located outside high fire risk areas, where feasible.					
<b>Policy SAF15.15: Non-Conforming Development.</b> Mitigate existing non-conforming development to contemporary fire safe standards, in terms of road standards and vegetative hazards, as feasible.					
SAF15.I	Identify existing non-conforming development, prioritizing sensitive uses within Very High Fire Hazard areas, and work with CAL FIRE to create a program for homeowners and business within these areas to bring their properties into conformance, learn about the fire risk and how to reduce that risk through fuel modification.	Public Works Engineering Department & Public Services Department	CAL FIRE, Community Development Department	\$\$	Ongoing

ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
 <b>Emergency Preparedness</b>					
<b>Goal SAF16.</b> A city that responds with the maximum feasible speed and efficiency to disaster events so as to minimize injury, loss of life, property damage, and disruption to the social and economic life of the city.					
<b>Policy SAF16.1: Emergency Response Planning.</b> In cooperation with City emergency response providers, maintain and regularly update emergency plans for floods, earthquakes, fires, hazardous materials, and other disasters. Plans should be consistent with the California Standardized Emergency Management System protocol.					
SAF16.A	Review and update the city’s Local Hazard Mitigation Plan every 5 years in accordance with federal planning regulations to reduce loss of life and property by minimizing disaster impacts, and ensure the City is eligible to access funding for disaster assistance, pre-disaster planning, and other grant programs for safe community planning.	Community Development Department	LA County, FEMA	\$\$	Ongoing
<b>Policy SAF16.2: Interagency Coordination.</b> Cooperate with other public agencies, nearby cities, community groups, and private enterprises in developing comprehensive disaster preparedness, assistance, and post-disaster recovery plans in order to maximize mutual aid response. Participate in regularly scheduled disaster exercises and emergency response drills to better prepare Police, Fire, Public Works, and other city department employees for disaster response.					
<b>Policy SAF16.3: Private Sector Collaboration.</b> Engage the private sector (business community) in disaster response planning and coordination through planning outreach and engagement that fosters stronger connections with the business community, increases information sharing on emergency management, and facilitates public-private partnerships. Ensure input from the business community informs the planning process, emergency response strategies, and post-disaster recovery efforts, including short- and long-term restoration of services and operations, and economic recovery.					
<b>Policy SAF16.4: Assessment of Future Emergency Service Needs.</b> Prepare an assessment and projection of future emergency service needs as part of the city’s future General Plan Land Use Element Update and Master Fire Plan and ensure that future growth projections are coordinated with emergency and fire service capacity and delivery.					



SECTION 4 IMPLEMENTATION

ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
<p><b>Policy SAF16.5: Post-Disaster Evaluation.</b> Following disasters, conduct an evaluation of the extent of damage and the need for redevelopment, particularly after large fires.</p>					
SAF16.B	Ensure post-fire redevelopment complies with the most current version of the California Building Codes and California Fire Code.	Fire Department	Public Works Engineering Department	\$	Ongoing
<p><b>Policy SAF16.6: Community Capacity.</b> Involve volunteers, community groups, and civic organizations in emergency response activities, including planning and program development to prepare for disasters and disaster recovery. Individuals and businesses should have access to up-to-date information that allows them to engage with the City, regional agencies, and community-based organizations to expand communications, coordinate hazard preparation and response, and be able to make informed decisions about potential safety hazards and the level of risk they are willing to accept.</p>					
SAF16.C	Collaborate with city departments and public service providers, such as the Department of Public Works and the Los Angeles County Fire Department, to implement hazard awareness, education, and preparation programming for Irwindale residents and businesses to learn about natural hazards, risks, and risk reduction strategies.	Community Development Department	Public Works Engineering Department, Public Services, Department, Police Department, LA County Fire	\$\$	Ongoing

ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
SAF16.D	Seek partnerships with neighboring jurisdictions and community-based organizations to develop a program for building community safety awareness, with an ongoing series of informational public meetings or seminars and a community guide on disaster preparedness and procedures. The program should be about minimizing hazards in the home; wildfire mitigation and disaster planning; earthquake preparedness and housing retrofit programs; and developing disaster preparedness and evacuation plans. The program should be promoted through existing community newsletters and in the ongoing emergency preparedness column within the local newspaper.	Community Development Department	Public Services Department, Police Department, Police Department, LA County, SGVCOG	\$\$	Ongoing

**Policy SAF16.7: Utilities.** Work with local gas, electric, cable, water, sewer, and other utility providers to maintain their facilities and ensure their ability to function (or be quickly restored) during and following a disaster.

**Policy SAF16.8: Critical Facilities.** Ensure that critical public facilities and infrastructure that support community health and safety (such as police and fire stations, and water and sewer facilities) are designed to maximize their resilience and ability to function during and after a natural disaster.

SAF16.E	Collaborate with community-serving utilities and public facilities that are critical to effective disaster response to evaluate their ability to operate efficiently after a major disaster. Support and incentivize emergency action planning for these facilities to ensure they are well prepared for disaster and are accessible during emergencies. Work with the utilities and public facilities to designate alternative facilities for post-disaster assistance in the event that primary facilities are impacted.	Community Development Department	Public Works Engineering Department, Police Department, Public Services Department, LA County, SoCalGas, Southern California Edison	\$\$	Ongoing
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SECTION 4 IMPLEMENTATION

ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
<p><b>Policy SAF16.9: Technology.</b> Support the use of communication technologies to transmit information to other agencies and the public during emergencies, including:</p> <ul style="list-style-type: none"> <li>• CivicReady emergency alert system</li> <li>• Social media operated by the Los Angeles County Fire Department, Irwindale Police Department, and other public safety agencies and municipalities</li> <li>• Other systems to provide outreach to residents without telephone or Internet service</li> </ul>					
<p><b>Policy SAF16.10: Emergency Evacuation.</b> Ensure the transportation system provides adequate capacity for safe, efficient and quick evacuations in the event of an emergency or natural disaster.</p>					
SAF16.F	Provide evacuation information to residents, businesses, and visitors to help improve emergency preparedness. Evacuation materials should identify shelter locations, evacuation routes, defensible space and procedures for storing value items or taking such items with them.	Community Development Department	Public Works Engineering Department, Public Services Department, Police Department, LA County Fire	\$	Short
SAF16.G	Continue to work with local emergency response providers in Irwindale to review, evaluate, and update emergency evacuation routes upon each update of the city's Safety Element or Local Hazard Mitigation Plan, as understanding of hazard impacts improve and climate change impacts continue.	Community Development Department	Police Department, LA County Fire	\$	Ongoing
SAF16.H	Upon the next update of the Local Hazard Mitigation Plan, update city maps that address the adequacy of evacuation routes and their capacity, safety, and viability in the event of natural hazards and other emergencies that meet Assembly Bill 747 requirements.	Community Development Department	Police Department, LA County Fire	\$\$	Mid
SAF16.I	Consider including the following actions in conjunction with established fire standards when	Fire Department	Public Works Engineering Department & Public Services Department	\$\$	Mid

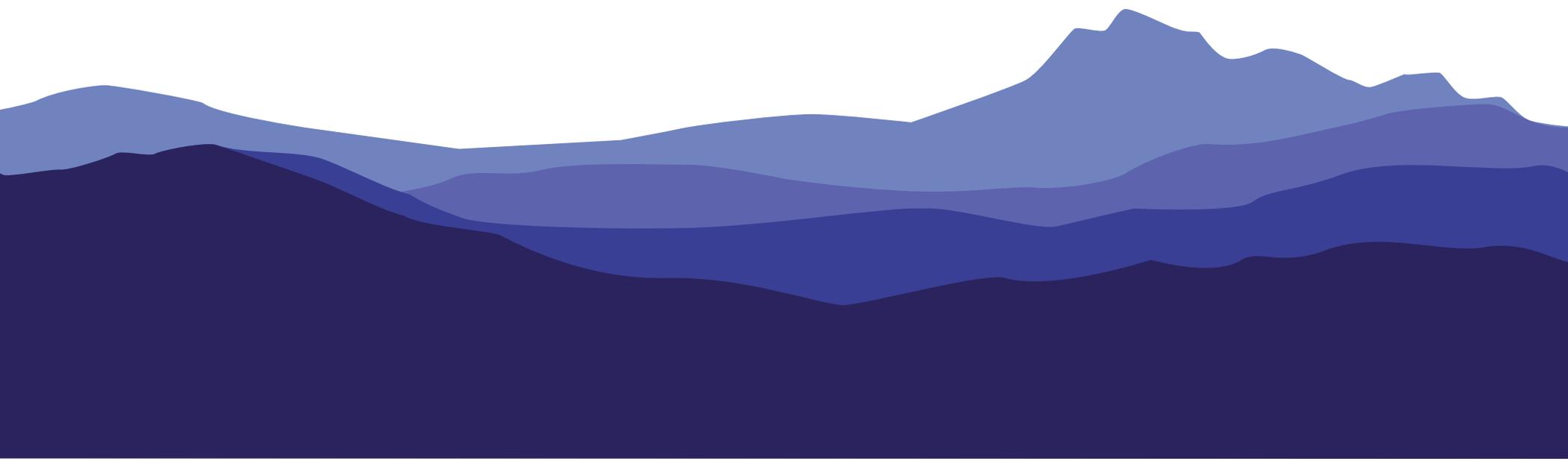
ACTION NO.	ACTION	LEAD AGENCY	PARTNERSHIPS	RELATIVE COST	IMPLEMENTATION TIMEFRAME
	<p>formalizing plans for potential or imminent evacuation routes, particularly in the VHFHSV:</p> <ul style="list-style-type: none"> <li>• Increase capacity through use of contraflow lanes or shoulders.</li> <li>• Manage traffic control, including through turn restrictions and route or ramp closures, to minimize outflows from evacuation areas.</li> <li>• Prohibit or restrict street parking on high-hazard days.</li> <li>• Continually improve communication systems and implement strategies that improve disaster alerts.</li> <li>• Instigate dynamic route guidance and monitoring.</li> <li>• Implement phased evacuations.</li> <li>• Promote reductions in vehicle volumes during evacuations, such as by encouraging households to use only one vehicle to evacuate.</li> <li>• Closely monitor power issues that could affect traffic signals and slow down evacuations.</li> </ul>				
SAF16.J	<p>The Dan Diaz Recreation Center is designated as a disaster relief center for major disasters. The Senior Center is open as a disaster relief center during smaller emergencies and disasters such as storms and heat waves.</p>	<p>Administration Department and Public Services Department</p>	<p>Community Development Department</p>	<p>\$\$</p>	<p>Ongoing</p>



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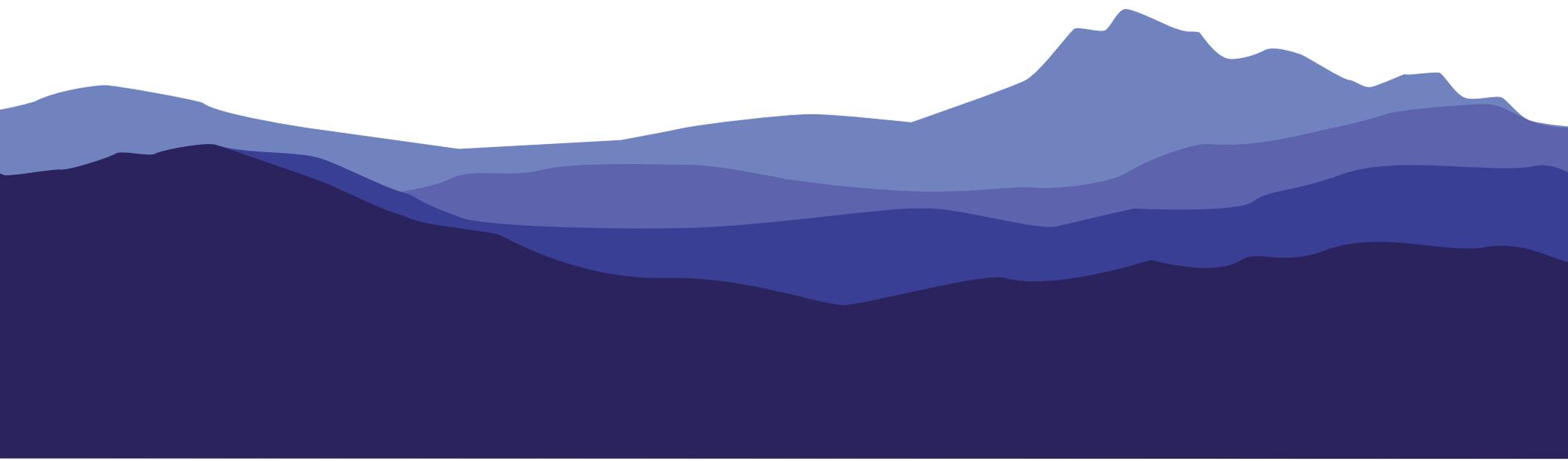
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# APPENDIX A Existing Conditions Report





Final

# CITY OF IRWINDALE GENERAL PLAN UPDATE

## Safety Element – Existing Conditions

Prepared for  
City of Irwindale

November 2021





Final

# CITY OF IRWINDALE GENERAL PLAN UPDATE

## Safety Element – Existing Conditions

Prepared for  
City of Irwindale

November 2021

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# Acronyms and Abbreviations

<b>Acronym/Abbreviation</b>	<b>Definition</b>
AB	Assembly Bill
ALW	Azusa Light & Water
APG	California Adaptation Planning Guide
APSA	Aboveground Petroleum Act
BMPs	best management practices
CAL FIRE	California Department of Forestry and Fire Protection
CalEnviroScreen	California Environmental Health Screening Tool
CalEPA	California Environmental Protection Agency
CBC	California Building Code
CDF	California Division of Forestry
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERS	California Environmental Reporting System
CFR	Code of Federal Regulations
CHP	California Highway Patrol
CUPA	Certified Unified Program Agency
diesel PM	Diesel Particulate Matter
DSA	Division of the State Architect
DSW	Disaster Service Workers
DTSC	California Department of Toxic Substances Control
EAP	emergency action plan
EAS	Emergency Alert System
EOC	Emergency Operations Center
EOP	emergency operations plan
ESF	Emergency Support Function
FBI	Federal Bureau of Investigations
FEMA	Federal Emergency Management Agency
FHSZ	Fire Hazard Severity Zone
FRA	Federal Responsibility Area
GHG	greenhouse gas
HHE	heat health events

<b>Acronym/Abbreviation</b>	<b>Definition</b>
HSC	Health & Safety Code
ICBO	International Conference of Building Officials
IMC	City of Irwindale's Municipal Code
LA	Los Angeles
LACF	Los Angeles County Fire Department
LACFCD	Los Angeles County Flood Control and Water Conservation District
Los Angeles Water Board	Los Angeles Regional Water Quality Control Board
LRA	Local Responsibility Area
LUST	leaking underground storage tank
MMI	Modified Mercalli Intensity
mph	miles per hour
MWD	Metropolitan Water District
NFIP	National Flood Insurance Program
NGO	non-governmental organization
NIMS	National Incident Management System
NOAA	National Oceanic and Atmospheric Administration
NRF	National Response Framework
OES	California Office of Emergency Services
OPR	Governor's Office of Planning and Research
OSHA	Occupational Safety and Health Administration
PM	particulate matter
PM <sub>2.5</sub>	fine particulate matter
ppb	parts per billion
ppm	parts per million
PTSD	post-traumatic stress disorder
RCRA	Resource Conservation and Recovery Act
RMP	Release Prevention Program
RWQCB	Regional Water Quality Control Board
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SEMS	California Standardized Emergency Management System

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<b>Acronym/Abbreviation</b>	<b>Definition</b>
SPRA	Screen Portfolio Risk Analysis
SRA	State Responsibility Area
SWRCB	State Water Resources Control Board
TRI	Toxic Release Inventory
U.S. DOT	Department of Transportation
UBC	Uniform Building Code
Upper District	Upper San Gabriel Valley MWD
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
USFS	U.S. Forest Service
UST	underground storage tank
UWMP	Urban Water Management Plan
VHFHSZ	Very High Fire Hazard Severity Zone
VOC	volatile organic compound
WMO	World Meteorological Organization
WUI	Wildland Urban Interface

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# 1.0 Introduction

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The Public Safety Element of the Irwindale General Plan addresses natural and human-caused hazards and their risk to human life, property damage, environmental damage, and economic and social dislocation. The Existing Conditions section of this Element outlines each hazard and safety issue facing the City of Irwindale. These topics include air quality, drought, extreme heat, flooding and dam failure, geologic and seismic hazards, crime, wildfires, windstorms, and hazardous materials.

In 2015, California passed Senate Bill (SB) 379, which requires that Safety Elements be revised by 2022 to address climate change and include relevant climate adaptation and resiliency strategies. As such, the Existing Conditions section includes an overview of climate change and how it is expected to worsen the impacts of certain hazards in the City of Irwindale. Additionally, the importance of emergency preparedness is emphasized, for both individuals living and working in Irwindale, as well as for agencies who have stewardship over public safety in the community.

The Safety Element is closely related to other Elements of the General Plan, including Community Development, Infrastructure, Resource Management, and Environmental Justice. For instance, policies related to areas at risk of recurring flooding or dam failure are found in the Community Development Element, which designates the general distribution and intensity of land use and development. Policies associated with secondary access and evacuation during an emergency are related to the Infrastructure Element, which identifies the location and extent of transportation facilities. Policies important to water resources, mining, and open space are found in the Resource Management Element, which indicates the City's policies concerning the conservation and preservation of important natural and man-made resources. Finally, policies that address the protection of air quality and public health are found in the Environmental Justice Element, which addresses the public health and safety needs of community members.

**Required Element**

All cities and counties in California are required to have a General Plan. The Safety Element is one of seven required topics that must be addressed in the General Plan.

Government Code Section 65302(g) states that a Safety Element must provide for the protection of the community from any unreasonable risks associated with the effects of seismic and geologic hazards, flooding, and wildland and urban fires, as well as impacts associated with climate change.

More recent legislation in 2019 (SB 99 and AB 747) also requires an analysis of evacuation routes in residential and hazard areas (OPR 2017).

## 2.0 Existing Conditions

This section organizes each topic similarly to provide the following:

- **Introduction:** Provides a brief introduction to the topic or hazard to define what it is and why it is important for the City of Irwindale.
- **Risk Assessment:** Describes the associated risks for each hazard, including where in the City is at risk and who is most vulnerable to hazardous impacts.
- **City Capacity to Respond to Hazard:** Addresses how the City is already equipped to respond to the hazard.
- **Plans, Policies, and Regulatory Framework:** Describes the overarching agencies and associated governing tools associated with each topic.

Information contained in this section will be used to formulate goals, policies, and actions within the Safety Element to better enable the community to work together to mitigate, prepare for, respond to, and recover from hazardous events.

### Sections Included:

- 2.1 Climate Change Impacts and Adaptation
- 2.2 Air Quality
- 2.3 Drought
- 2.4 Extreme Heat
- 2.5 Flooding
- 2.6 Geologic and Seismic Hazards
- 2.7 Hazardous Materials
- 2.8 Law Enforcement and Crime
- 2.9 Wildlife
- 2.10 Windstorm
- 2.11 Emergency Preparedness

### 2.1 Climate Change Impacts and Adaptation

**Climate change** is defined as the significant and lasting alteration of global temperatures and weather patterns over a long period of time, caused by natural and human activity. There is scientific consensus that greenhouse gas (GHG) emissions are the primary cause of global climate change. Human activities of agriculture, land use changes, and burning of fossil fuels have contributed significantly to atmospheric concentrations of GHG emissions. Over time, increased GHG emissions into the Earth’s atmosphere have changed the climate worldwide, resulting in a warmer atmosphere and ocean, diminished snow and ice, changing precipitation patterns, and sea level rise.

Climate change affects natural and human systems including, but not limited to, food production, water availability, public health, economic prosperity, and ecosystem biodiversity. In addition, climate change will likely worsen the impact of natural hazards. Due to its geographic location and environmental conditions, the City of Irwindale is expected to experience worsening impacts from extreme heat, drought, air pollution, flooding, and wildfires.

**Climate adaptation** refers to the actions that help natural and human systems to withstand climate impacts. The goal of climate adaptation is to reduce the impact from current and future conditions, reduce vulnerabilities in our systems, and increase long-term resilience. This means adjusting human behavior and systems.

This section focuses on climate change hazards of environmental pollution and severe weather. Please refer to other sections of the Safety Plan for Air Quality, Drought, Extreme Heat, Flooding, and Wildfire Hazards.

## Risk Assessment

### Local Conditions

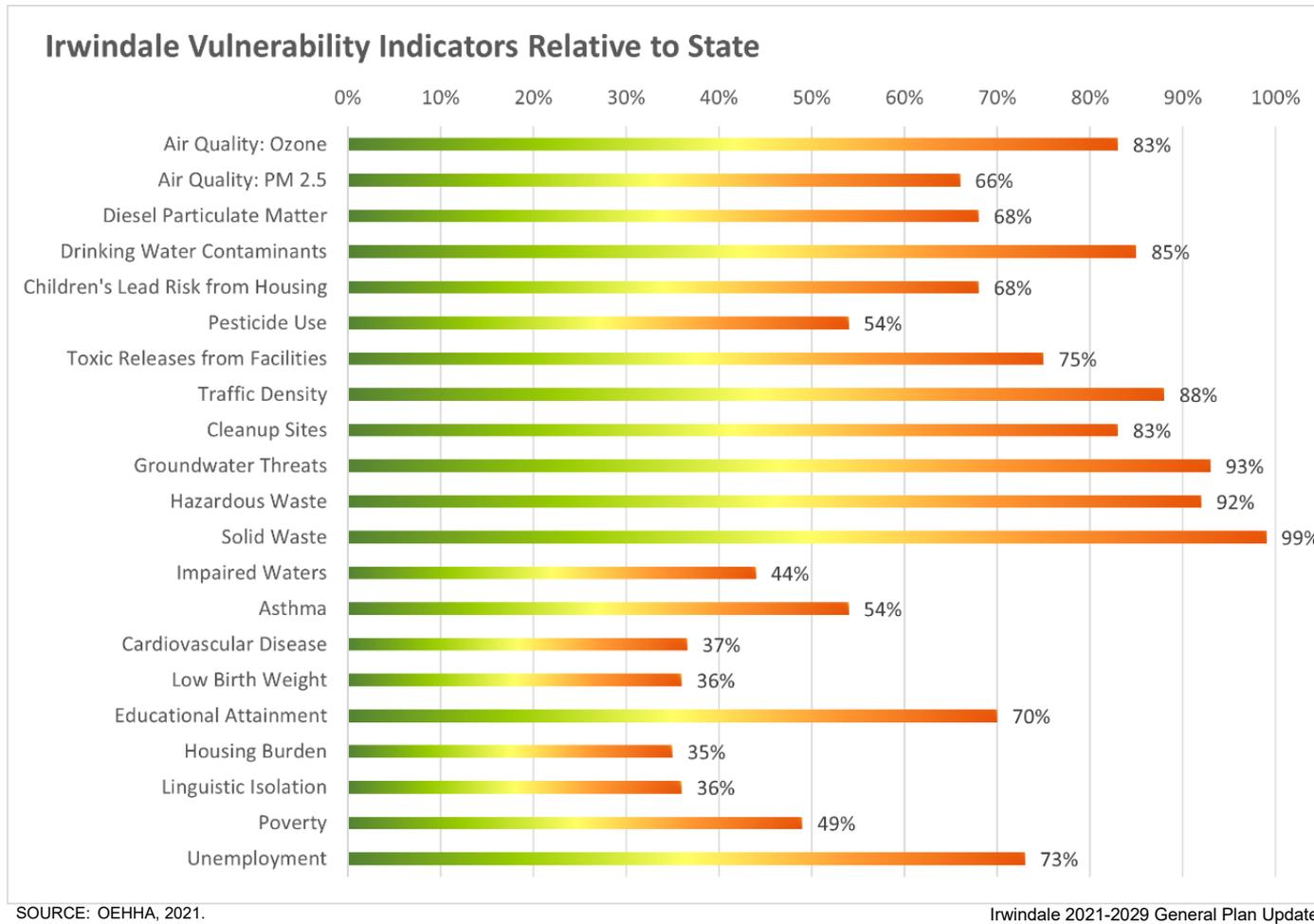
According to the California Environmental Health Screening Tool (CalEnviroScreen) 4.0, the City of Irwindale is in the 83<sup>rd</sup> percentile for disproportionate impacts from multiple sources of pollution. Communities within the top 25 percent highest scoring census tracts of CalEnviroScreen are designated as disadvantaged communities by the California Environmental Protection Agency (CalEPA). This means that Irwindale (as a disadvantaged community with only one census tract) experiences greater vulnerability and burden from pollution and other environmental and social indices than other census tracts statewide. Based on the individual indicators shown in **Figure 2.1-1**, Irwindale faces environmental burden from air quality pollution, drinking water contaminants, toxic releases from sites, traffic density, cleanup sites, groundwater threats, hazardous waste sites, and solid waste sites. Irwindale's unique population characteristics also present greater vulnerability from pollution. Population characteristics of concern include educational attainment levels and unemployment levels.

### Air Quality

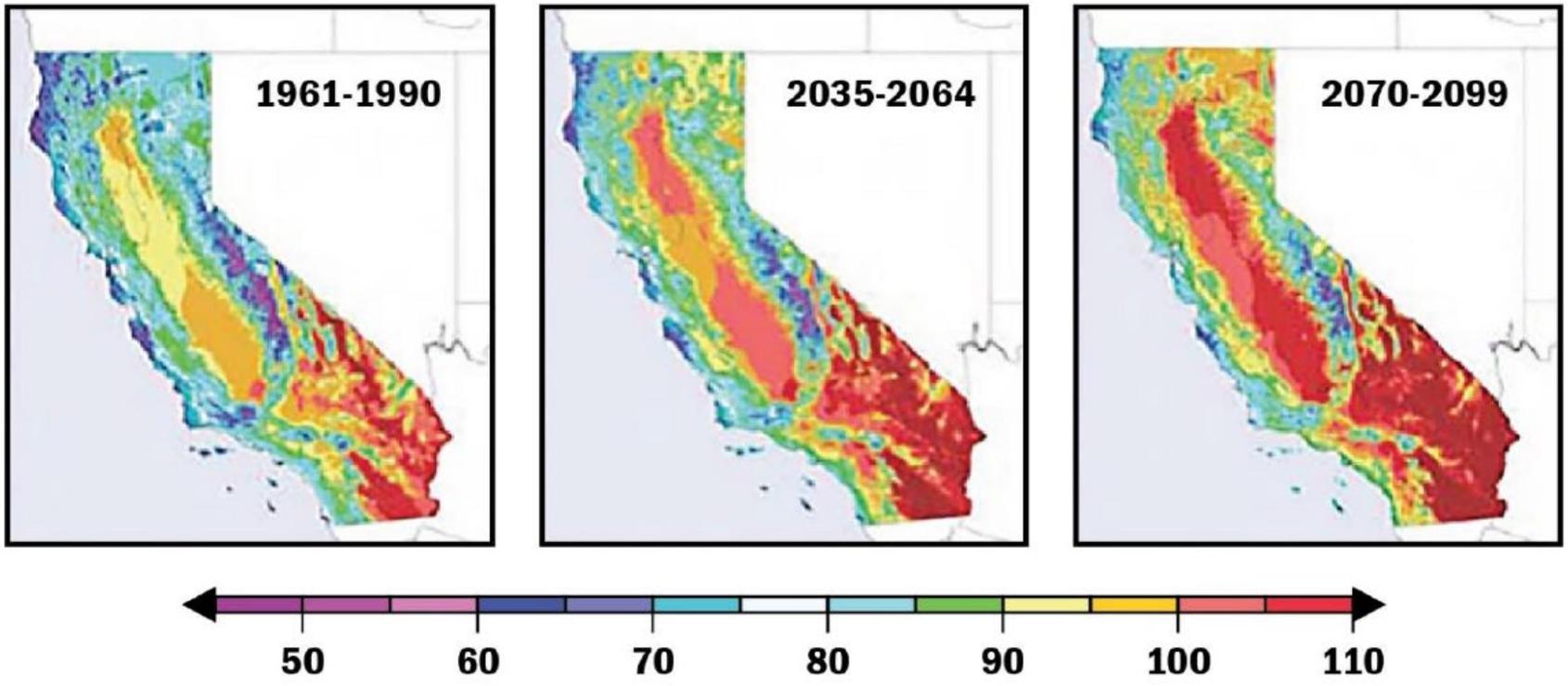
The environment of Los Angeles County and South Coast Basin makes the area particularly susceptible to the retention of pollution. The region has higher levels of ozone and fine particulate matter, which are monitored under national air quality standards, than other areas statewide (OEHHA 2021). **Ozone** is a criteria air pollutant that impacts human respiratory systems and increases susceptibility to respiratory infections. Ozone is produced in the atmosphere as a secondary reaction from other air pollutants. Fine particulate matter, or **PM<sub>2.5</sub>**, is made of tiny airborne particles that can cause adverse health effects when inhaled and can reduce visibility. PM<sub>2.5</sub> is released from fuel combustion, demolition and construction activities, and atmospheric chemical reactions. In Los Angeles County, truck traffic and industrial operations are the largest contributors to pollution. Increasing and unmitigated anthropogenic activity will worsen GHG emissions and air quality conditions over time. Refer to Section 2.2, Air Quality, for additional details on pollution hazards in the City of Irwindale.

### Extreme Weather / Extreme Temperatures

The increase in human-generated GHG emissions into the atmosphere causes short- and long-term changes in the Earth's climate system. Global average temperatures are warming due to climate change, which contributes to changes in the frequency, duration, and intensity of climate events, particularly extreme heat. The State defines **extreme weather** as highly unusual conditions and events than historically recorded. The City of Irwindale, in addition to other communities in the county, will experience hotter temperatures and increased heat wave events. Maximum average temperatures in Irwindale are expected to increase by the end of the century, from an average 79°F degrees historically up to 91°F by the end of the 2100 (Cal-Adapt 2018). **Figure 2.1-2** shows the statewide average temperature increase trend in July from 1961 to 2099. Precipitation levels are also expected to increase by 2100, from a historic average of 19 inches up to 27 inches. Refer to Section 2.4, Extreme Heat, for additional details on heat impacts in Irwindale.



**Figure 2.1-1**  
CalEnviroScreen 4.0 Vulnerability Indicators Ranking



SOURCE: Cal OES, 2018.

Irwindale 2021-2029 General Plan Update

**Figure 2.1-2**  
California Historical & Projected Average July Temperature Change, 1961–2099

## Local Vulnerabilities

Populations experiencing vulnerable conditions are most at risk from climate change. Factors that increase vulnerability include age, race, education, income, linguistic isolation, access to healthcare, shelter, vehicle ownership, and access to preparedness information. The majority of Irwindale’s population is Hispanic (90.6%), and the City is within high percentile ranges for unemployment (73%), low educational attainment (70%), and hospital visit rates due to asthma (54%), compared to other census tracts statewide (OEHHA 2021). Irwindale also has a higher population of seniors, with 29% of individuals aged 65 or older, compared to 44% of individuals aged 55 to 64 (Irwindale, 2012). Such factors place these groups at high risk of experiencing climate change impacts and long-term effects of hazards.

More than half of the City’s housing stock was built before 1970, with the greatest number of units built between 1960 and 1969. Aging buildings are less able to withstand severe weather events and are likely to experience more damage from climate change impacts. Other critical infrastructure, such as roadways, hospitals, schools, and emergency facilities, are also at risk from climate change impacts, particularly flooding and wildfires. All areas of the City lie within identified minimal flood hazard areas, and in proximity to surrounding communities, such as West Covina to the southeast, that are within the 100-year floodplain (FEMA 2019). The northern and northeast portions of the City also lie within designated fire hazard severity zones (see Section 2.9, Wildfire).

## Secondary Hazards

All people and environments will feel the effects of climate change. Climate change will exacerbate the duration, intensity, and frequency of extreme weather and other secondary, natural hazards. These include local and regional hazards of:

- Drought
- Flooding
- Wildfire
- Extreme heat
- Increased precipitation
- Snowpack decline

## City Capacity to Respond to Climate Change

### South Coast Air Quality Management District (SCAQMD)

The SCAQMD is a public health agency comprised of the jurisdictions within Southern California, including the City of Irwindale. The Air District monitors air pollution and implements plans to meet both national and state emissions standards. The Air District also provides informational materials and alerts regarding air quality conditions and public health concerns. With increasing concerns of climate change, the Air District prioritizes emissions reductions from mobile sources, land use planning, innovative technology, and policy development.

## Policies, Plans, and Regulatory Environment

### Irwindale General Plan

The General Plan does not include direct policies and goals in response to climate change. However, a few policies and implementation programs do address GHG emissions reductions and hazards related to climate change:

- **Air Quality Planning.** The City of Irwindale will continue to participate in the regional planning efforts being undertaken by the South Coast Air Quality Management District (SCAQMD) and the Southern California Association of Governments (SCAG) to develop and implement strategies to improve regional air quality. The City of Irwindale will continue to work with the SCAQMD and SCAG and the surrounding cities in improving air quality.
- **Resource Management Element Policy 11.** The City of Irwindale supports the ethic of conservation of non-renewable resources. This includes efforts to reduce the use of energy (in any form), greenhouse gas (GHG) emissions (consistent with AB 32) and efforts to find new and more energy efficient methods for delivering services. The City supports the development of building standards that enable the community to design energy saving features such as solar energy systems, water efficient landscaping, and sustainable, green, and energy efficient building standards.

### Hazard Mitigation Plan

While the City of Irwindale 2014 Hazard Mitigation Plan (Hazard Mitigation Plan) does not directly address climate change, several policies and mitigation actions do address hazards relating to fire and flooding:

- **Local Mitigation Action #2 - Code Enforcement.** The Zoning Code and Building Code contains regulations regarding mitigation. As an example, the Building Code includes construction techniques and materials that may be effective in eliminating or reducing the spread of fire. Code Enforcement will ensure that the City's noise control ordinance is enforced. For this reason, ongoing code enforcement efforts are an important implementation program within the Safety Element.
- **Local Mitigation Action #4 – Fire Prevention.** The City shall also encourage periodic inspections of existing structures by the Fire Department for compliance with fire safety standards and practices. All new development plans must be submitted to the Fire Department for review and comment during the plan check process. This review must be completed for the development process to continue. New development must conform to applicable standards and regulations.
- **Local Mitigation Action #7 – Environmental Review.** Environmental review shall be provided for major projects and those that will have a potential to adversely impact the environment. Issue areas related to public safety that may be addressed in the environmental analysis include: earth and geology, risk of upset, public services, and flood risk. In compliance with CEQA, the City shall also assign responsibilities for the verification of the implementation of mitigation measures.
- **Local Mitigation Action #10 – Local Global Warming Initiative.** This program ensures that efforts are undertaken to assist those households that could be adversely impacted by higher summer temperature. This program will involve the City staff identifying those households at risk. The City will initiate an outreach effort at the community/senior center that will provide information regarding the risk and resources that are available in upgrading units and assisting in the payment of utility bills.
- **Local Mitigation Action #11 - State of California Dam Safety Act.** This Act requires dam owners to submit inundation maps for those dams whose total failure would cause loss of life or personal

injury. This law also requires local jurisdictions to adopt emergency procedures for the evacuation and control of populated areas below such dams.

- **Local Mitigation Action #13 - National Flood Insurance Program (NFIP).** This program was established as part of the National Flood Insurance Act of 1968, and broadened and modified in the Flood Disaster Protection Act of 1973. This program enables property owners to purchase insurance protection against losses from flooding.
- **Local Mitigation Action #16 – NOAA Weather Radio.** The City will encourage the use of National Oceanic and Atmospheric Administration (NOAA) weather radios among its residents. At least one set of counties surrounding a chemical stockpile has provided NOAA weather radios to all homes and businesses within the area. NOAA Weather Radio continuously broadcasts National Weather Service forecasts, warnings and other crucial weather information. NOAA Weather Radio also provides direct warnings to the public for natural, man-made, or technological hazards, and it is the primary trigger for activating our country’s Emergency Alert System (EAS) on commercial radio, television, and cable systems.
- **Local Mitigation Action #18 - Personal Preparedness.** Encourage residents to prepare themselves by understanding their local hazards, stocking up with necessary items, and planning for how family members should respond if any of a number of possible emergency or disaster events strike.
- **Local Mitigation Action #24 – Storm Drainage Systems.** The City of Irwindale will continue to mitigate flooding by installing, re-routing, or increasing the capacity of storm drainage systems that may involve detention and retention ponds, drainage easements, or creeks and streams. These activities may include separation of storm and sanitary sewerage systems as well as higher engineering standards for drain and sewer capacity.

## Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) provides disaster response and preparedness across the country for a number of hazards, including flooding. According to FEMA flood maps, the City of Irwindale is within areas of minimal flood hazards (see Section 2.5, Flooding). A few areas outside of the City boundary are within the 100-year floodplain; however, this is not expected to impact the City. Climate change may potentially worsen conditions related to increased precipitation, and affect the intensity or frequency of flood events.

## California Office of Emergency Services

The California Office of Emergency Services addresses climate action and the need for GHG emissions reductions through the California Adaptation Planning Guide (APG). The Guide provides best practices, tools, and current science to support jurisdictions in climate adaptation efforts. The State also prepares a Safeguarding California Plan: California’s Climate Adaptation Strategy, that serves as a roadmap for state agencies to address climate change impacts.

## 2.2 Air Quality

Air quality is a local and regional issue and an important contributor to health and quality of life. Poor air quality can impact health in a community and contribute to asthma, respiratory disease, and some cancers. The Los Angeles region currently has some of the worst air quality in the country, and climate change will likely exacerbate existing air quality issues. Within the Los Angeles region, ozone and particulate matter (PM) are the primary pollutants. Climate change is expected to result in increases in extreme heat,

which can increase ground-level ozone production. Additionally, increases in wildfire activity will lead to higher PM concentrations. By 2050, ozone concentrations in Los Angeles could increase between 5 and 10 parts per billion (ppb), and the number of days with ozone at more than 90 ppb (which is the level considered unhealthy for sensitive populations) could increase to 22–23 days (Los Angeles County 2021).

## Risk Assessment

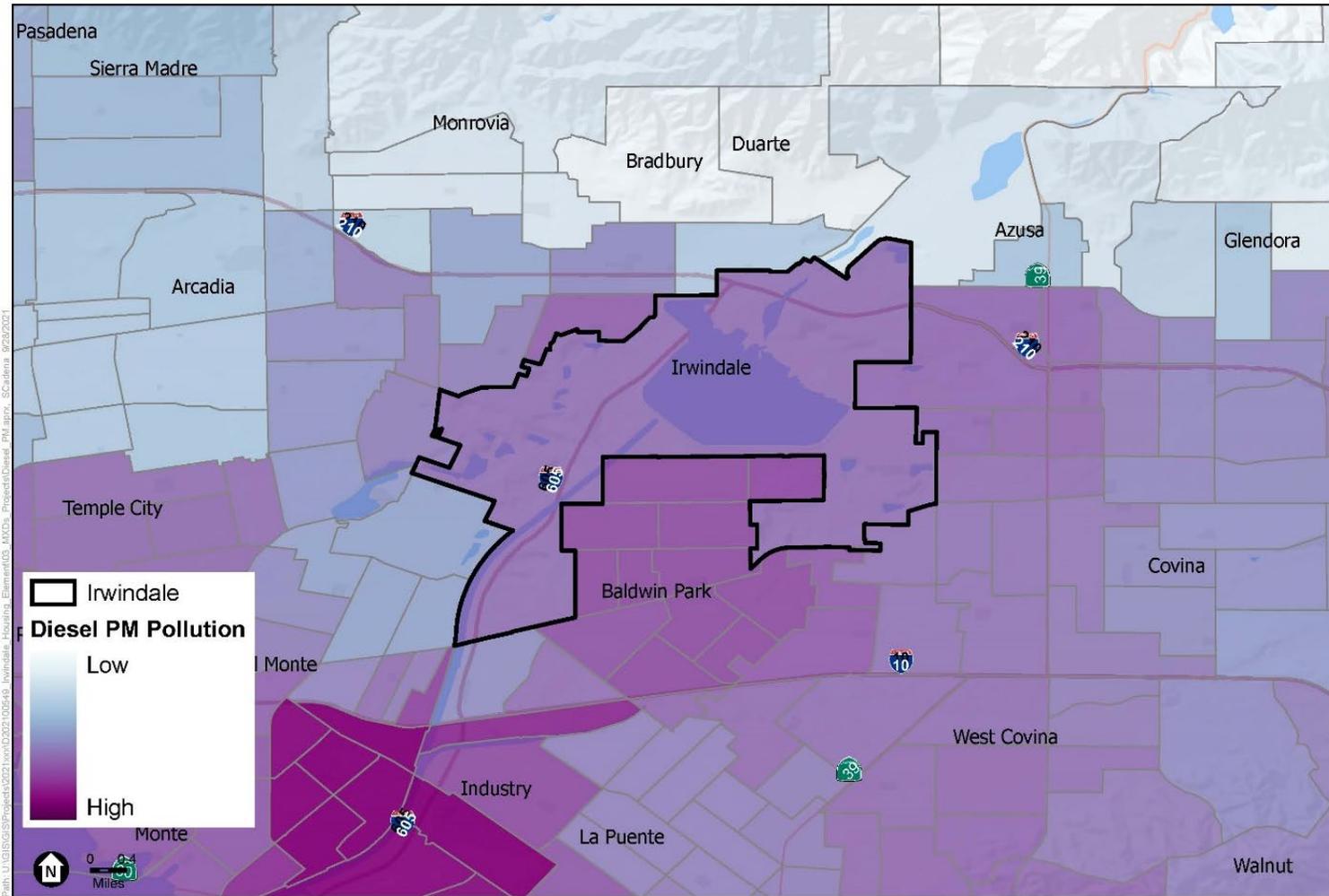
### Local Conditions

The City of Irwindale has relatively high levels of ozone, which is the main ingredient of smog. The ozone concentration in the City is 0.06 parts per million (ppm), which is a higher concentration than approximately 83 percent of census tracts in California (Irwindale includes only one census tract). Common sources of ozone include trucks, cars, planes, trains, factories, construction, and dry cleaners. Ozone can irritate the lungs and worsen many types of chronic illnesses.

Fine particulate matter (PM<sub>2.5</sub>) is a very small airborne particle pollution that may include a mix of organic chemicals, dust, soot, and metals. Due to the small size of particles, they can travel deep into the lungs and result in health problems such as lung and heart disease. Particulate matter can be generated from cars, trucks, factories, and wood burning. The concentration of PM<sub>2.5</sub> in the City of Irwindale is 11.7 micrograms per cubic meter, which is higher than 67 percent of other census tracts in California.

Diesel Particulate Matter (diesel PM) is produced by the exhaust of trucks, buses, trains, ships, and equipment with diesel engines. Concentrations of diesel PM tend to be highest near ports, rail yards, and freeways. The chemicals and particles in diesel PM can cause eye, throat, and nose irritation and can contribute to heart and lung disease and lung cancer. The City of Irwindale has higher levels of diesel PM pollution than 68 percent of other census tracts in California (CalEnviroScreen 2021). **Figure 2.2-1** illustrates the level of diesel PM pollution within Irwindale compared to neighboring jurisdictions.

The City of Irwindale has a relatively high percentage of land dedicated to industrial uses. The use of trucks and diesel equipment associated with industrial land uses and the heavy equipment required for quarries likely contributes to high levels of diesel PM and PM<sub>2.5</sub>. Additionally, due to Irwindale's inland location, it has higher levels of ozone pollution compared to other areas of Los Angeles County. The presence of the Union Pacific Railroad between Azusa Canyon Road and 4<sup>th</sup> Street and the City's proximity to major freeways such as the I-210 and the I-605 also contribute to existing air pollution within the City.



SOURCE: CalEnviroScreen 3.0, 2018; ESRI, 2018; ESA, 2021.

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**Figure 2.2-1**  
Diesel Particulate Matter Pollution Percentile

## Local Vulnerabilities

Populations that are particularly vulnerable to air pollution include the elderly, children, pregnant women, unsheltered individuals, individuals without healthcare, and individuals with pre-existing health conditions that may be exacerbated by poor air quality such as asthma, cardiovascular disease, or cancer. Poor air quality has been linked to respiratory complications such as pulmonary disease, pneumonia, bronchitis and other infections, as well as cardiovascular issues such as heart disease, heart failure, and cardiac arrest. Poor air quality can also impact birth outcomes. In 2003, following a wildfire event, infants that had been exposed to smoke in utero were born at a lower birth weight than those not exposed to smoke (Los Angeles County 2021). Households without air conditioning are more vulnerable to the impacts of poor air quality as they rely on opening windows to cool homes, which exposes residents to poor air quality (HPI 2021). Approximately 66 percent of the Irwindale population has air conditioning.

Approximately 49 per 10,000 people in the City of Irwindale visited the emergency department for asthma between 2015 and 2017, which is a higher rate of asthma emergency room visits than 54 percent of other census tracts in California. Within the City of Irwindale, approximately 11 people per 10,000 visited the emergency department for a heart attack between 2015 and 2017, which is a higher percentile than 36 percent of other census tracts in California (CalEnviroScreen 2021).

Days with poor air quality can result in secondary impacts, such as missed days of work and school. Additionally, as evidenced by the wildfire season of 2020, poor air quality can lead to the need to shelter in place within homes, reducing the ability of individuals to access services and social connections within their communities. Overall, poor air quality can impact mental health by inhibiting individuals' ability to exercise, interact with their community, and access services.

## City Capacity to Respond to Air Pollution

The concentration of industrial land uses in the City of Irwindale contribute to relatively high levels of air pollution within the City, making it more vulnerable to air pollution. Climate change will likely exacerbate air pollution issues due to extreme heat and an increasing frequency of wildfires. The City does not currently have any policies within its General Plan or Hazard Mitigation Plan that address air quality issues. Additionally, the City has no current programs to provide air filters or access to resilience hubs with filtered air during days of poor air quality.

## Policies, Plans, and Regulatory Environment

### Irwindale General Plan

As stated above, the 2008 General Plan does not include direct policies and goals in response to climate change. However, there is a policy that addresses greenhouse gas (GHG) emissions reductions and hazards related to climate change:

- **Air Quality Planning.** The City of Irwindale will continue to participate in the regional planning efforts being undertaken by the South Coast Air Quality Management District (SCAQMD) and the Southern California Association of Governments (SCAG) to develop and implement strategies to improve regional air quality. The City of Irwindale will continue to work with the SCAQMD and SCAG and the surrounding cities in improving air quality.

## South Coast Air Quality Management District (SCAQMD)

SCAQMD is the air pollution control agency for all of Orange County and the urban portions of Los Angeles, Riverside, and San Bernardino counties. SCAQMD manages air quality through rules, incentive programs, and air quality plans. The SCAQMD maintains the Air Quality Management Plan, Clean Communities Plan, and the Vision for Clean Air. Additionally, the SCAQMD creates guidance documents to assist local governments with air quality planning.

### 2.3 Drought

**Drought** occurs when a prolonged period of below-average levels of precipitation leads to a water shortage. Drought can also occur from a decrease in snowpack for regions that depend on this for water supply. In Southern California, approximately 75 percent of potable water is delivered from other regions by conveyance projects. The primary sources of water come from the State Water Project and Colorado River, both of which originate in mountain snowpack. During periods of drought, less water is available for delivery to communities, which affects drinking water as well as water for other uses (such as landscaping and irrigation, agriculture, energy, and cooling). Water demand and water quality conditions can also change during drought. Other climate hazards such as extreme heat, sea level rise, strong wind hazards, and flooding can add pressure on water supplies and exacerbate drought conditions.

Climate change impacts on water supplies can affect local and regional economies and natural ecosystems, in addition to potable water availability. Water resources are generally more abundant in the winter due to increased precipitation and snowpack levels. Climate science indicates that colder and wetter periods will become more intense, as will dry and warmer periods. However, dry periods will likely occur with increased frequency, duration, and intensity, meaning a shorter wet season and overall increase in drought risks. Warming global temperatures will add to this effect, resulting in less favorable conditions for water resources over time. Increasing global temperatures will continue to decrease snowpack levels, regardless of precipitation levels, and will increase moisture loss from soil, leading to drier conditions that contribute to seasonal dryness and drought events (APG 2012).

Since water sources and conditions vary by community, drought varies depending on location. What constitutes a drought for one community may not apply for others or for the state. Water agencies may refer to precipitation levels, current water storage amounts, or expected supplies to define drought conditions for their localities.

## Risk Assessment

### Local Conditions

The City of Irwindale is vulnerable to drought conditions due to its Mediterranean climate, low levels of precipitation, and dependence on outside water resources. Annual precipitation levels will likely decrease in the next century, with drought conditions becoming more pervasive over time. The City relies on local groundwater and surface water sources, including water from the State Water Project and the Colorado River. As a member of the Upper San Gabriel Valley Municipal Water District (Upper San Gabriel Valley MWD), the City of Irwindale receives water purchased from the Metropolitan Water District of Southern California through several water purveyors:

- California-American Water Company services the northern-most areas of the City, near the City of Duarte.
- City of Azusa Light & Water Department provides service to the majority of the City in the northeastern areas.
- Golden State Water Company services mostly commercial and industrial areas in the northern portion of the City.
- Monrovia Water Division provides service to the area along the eastern boundary of the City.
- San Gabriel Valley Water Company services a small portion of the southwestern area of the City.
- Southern California Water Company services areas at the westernmost part of the City.
- Valley County Water District services the southeastern area of the City.

Surface water bodies and groundwater recharge could significantly decrease due to climate change and drought conditions, creating pressure on other water sources. Groundwater supply largely depends on water infiltration from the San Gabriel River, within the San Gabriel Valley Basin, and water extraction from water supply companies. The majority of surface run-off to the City comes from the San Gabriel Mountains, originating from snowpack. Other smaller water bodies also contribute to the City's water supply.

**Figure 2.3-1** shows that Los Angeles County is currently in **Extreme Drought** conditions, meaning that reservoirs are low, hydropower is restricted, and water use is inappropriate for agriculture, wildlife, and urban needs (NIDIS 2021).

The U.S. Drought Monitor classifies drought conditions using a five-category classification system, as shown in **Table 2.3-1**. Conditions statewide vary according to the drought classification system. Local and regional agencies issue water shortage restrictions for residences, businesses, farming, and other activities according to drought conditions.

**TABLE 2.3-1 U.S. DROUGHT MONITOR CLASSIFICATIONS**

Category	Description	Impacts
D0	Abnormally Dry	Short-term dryness Growth of crops and pastures is slowed
D1	Moderate Drought	Impacts on crops and pastures Water shortages developing in reservoirs, streams, and wells Voluntary water restrictions
D2	Severe Drought	Loss of crops/pastures Water shortages Water restrictions issued
D3	Extreme Drought	Major loss of crops/pastures Widespread water restrictions and water shortages
D4	Exceptional Drought	Exceptional and widespread loss of crops/pastures Water shortages in reservoirs, streams, and wells Water emergency declarations

SOURCE: National Drought Mitigation Center (2021).

## Water Contamination

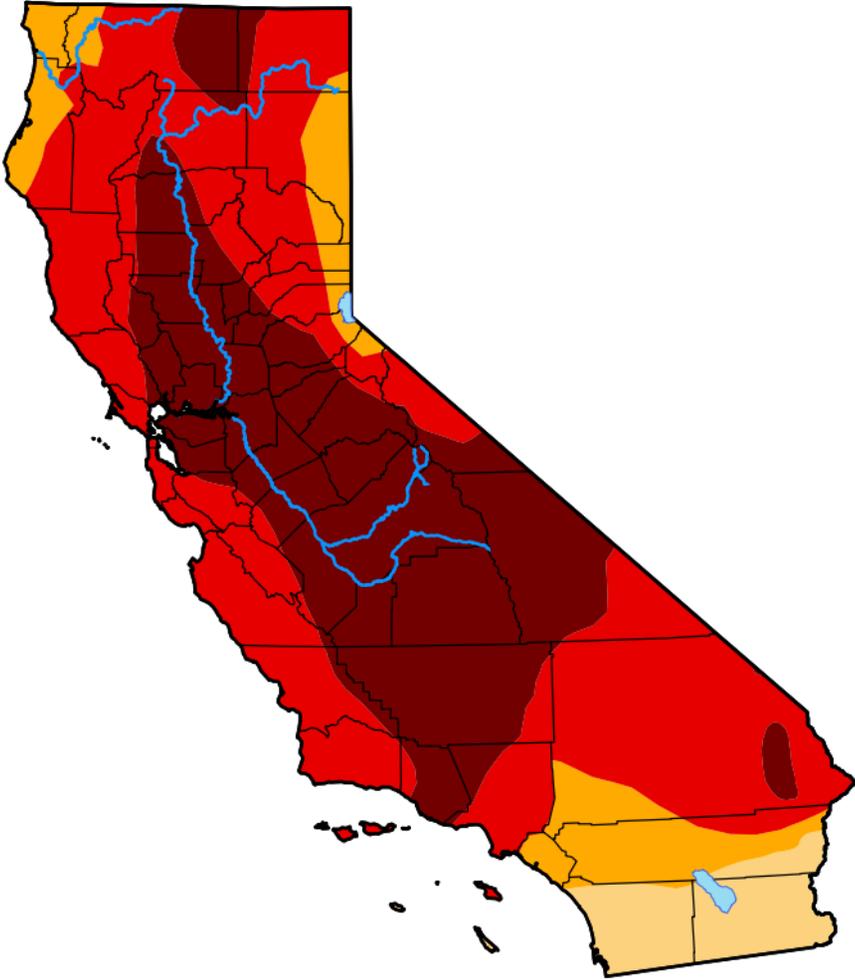
Contamination can affect water supplies and can further exacerbate drought conditions and pose public health concerns. Existing threats to water resources include groundwater threats, impaired water bodies, and drinking water contaminants. Groundwater threats are particularly high in the City of Irwindale and the vicinity. **Groundwater threats** are pollutants to soil and groundwater from hazardous materials, including diesel fuels, solvents, heavy metals, and pesticides. **Figure 2.3-2** shows groundwater threats sites in and near the City of Irwindale and shows the percentile range for groundwater threats by census tract (OEHHA 2018). The darker color and higher percentile range indicate that threats from groundwater in that tract are higher compared to other tracts statewide. The City of Irwindale has a groundwater threats percentile of 93, indicating that groundwater threats in the City are higher than 93 percent of census tracts statewide. The U.S. Environmental Protection Agency (USEPA) has designated the regional San Gabriel groundwater basin as a cleanup site, or **Superfund** site, due to high levels of contamination from hazardous chemicals, waste, and other volatile organic compounds (VOCs). While contaminants are not directly located in the City of Irwindale, proximity to these sources presents risk to populations in the City and surrounding area.

**Impaired water bodies** are defined as surface water bodies such as lakes, rivers, or streams that are polluted or contaminated. The City of Irwindale contains or is near water bodies containing four impairments, and has a percentile of 44 in regard to impaired waters (OEHHA 2021). Similarly, drinking water sources in the City of Irwindale contain several contaminants. While the majority of drinking water meets State health standards, some sources can still be contaminated with harmful chemicals and bacteria caused by natural and human sources, such as soil, rocks, sewage, and urban run-off. The City is in the 85<sup>th</sup> percentile for drinking water contaminants, meaning that drinking water contamination conditions are higher than 85 percent of census tracts statewide.

## Past Drought Occurrences

From 1961 to 1990, the City of Irwindale saw an average of 19.3 inches of annual precipitation. This is expected to decrease to an average of 19 inches by mid- to late-century. Dry periods, or dry spells, historically averaged 130 days. Future conditions will likely increase up to 138 days by mid-century and up to 145 days by late-century.

Southern California has experienced more frequent and extended periods of drought in the past decade. The most recent 5-year drought period from 2012–2016 saw much of the State in severe drought conditions due to unusually dry and warm climate, reduced snowpack and run-off, little precipitation, and increased temperatures. These conditions resulted in water shortages to natural ecosystems, hydropower activities, drinking water supply, agriculture, and municipalities. Statewide, the drought affected biological and ecological resources, households, and businesses, and resulted in economic losses. **Figure 2.3-3** shows drought classifications in California over time from 2000.



***Intensity:***

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>*

***Author:***

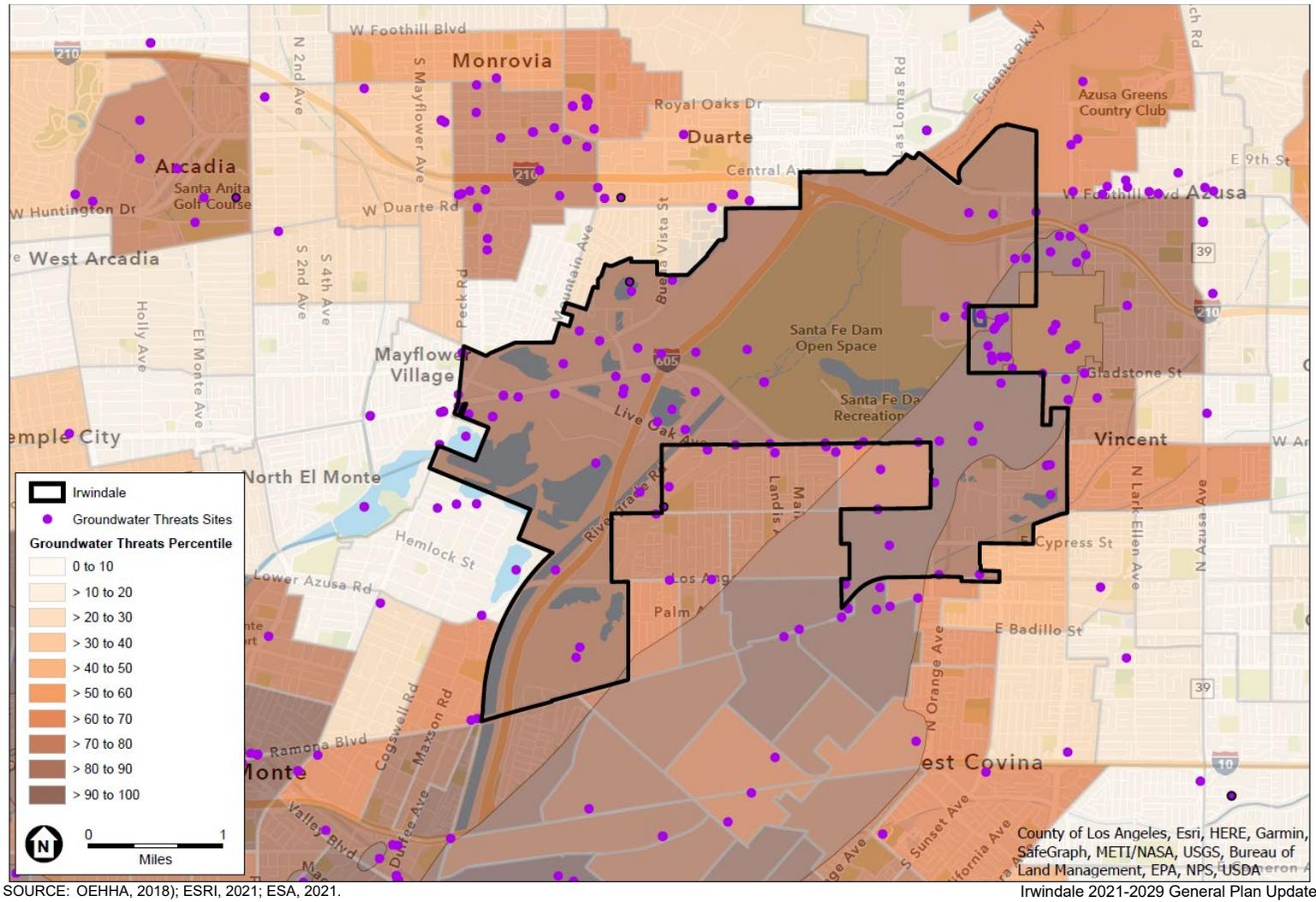
Richard Heim  
NCEI/NOAA



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SOURCE: National Drought Mitigation Center, 2021.

**Figure 2.3-1**  
California Drought Conditions as of October 2021



**Figure 2.3-2**  
CalEnviroScreen 3.0: Groundwater Threats

## Local Vulnerabilities

Communities and population groups most vulnerable to drought occurrences are those that rely heavily on annual precipitation – usually for agricultural uses or rural access. Industries that rely on water are affected in terms of potential revenue and employment. In the City of Irwindale, vulnerable groups include low-income individuals, aging populations, those with existing chronic health conditions, and unsheltered individuals. Physical assets and infrastructure are also at risk from drought conditions, particularly public facilities and services that rely on water to operate. These include industries related to farming and hydropower.

## Secondary Hazards

The secondary hazard most associated with drought is wildfire. Prolonged precipitation and warmer temperatures create drier conditions that make wildfires more likely. Drought conditions can also decrease soil moisture and lead to plant and crop mortalities, which may impact food resources, reduce natural benefits from evaporative cooling, and contribute to higher temperatures. Dust levels can also increase due to drought conditions exacerbated by climate change, and pose increased dangers to public health (Hall 2018). Past drought events also contributed to an increase in governmental staff working hours as emergency declarations were issued.

## City Capacity to Respond to Drought

The City provides water conservation and water pollution-prevention guidelines through development of programs for carpet cleaning activities, food service facilities and operations, stormwater discharge activities, and car washes. The City’s Code of Ordinances, which includes the Green Building Code, contains requirements for water-efficient and drought-resistant landscaping and plant materials, and automatic drip irrigation systems. The City also provides information on its website for water conservation and water pollution prevention for residents, and promotes the following best practices:

- Avoid water run-off and overwatering of lawns.
- Follow watering days as set by the Water Districts.
- Install high-efficiency sprinkler nozzles.
- Consider installing weather-based irrigation controllers.
- Plant drought-tolerant landscaping to reduce water needs and ensure water efficiency.
- Use synthetic turf or irrigation-less ground cover that helps eliminate yard water needs.
- Clean driveways by sweeping instead of hosing.
- Use shut-off nozzles on hoses.
- Use biodegradable, phosphate-free detergents and non-toxic cleaning products when washing vehicles.
- If possible, wash cars on a permeable surface where wash water can percolate into the ground (e.g., gravel or grassy areas).

- Contact the City prior to draining residential pools to ensure that water is discharged properly and not introducing chemicals and sediment into the storm drain system or discharging to an area that could affect water supplies.

## Policies, Plans, and Regulatory Environment

### City of Irwindale General Plan

The 2008 General Plan contains the following goals, policies and programs that address drought, water conservation, and water quality:

- **Resource Management Element Policy 9.** The City will continue to cooperate with the other agencies that are charged with improving air and water quality in the region.
- **Resource Management Element Policy 11.** The City of Irwindale supports the ethic of conservation of non-renewable resources. This includes efforts to reduce the use of energy (in any form), greenhouse gas (GHG) emissions (consistent with AB 32) and efforts to find new and more energy efficient methods for delivering services. The City supports the development of building standards that enable the community to design energy saving features such as solar energy systems, water efficient landscaping, and sustainable, green, and energy efficient building standards.
- **Resource Management Element Policy 14.** The City will consider the establishment of a systematic environmental monitoring program for mining and landfill operations, and for the strengthening of the existing annual inspection program, including assessments of slope stability, public safety hazards, air and water quality, noise, and security.
- **Program No. 9: Promotion of Energy and Water Conservation to Existing Residents and in City Sponsored Housing Projects.** This program provides education about water conservation and provides resources for residents to retrofit their homes.

### Hazard Mitigation Plan

The City's 2014 Hazard Mitigation Plan addresses drought through mitigation strategies to reduce the community's vulnerability to drought impacts:

- Review of the existing Building Code & Code Enforcement regulations to ensure that mitigation measures are included.
- Creation of a Disaster Response Database to facilitate emergency response during hazard events.
- Assess the capacity of local officials and emergency response staff to respond to hazards.

### The Metropolitan Water District of Southern California

The Metropolitan Water District (MWD) is a special district that provides water supplies to 26 public water agencies that then delivers water to cities and individuals. In accordance with the California Water Code, the MWD prepares the Urban Water Management Plan (UWMP) to describe the agency's water system and service area as it relates to reliability, efficient use, demand management, implementation strategies, and drought response. Through the UWMP, the MWD addresses drought through a drought risk assessment, quantification of water yields from drought projects, a water shortage contingency plan, review of financial consequences from drought, drought scenarios, water demand projections during drought periods, and comprehensive action plans to address water shortage and drought conditions. Additional planning documents that address drought are the Water Surplus and Drought Management

Plan, Drought Risk Assessment, and Water Supply Allocation Plan. The MWD also administers regional conservation programs, partners and supports desalination programs, and offers educational school programs on water supply and conservation.

## Upper San Gabriel Valley MWD Urban Water Management Plan

The Upper San Gabriel Valley MWD (Upper District) is an urban water supplier member of the MWD and provides purchased water to local and regional water purveyors. The Upper District's UWMP evaluates existing water conservation efforts and provides measures for additional implementation. The UWMP includes a water service reliability and drought risk assessment to review water supply reliability for current and future conditions. Drought is addressed through the following:

- Preparation of the Upper District's Water Shortage Contingency Plan, which directs how the district will respond in water shortage events.
- Development of the Annual Water Supply and Demand Assessment that reviews the Upper District's unconstrained water demands, anticipated water shortages, and response actions.
- Implementation of the MWD's Water Surplus and Drought Management Plan strategies in water shortage conditions.

## Azusa Light & Water Urban Water Management Plan

The Azusa Light & Water (ALW) water system provides service to the majority of the City of Irwindale for residential, irrigation, institutional, and other uses. The 2020 Urban Water Management Plan describes the water system, water uses, reclamation and conservation activities, and drought risks within the water service area. The UWMP recognizes that changes over the last decade in annual water conditions statewide have affected water supplies from the State Water Project and the Colorado River, and describes vulnerabilities to the supply and opportunities to increase reliability. Drought is addressed through the following measures:

- ALW has established water conservation targets in accordance with the 2009 Water Conservation Act, which requires water conservation up to 20 percent by 2020 and provides a cap on water consumption rates.
- ALW's Emergency Conservation Plan Ordinance was enacted to reduce water usage due to drought conditions and high water demand.
- ALW continues to rehabilitate and improve existing wells and reservoirs to ensure water supply reliability.

## Los Angeles Regional Water Quality Control Board

The Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) works to preserve, enhance, and restore water quality and water resources for public use and for the environment. Under the California Water Boards, the Los Angeles Water Board reviews water monitoring programs by the City of Irwindale, including the City's development of an Individual Watershed Management Program and the Integrated Monitoring Program, both of which address water quality focused on municipal stormwater pollutants and run-off.

## Main San Gabriel Groundwater Basin Watermaster

The San Gabriel Groundwater Basin resources are administered by the Main San Gabriel Basin Watermaster agency, which helps manage water rights and protect the groundwater resources for the region. The Watermaster also monitors and reports water quality conditions and helps to address supply management in drought events.

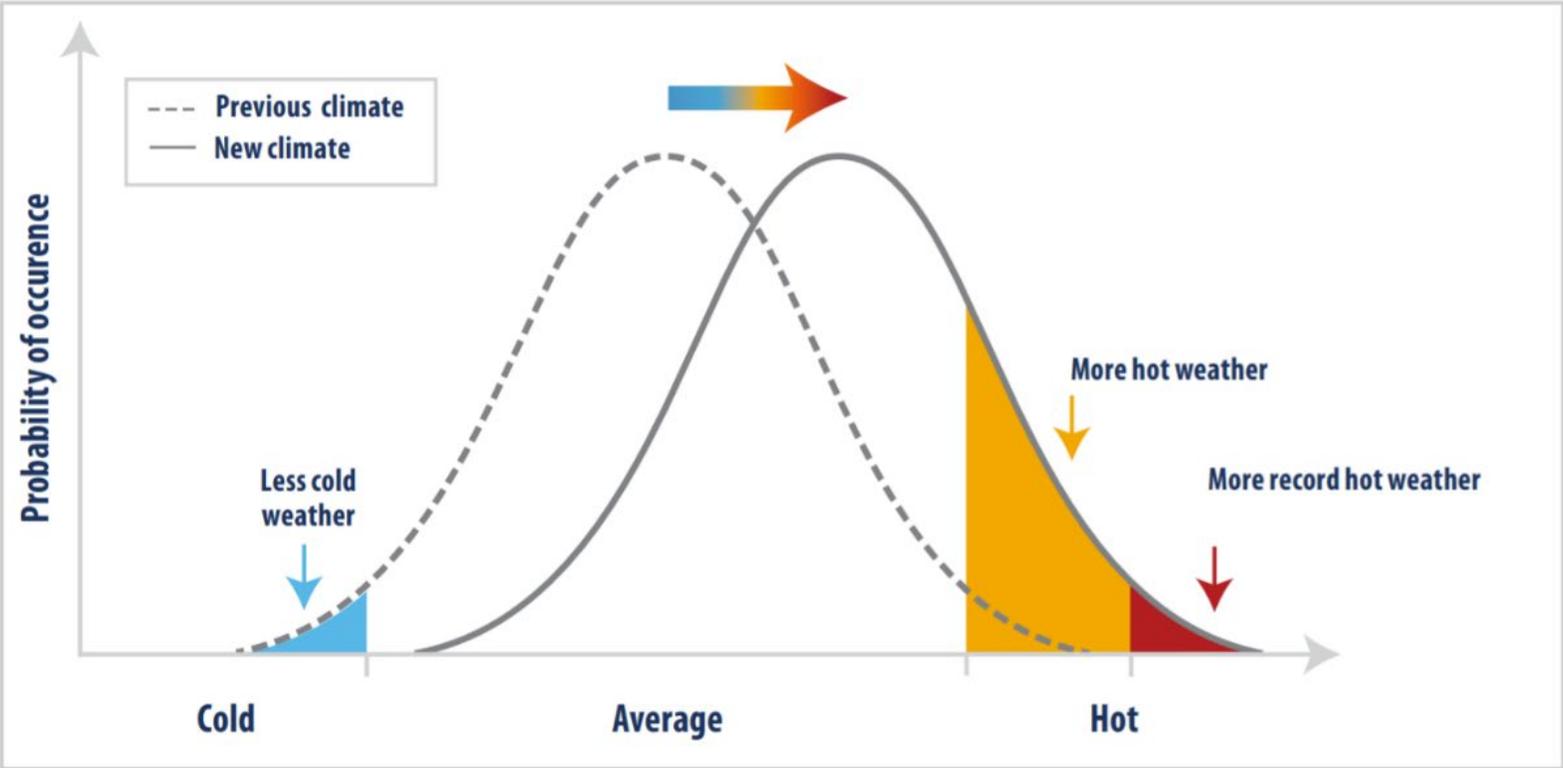
## California Water Plan

The State's 2018 California Water Plan provides a strategic plan for the sustainable management and development of water resources to meet the needs of current and future generations. The plan is required by California Water Code Section 10005(a), and presents current conditions and trends for the State's natural resources that depend on water, as well as water supplies, and water demands for urban, agricultural, and environmental uses.

## 2.4 Extreme Heat

California is experiencing gradually warming temperatures due to global warming from climate change. Weather in Southern California is characterized by a Mediterranean and semi-arid climate, with mild winters and hot, dry summers. The climate is expected to be warm; however, increases in average temperatures will result in extreme heat that can become dangerous to human health and the environment. **Extreme heat** is defined as prolonged temperatures over 10 degrees Fahrenheit above average high temperatures for the region. **Figure 2.4-1** shows how increasing average temperatures will shift and result in hotter weather over time, with colder weather events becoming less likely.

Increasing temperatures will make extreme heat events and heat waves more common and occur with greater intensity, frequency, and for longer durations. **Extreme heat events** refer to events with 3 or more consecutive extreme heat days, and **heat waves** are periods of abnormally hot weather that lasts from days to weeks. Extreme heat is projected to have greater impacts for inland communities, such as in Los Angeles where average maximum temperatures are expected to increase up to 5 degrees Fahrenheit by 2050 and up to 8 degrees Fahrenheit by 2100 (SCAG 2020). Compared to other regions, Los Angeles County is among the fastest warming counties in the contiguous United States. In addition to increased average temperatures, Los Angeles County will also likely experience increased duration of heat days, higher levels in humidity, and increased risk of heat-related illnesses.



SOURCE: USEPA, 2016.

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**Figure 2.4-1**  
Increase in Average Temperatures

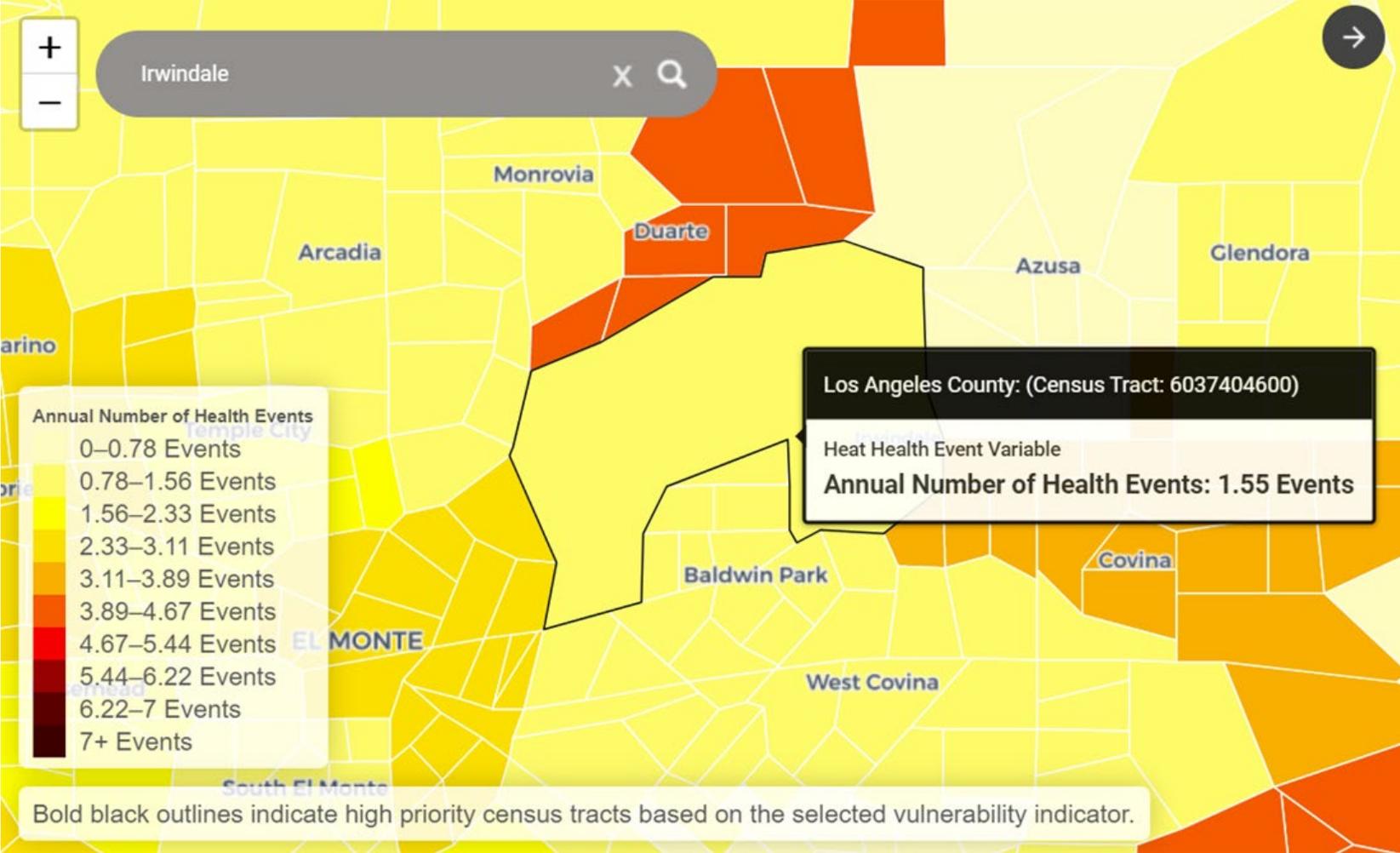
## Risk Assessment

### Local Conditions

Southern California is heating up faster than other regions of the state and country, and will also experience greater intensity and duration of extreme temperatures. Extreme heat is one of the greatest climate change threats to the City of Irwindale due to its geographic location and Mediterranean climate. Current conditions show average annual temperatures at 64.4 degrees Fahrenheit, with average daily temperatures ranging from 40 to 90 degrees Fahrenheit.

Extreme heat poses a significant health impact and is the cause of more annual deaths across the United States than other weather hazards, including floods, storms, and lightning combined (Bedsworth 2018). In addition to an existing warm climate, communities that are lacking in tree canopy have an added risk from heat impacts. Urban greening, such as trees and parks, provide cooling effects through shading and evapotranspiration, as well as reduced exposure to sunlight, air pollution mitigation, and reduced urban heat islands. The majority of land use in the City of Irwindale (approximately 97 percent) lacks tree cover, which means greater exposure to heat and reduced benefits from natural cooling.

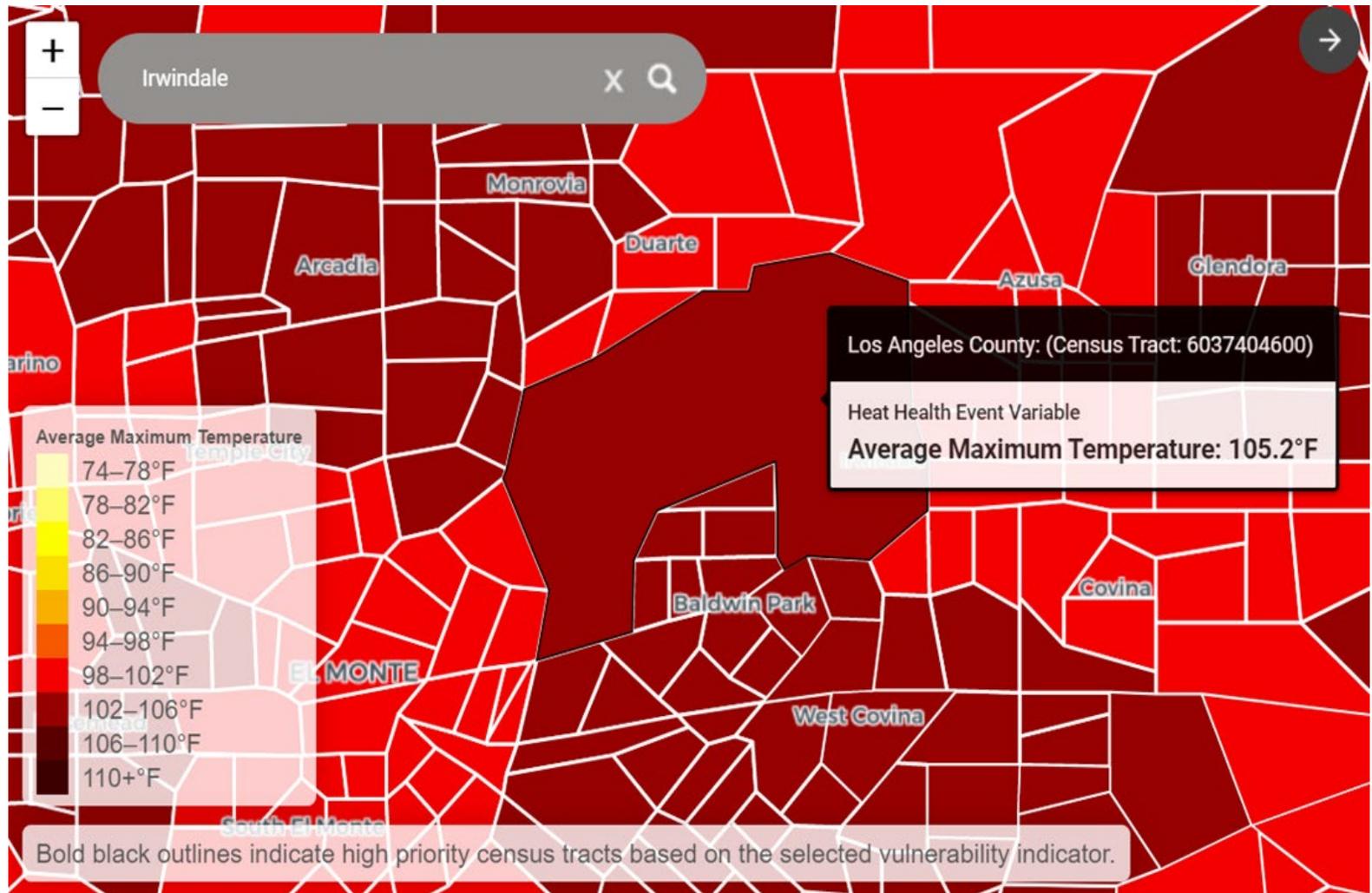
Historically, the City of Irwindale has experienced an average of 4 extreme heat days per year. Under the medium-emissions scenario (RCP 4.5), the average number of extreme heat days is projected to increase to 27 by the late century, while the business-as-usual scenario (RCP 8.5) projects this number to increase to 46 (Cal-Adapt 2021). Heat health events are also expected to increase. **Heat health events (HHE)** refer to any extreme heat events that cause public health impacts. Based on the RCP 8.5 scenario, the City of Irwindale is projected to experience 1.55 annual HHEs with an average duration of 3.65 days, as shown in **Figure 2.4-2**. An average minimum temperature of 75.6 degrees Fahrenheit is expected, while the average maximum temperature, shown in **Figure 2.4-3**, is expected to reach 105.2 degrees Fahrenheit (CHAT 2021).



SOURCE: CHAT, 2021.

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**Figure 2.4-2**  
Projected Annual Number of Heat Health Events



SOURCE: CHAT, 2021.

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**Figure 2.4-3**  
Projected Average Maximum Temperatures

## Local Vulnerabilities

Populations living within urban heat islands, such as Los Angeles County, are at higher risk of prolonged exposure to heat conditions. This is due to extreme daytime temperatures extending into nighttime, not allowing cooling or recovery time from exposure to daytime heat. Extreme heat impacts will disproportionately affect minority and low-income communities who are more likely to live in areas with aging infrastructure, limited resources and funding, limited parks and tree canopy, and heat-retaining surfaces that contribute to the heat-island effect. These communities may also be less able to access cooling amenities and afford increases in energy costs and water use associated with cooling.

Groups at high risk from extreme heat include the elderly, infants, low-income individuals, unsheltered individuals, and outdoor workers. Higher temperatures can contribute to increases in harmful air pollutants, exacerbating health conditions for some individuals. Households without air conditioning and communities without cooling centers are also more vulnerable, as these resources provide protection against extreme heat.

Heat is among the deadliest natural hazards, due to high numbers of heat-related deaths and illnesses. Vulnerable populations also include those that may be unable to access healthcare due to heat-related illnesses. **Heat-related illnesses** include heat cramps, severe heat exhaustion, heat stress, and heat stroke, and can worsen existing health conditions for individuals such as asthma, heart disease, and respiratory illnesses. In severe cases, heat events can lead to mental status changes, confusion, coma, and deaths

**Heat Exhaustion** is an imbalance of electrolytes caused by body dehydration that can lead to headache, dizziness, nausea, pale skin, cramps, weakness, and profuse perspiration.

**Heat Stroke** is a severe and life-threatening medical emergency that results from the body's inability to cool down from a high temperature. Heat stroke symptoms are similar to those of heat exhaustion but include no perspiration, rapid pulse, hot and dry skin, changes in mental state, seizures, loss of consciousness, and kidney failure. Heat stroke can lead to death if not treated promptly.

*Source: SHMP (2018).*

## Secondary Hazards

Extreme heat climates provide suitable conditions for wildfire events to occur more easily and last longer in duration. Increased temperatures can also worsen drought conditions, affecting plants, agriculture, and wildlife.

Extreme heat can also impact economies and job sectors. Healthcare businesses and government facilities and operations that are critical to emergency response will likely experience increased pressure due to more heat-related illnesses. The tourism industry in Southern California will also likely be impacted. This may include the Santa Fe Recreational Dam Area in Irwindale, as well as other natural trails and open space amenities that experience plant and biodiversity impacts from extreme heat. Local and regional energy demand will also likely increase as communities seek cooling relief. Extreme heat can reduce the ability of the grid to transmit electricity, and this can be further compounded by energy spikes during heat waves (SCAG 2020).

## City Capacity to Respond to Extreme Heat

As with many climate events, extreme heat temperatures can generally be anticipated and prepared for in advance. The City of Irwindale relies on the Police Department to provide public safety services and

alerts, including for extreme heat hazards. These include two programs that can provide quick information and respond to hazards:

- Through the Local Global Warming Initiative, the Irwindale Police Department aids elderly individuals during extreme heat days. On days when temperatures rise above 90 degrees Fahrenheit, Police Department personnel check in on seniors and encourage the use of the Senior Center as a cooling center.
- The City uses a CivicReady service to deliver critical and timely information to community members. Information includes emergency alerts and notifications on public safety delivered directly from the Irwindale Police Department through the internet, email, text messages, and phone calls.

## Policies, Plans, and Regulatory Environment

### Hazard Mitigation Plan

The City's 2014 Hazard Mitigation Plan addresses extreme heat through mitigation strategies to reduce the community's vulnerability to increasing temperatures:

- **Local Mitigation Action #10 – Local Global Warming Initiative.** This program ensures that efforts are undertaken to assist those households that could be adversely impacted by higher summer temperature. This program will involve the City staff identifying those households at risk. The City will initiate an outreach effort at the community/senior center that will provide information regarding the risk and resources that are available in upgrading units and assisting in the payment of utility bills.
- **Local Mitigation Action #16 – NOAA Weather Radio** – The City will encourage the use of National Oceanic and Atmospheric Administration (NOAA) weather radios among its residents. At least one set of counties surrounding a chemical stockpile has provided NOAA weather radios to all homes and businesses within the area. NOAA Weather Radio continuously broadcasts National Weather Service forecasts, warnings and other crucial weather information. NOAA Weather Radio also provides direct warnings to the public for natural, man-made, or technological hazards, and it is the primary trigger for activating our country's Emergency Alert System (EAS) on commercial radio, television, and cable systems.

### City of Irwindale General Plan

The 2008 General Plan addresses extreme heat through Program No. 9: Promotion of Energy and Water Conservation to Existing Residents and in City Sponsored Housing Projects. This program provides education about energy conservation and provides resources for residents to retrofit their homes. Program components also include the following activities:

- Develop energy conservation standards for street widths and landscaping of streets and parking lots to reduce heat loss and/or provide shade.
- Promote permeable paving materials for cooling and water conservation.
- Partner with community services agencies to provide financial assistance for low-income persons to offset the cost of weatherization and heating and cooling homes.
- Encourage the installation of photovoltaic and “cool” roofs, solar water heating, and where appropriate wind turbines.

## 2.5 Flooding

Flooding typically occurs from heavy, intense precipitation events that create water flows large enough to overtop natural waterways or exceed the capacity of stormwater infrastructure. Flood-prone areas generally include river floodplains, areas adjacent to drainage systems, low-lying areas where stormwater can collect, and areas with inadequate storm drain infrastructure or large amounts of impermeable surface. The severity of flood impacts generally relates to how deep and swift the flooding is, how much warning time residents have to prepare for the impacts of flooding, and how prepared buildings and infrastructure are to respond to the impacts of flooding. Climate change will likely worsen inland flooding due to changes in precipitation patterns. Periods of concentrated, intense precipitation of “**atmospheric rivers**” will worsen inland flooding, especially in highly urbanized areas. Within the Los Angeles region, by the late 21st century, total rainfall on the wettest day of the year may increase by as much as 25–30 percent under the high emissions scenario (CNRA 2018).



Flooding upstream of Santa Fe Dam 1938

An **Atmospheric River** is a flowing column of condensed water vapor in the atmosphere that is responsible for producing significant amounts of rain and snow. Strong atmospheric rivers can disrupt travel and result in damaging floods and mudslides.

The types of inland flooding that are a hazard for the City of Irwindale can generally be grouped into two types: (1) urban flooding, and (2) dam failure flooding. These types of flooding are defined further below.

**Urban Flooding:** Flooding created by the inability of urbanized areas to absorb rainfall, resulting in ponding in low-lying areas and the concentration of flood waters in unnatural channels.

**Dam Failure Flooding:** Dams can fail because of a number of reasons, including overtopping due to flooding, structural failure of materials used in dam construction, poor maintenance, failure of upstream dams, among others. Flooding from dam failure is typically far more severe as residents have little warning time, and the volume of water can lead to swift, severe flooding with a catastrophic loss of life and property.

This section summarizes the existing environmental conditions that influence flooding hazards in the City of Irwindale, characterizes the City’s vulnerabilities to flooding and dam failure, and describes the relevant local regulations with respect to flood management and control.

## Understanding Floods

The following terms are used by floodplain managers, policy makers, and insurers. A **floodplain** is any land area susceptible to being inundated by floodwaters from any source. This can include coastal areas impacted by storm surge, land along a river or bayou that is flooded when that waterway rises out of its banks, or low-lying land that fills with water when it rains. As defined by the Federal Emergency Management Agency (FEMA), these include:

- **500-year floodplain** is the portion of land that would be covered during a flood event that has a 0.2 percent chance of being equaled or exceeded each year
- **100-year floodplain** is the portion of land that would be covered during a flood event that has a one percent chance of being equaled or exceeded each year.

**Floodways** are the channel of the river or stream and the adjacent land that must remain free from obstruction.

**Flood Fringes** are the remaining portion of the floodplain. FEMA and state regulations permit communities to allow the flood fringe to be obstructed and developed if specific development standards are met.

As shown in **Figure 2.5-1**, the majority of the City of Irwindale is located in an area mapped as Zone X, or an area of minimal flood hazard. There are no 100-year floodplains or 500-year floodplains within the City. There is a 500-year flood zone adjacent to the City to the south, near West Covina. It is important to note that existing FEMA maps do not account for increasing risk due to climate change. FEMA maps do represent baseline flooding conditions but are not a climate-informed projection of flood risk.

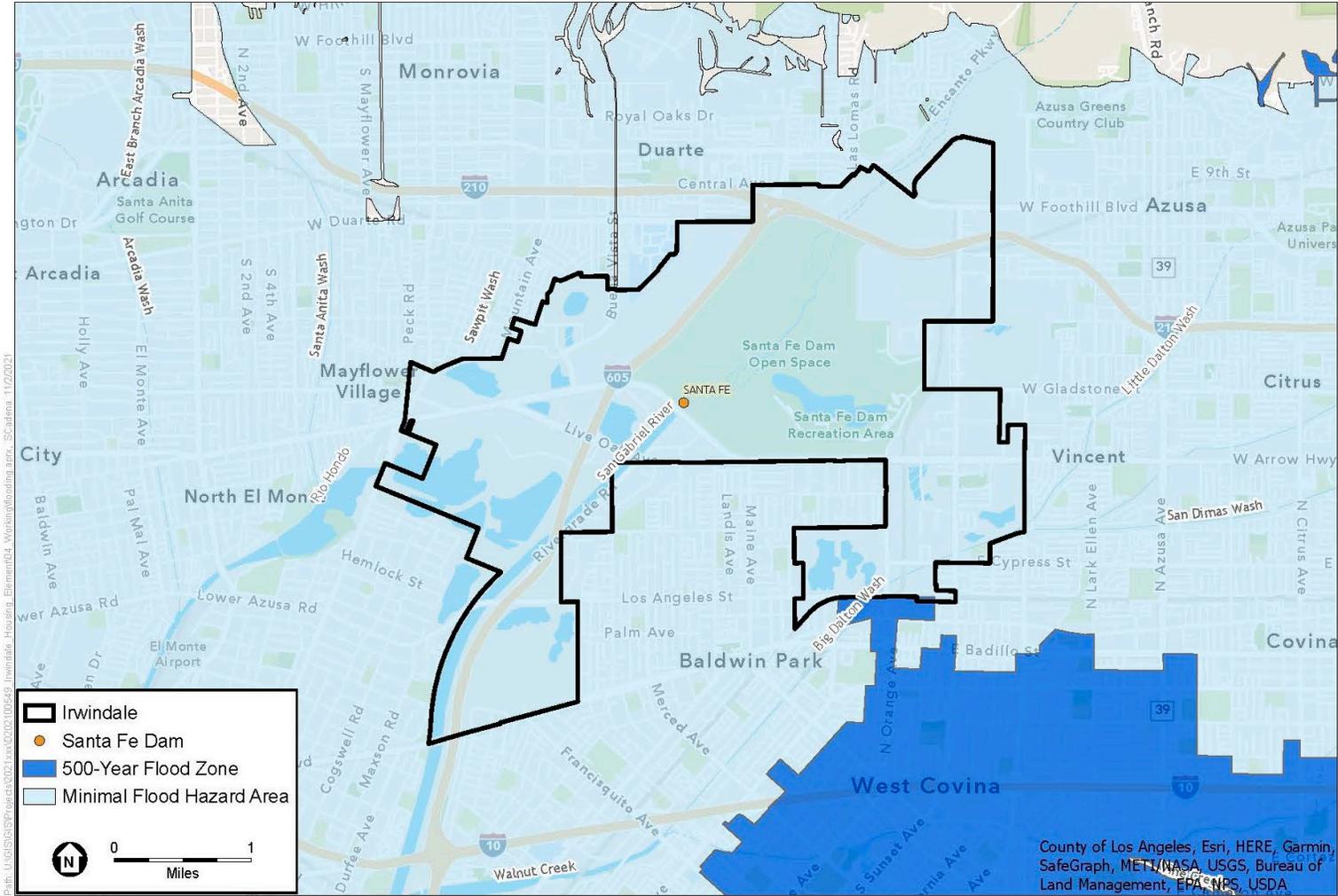
## Dams in the City of Irwindale



Santa Fe Dam in Irwindale, CA

Within the City of Irwindale, there is one major dam: the Santa Fe Dam and Reservoir, which is a flood control facility. Built in 1949, the Santa Fe Dam is located on the San Gabriel River about 4 miles downstream from the San Gabriel Canyon. The dam is a component of the Los Angeles County Drainage Area flood control system, and the primary purpose of the dam is to reduce the risk of flood damage for areas downstream of the dam. The dam area also includes approximately 835 acres that were granted to Los Angeles County for recreational use. This area is

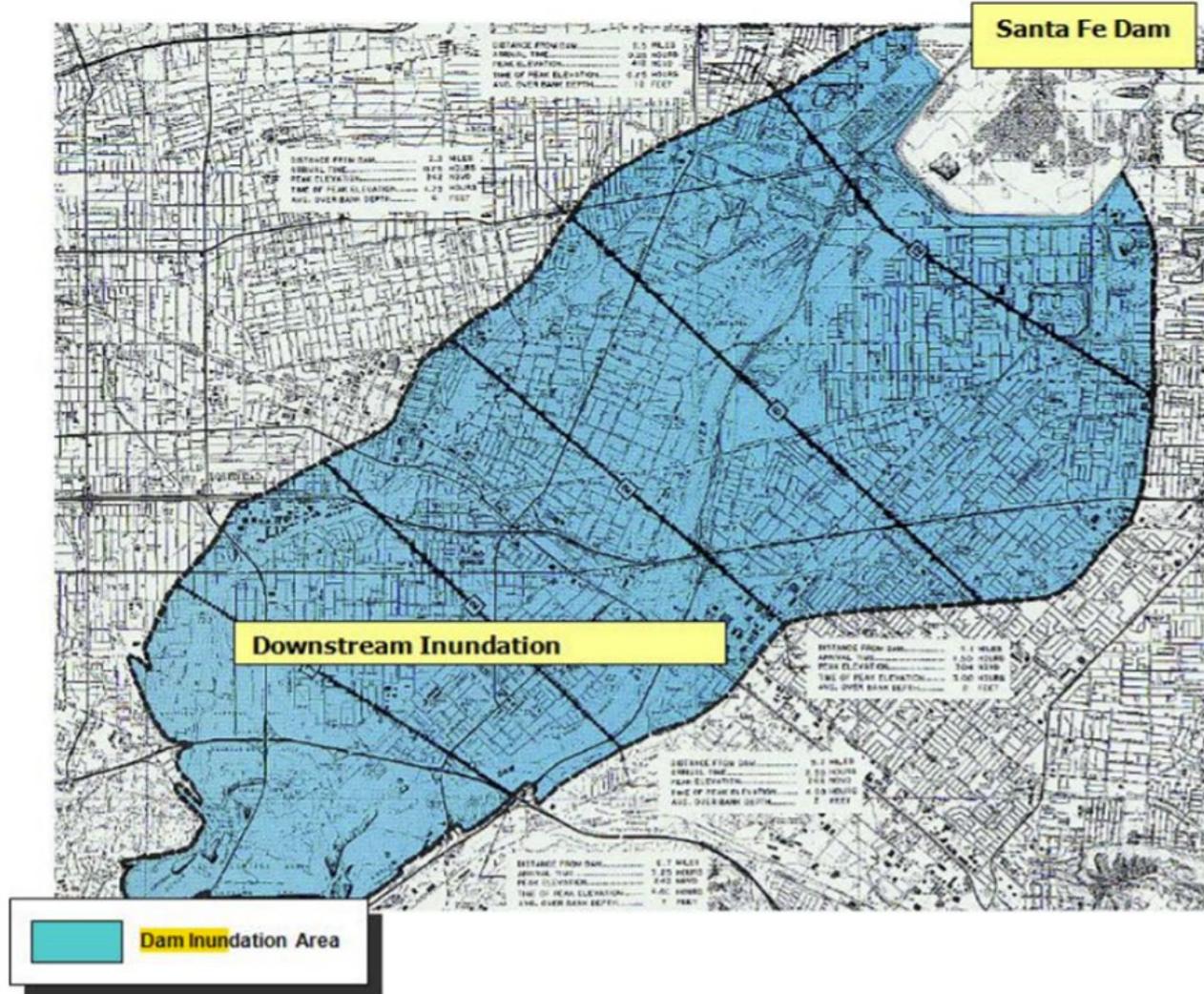
currently used for recreation and is managed by Los Angeles County Parks (USACE 2021). The expected inundation area in the event of dam failure is shown in **Figure 2.5-2**. In the event of a dam failure, water would likely flow in a southwesterly direction and inundate the area west of Irwindale Avenue, which includes commercial and residential properties in the City, as well as the southwestern portion of the City, which includes primarily commercial and industrial land uses, quarries, and a small amount of residential land use.



SOURCE: FEMA; ESRI; ESA, 2021.

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**Figure 2.5-1**  
Flooding Conditions in the City of Irwindale



SOURCE: TBD.

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**Figure 2.5-2**  
Santa Fe Dam Inundation Area

## Risk Assessment

### Local Conditions

As described above, most of the City is not in a designated flood hazard zone. As shown in Figure 2.5-1, the San Gabriel River and associated flood control infrastructure are permanent water features near the western border of the City. These features include the channelized river, storage basin, dam, and spillway. The Santa Fe Dam was built to reduce flooding from the San Gabriel River.

Approximately 60 percent of surfaces within the City of Irwindale are impervious (HPI 2021). As a result, the City is vulnerable to urban and stormwater flooding as impervious surfaces prevent water from soaking into soil and can worsen flooding from intense precipitation. Areas of the City particularly vulnerable to stormwater flooding include low-lying areas and areas where the land cover is predominantly impervious.

To evaluate the safety of the Santa Fe Dam, a Screen Portfolio Risk Analysis (SPRA) assigned the Santa Fe Dam a Dam Safety Action Class II rating. As described by the U.S. Army Corps of Engineers (USACE), this rating is assigned to dams where failure could begin during normal operations or be initiated as the consequence of an event. The likelihood of failure from an occurrence, prior to remediation, is too high to ensure public safety; or the combination of life or economic consequences with probability of failure is very high.

According to the National Inventory of Dams, the Santa Fe Dam has been assigned a High hazard potential, which means that loss of human life is likely if the dam fails (NDI 2021).

The USACE has implemented risk reduction measures to mitigate the risk of dam failure that include: (1) inspection and monitoring, (2) flood mapping, (3) updating the Emergency Action Plan, (4) coordination with local interests, and (5) installing equipment to measure pressure created by water at the outlet.

The warning time for dam failure depends on the cause of failure. For example, in an event of extreme precipitation, evacuations can be planned with sufficient time. On the other hand, in the event of a structural failure, there may be no warning time. Jurisdictions and private dam owners are required to have established protocols in their emergency operations plans (EOPs) for warning and response to imminent dam failure.

### Local Vulnerabilities

Potential vulnerabilities to flooding include population, property, and infrastructure. Low-lying populations and infrastructure, such as roads, are especially vulnerable to flood hazards and serve critical access functions for residents and emergency responders.

### Population

As mentioned above, residents living near low-lying areas or areas with high levels of impervious surface are vulnerable to urban stormwater flooding and ponding. Flooding can impact communities by resulting in injury or death, or isolating individuals or families and cutting them off from essential services. Property damage from flooding can be particularly burdensome for low-income families or renters who

may face challenges rebuilding following a flood event. Flooding also has the potential to result in mold in buildings, which can result in long-term health impacts following flooding.

Employees working in Irwindale are also vulnerable to flooding and may encounter transportation and evacuation challenges in the event of flooding. Flooding may result in economic impacts within the City if commercial or industrial properties are inundated, resulting in interruptions to employment and businesses.

In the event of dam failure, vulnerable populations include populations downstream from dam failures that are incapable of escaping the area within the allowable time frame. The entire population in a dam failure inundation zone is exposed to the risk of a dam failure. Within the City of Irwindale, preliminary investigation suggests that residential areas west of Irwindale Avenue and south of Arrow Highway; residential areas along Calle Burolla, Fajio Avenue, and Nora Avenue; and residential areas on the western edge of the City south of Meridian Street may be vulnerable to inundation in the event of dam failure. Populations that are particularly vulnerable to the impacts of flooding are those who may be less mobile and may be unable to get out of the inundation area. These populations include the elderly, the young, as well as individuals or families who may not receive adequate warning from warning systems, televisions, radios, reverse 911 systems, or cell phones. This could include low-income families or linguistically isolated individuals. The potential for loss of life is influenced by the capacity and number of evacuation routes available to populations living in areas of potential inundation.

### **Vulnerable Development, Critical Facilities, and Infrastructure**

According to the Governor's Office of Planning and Research (OPR) Guidelines, critical facilities are facilities that either: (1) provide emergency services, or (2) house or serve many people who would be injured or killed in case of disaster damage to the facility. Examples include hospitals, fire stations, police or emergency service facilities, utilities, or communications facilities. Low-lying areas are vulnerable to dam failure inundation, especially transportation routes. In the City of Irwindale, this includes all roads, railroads, and bridges in the flow path of water. In the event of a flood, transportation assets such as emergency evacuation routes, routes used by emergency responders, and public transportation may experience delays in emergency response that may impact the ability of residents to evacuate in the event of flooding. Utilities such as the stormwater drainage system and wastewater system may be compromised by the increase in discharges to these systems.

Additionally, as dams are built to protect communities from flooding, buildings located in the dam inundation area are often not built to withstand flooding. All critical infrastructure and facilities in the dam inundation zone are vulnerable to inundation. This includes the fire station on East Arrow Highway. Critical facilities such as emergency response facilities, emergency shelters, hospitals, and utilities may be vulnerable to flooding if located below grade or in the dam inundation area and may lose function if located below grade.

### **City Capacity to Respond to Flooding**

Flood control within the City is managed between the City, LACFCD, and USACE. The City does not have a division within Public Works/Engineering with the sole responsibility for stormwater management, which limits the City's ability to dedicate resources to stormwater management. The City

does have a civic alert system that could be used to alert residents of flood risk. Mitigation actions identified in the Hazard Mitigation Plan to improve stormwater management capacity, participate in the NFIP, and address flooding of transportation infrastructure, as described below, increase the City's capacity to respond to flood events.

**[NOTE TO REVIEWER:** Please provide available information regarding City capacity to respond to flooding including information about urban greening programs, programs or policies to reduce impervious surfaces, planning documents or programs that address flood hazards, any programs that track areas of frequent flooding in the city, as well as any projects intended to address flood risk]

## Policies, Plans, and Regulatory Environment

Flood risk within the City of Irwindale is managed between the City of Irwindale, Los Angeles County Flood Control District (LACFCD), and USACE.

### U.S. Army Corps of Engineers Dam Safety Program

The USACE is responsible for safety inspections of some federal and nonfederal dams in the United States that meet the size and storage limitations specified in the National Dam Safety Act. The USACE has inventoried such dams and surveyed each state and federal agency's capabilities, practices, and regulations regarding the design, construction, operation, and maintenance of the dams. The USACE develops guidelines for inspection and evaluation of dam safety.

### California Division of Safety of Dams

California's Division of Safety of Dams, a division of the Department of Water Resources, monitors the dam safety program at the State level. When a new dam is proposed, Division staff inspect the site. The Division reviews dam applications and building plans to ensure that the dam is designed to meet minimum requirements and that the design is appropriate for known geologic conditions. It also inspects construction to ensure that the work is done in accordance with the approved plans. The Division inspects constructed dams on an annual basis to ensure that they are performing as intended and are not developing problems. Roughly a third of these inspections include in-depth instrumentation reviews. The Division periodically reviews the stability of dams and their major appurtenances in light of improved design approaches and requirements, as well as new findings regarding earthquake hazards and hydrologic estimates in California (California Department of Water Resources 2019).

### Senate Bill 92: Dam Safety

Senate Bill 92, signed into law on June 27, 2017, it provides new requirements focused on dam safety. Specifically, it requires dam owners to submit inundation maps to the Department of Water Resources. After the maps have been approved, the dam owner must then submit an emergency action plan (EAP) to the California Office of Emergency Services (OES 2020).

## Hazard Mitigation Plan

The City of Irwindale 2014 Hazard Mitigation Plan is designed to help residents, businesses, and government agencies respond when disasters strike. The Hazard Mitigation Plan includes a number of mitigation actions to better prepare the City to respond to hazards:

- **Local Mitigation Action #11 - State of California Dam Safety Act.** This Act requires dam owners to submit inundation maps for those dams whose total failure would cause loss of life or personal injury. This law also requires local jurisdictions to adopt emergency procedures for the evacuation and control of populated areas below such dams.
- **Local Mitigation Action #13 - National Flood Insurance Program (NFIP).** This program was established as part of the National Flood Insurance Act of 1968, and broadened and modified in the Flood Disaster Protection Act of 1973. This program enables property owners to purchase insurance protection against losses from flooding.
- **Local Mitigation Action #23 – Flood Insurance.** Purchasing flood insurance does not prevent a flood from occurring, but it does mitigate a property owner’s financial exposure to loss from flood damage. The City of Irwindale will continue to participate in the National Flood Insurance Program (NFIP), which is administered by FEMA.
- **Local Mitigation Action #24 – Storm Drainage Systems.** The City of Irwindale will continue to mitigate flooding by installing, re-routing, or increasing the capacity of storm drainage systems that may involve detention and retention ponds, drainage easements, or creeks and streams. These activities may include separation of storm and sanitary sewerage systems as well as higher engineering standards for drain and sewer capacity.
- **Local Mitigation Action #25 – Roads.** Roads are needed to get people and goods from place to place. In addition to planning for traffic control during floods, there are various construction and placement factors to consider when building roads. To maintain dry access, roads should be elevated above the base flood elevation. However, if a road creates a barrier it can cause water to pond. Where ponding is problematic, drainage and flow may be addressed by making changes to culvert size and placement. In situations where flood waters tend to wash roads out, construction, reconstruction, or repair can include not only attention to drainage but also stabilization or armoring of vulnerable shoulders or embankments.
- **Local Mitigation Action #26 – Backup Generators.** The City desires to install backup generators for pumping and lift stations in sanitary sewer systems, along with other measures (e.g., alarms, meters, remote controls, and switchgear upgrades).

## Los Angeles County Flood Control Comprehensive Floodplain Management Plan

The Los Angeles County Flood Control Comprehensive Floodplain Management Plan is a strategy of programs, projects, and measures that will reduce the adverse impact of flooding on the community. The plan includes 37 mitigation actions that are designed to coordinate with federal, State, and regional programs.

## Los Angeles County Flood Control and Water Conservation District (LACFCD)

Flood control management and stormwater management in the City of Irwindale are provided by the LACFCD. The LACFCD works with the Los Angeles County Department of Public Works to provide

flood protection, water conservation, and recreation opportunities within the county. Administrative, planning, and operational activities are managed by Los Angeles County Public Works. Flood risk management within Los Angeles County is shared between the USACE and Los Angeles County Flood Control District.

## 2.6 Geologic and Seismic Hazards

The City of Irwindale is located in a seismically active region and is subject to the potential risks typically associated with earthquakes. The effects of an earthquake may take many forms depending on a number of factors, including distance from the epicenter, the characteristics of the underlying soils, the presence of groundwater, and topography. The primary geologic hazards identified in this section for which the City Irwindale is at risk include surface rupture, ground shaking, landslides, and liquefaction.



Earthquake Damage. Courtesy of the USGS Website

### Understanding Earthquakes

#### What is an Earthquake?

An **earthquake** involves the rapid shaking of the ground, which alters the position of the Earth's tectonic plates. Earthquakes occur most often along geologic faults. **Faults** are narrow zones where rock masses move in relation to one another. **Seismic waves** are produced when some form of energy stored in Earth's crust is suddenly released, usually when masses of rock straining against one another suddenly fracture and slip. Earthquakes can also result in **fault rupture**, which occurs when movement on a fault deep within the Earth breaks through to the surface, creating an offset in the ground as the two sides of the fault slip past each other.

#### Measuring Earthquakes

The **epicenter** is the point on the Earth's surface vertically above the focus point in the crust where a seismic rupture begins.

A structure's ability to withstand the magnitude of an earthquake often depends on when and where it was built, and whether it was built to seismic codes. **Magnitude** is the size of the earthquake. An earthquake has a single magnitude. The shaking that it causes has many values that vary from location to location based on how far the **epicenter** is and the type of surface material. **Table 2.6-1** lists the seven earthquake magnitude classes, which range from micro to great. A magnitude class of great can cause tremendous damage to infrastructure, compared to a micro class, which results in minor damage to infrastructure.

**TABLE 2.6-1 EARTHQUAKE MAGNITUDE CLASSES**

<b>Magnitude Class</b>	<b>Magnitude (M) Range</b>	<b>Description</b>
Great	M>8	Tremendous damage
Major	7<=M<7.9	Widespread heavy damage
Strong	6<=M<6.9	Severe damage
Moderate	5<=M<5.9	Considerable damage
Light	4<=M<4.9	Moderate damage
Minor	3<=M<3.9	Rarely causes damage
Micro	M<3	Minor damage

SOURCE: USGS (2019).

Whereas the magnitude of an earthquake is one value that describes the size, there are many intensity values for each earthquake that are distributed across the geographic area around the earthquake epicenter. The intense shaking of an earthquake can cause damage and lead to the collapse of buildings and structures. **Intensity** is the measure of shaking at each location, which varies from place to place depending mostly on the distance from the fault rupture area. The United States uses the Modified Mercalli Intensity (MMI) Scale to measure intensity. **Table 2.6-2** includes the description of the levels of MMI. The lower numbers of the intensity scale generally deal with the manner in which the earthquake is felt by people. The higher numbers of the scale are based on observed structural damage.

**TABLE 2.6-2 EARTHQUAKE INTENSITY MMI LEVELS**

<b>MMI Intensity</b>	<b>Description</b>
<b>I</b>	Not felt, except by a very few people under especially favorable conditions.
<b>II</b>	Felt only by a few people at rest, especially on the upper floors of buildings.
<b>III</b>	Noticeable by people indoors, especially on the upper floors of buildings, although it is not widely recognized as an earthquake. Parked vehicles may move slightly.
<b>IV</b>	Felt indoors by many and felt outdoors by some. May awaken sleeping people. Dishes, windows, and doors disturbed. Parked vehicles move noticeably.
<b>V</b>	Felt by almost everyone. Sleeping people awaken, and some dishes and windows broken. Unstable objects overturned, and pendulum clocks may stop.
<b>VI</b>	Felt by everyone. Some heavy furniture moved, and some instances of falling plaster. Damage slight, although many people may be frightened.
<b>VII</b>	Considerable damage in poorly built or badly designed structures, slight to moderate damage in well-built ordinary structures, and negligible damage in buildings of good design and construction. Some chimneys broken.
<b>VIII</b>	Great damage in poorly built structures, considerable damage and partial collapse of well-built ordinary structures, and slight damage in specially designed structures. Chimneys, factory stacks, columns, monuments, and walls fall. Heavy furniture overturned.
<b>IX</b>	Well-designed structures thrown out of plumb, considerable damage in specially designed structures. Substantial buildings suffer great damage and partial collapse. Buildings shifted off foundations.
<b>X</b>	Some well-built wood structures destroyed. Most masonry and frame structures and foundations destroyed. Rails bent.
<b>XI</b>	Few if any masonry structures remain standing. Bridges destroyed and rails greatly bent.
<b>XII</b>	Total damage. Lines of sight and level are distorted. Objects thrown into the air.

SOURCE: USGS (2019).

## Earthquake Hazards

### Surface Rupture

Surface rupture refers to the actual ground surface tearing apart as a result of an earthquake, which typically occurs along a fault line trace. The effects of surface rupture may be mitigated by placing structures at a specified distance from the known fault trace. California has enforced regulations prohibiting the placement of structures over, or in close proximity to, a known fault trace through the implementation of the Alquist-Priolo Act. The Act established earthquake fault zones in California. **Alquist-Priolo Earthquake Fault Zones** encompass surface traces of active faults that have a potential for future surface fault rupture. These zones have been established by the State Geologist, are mapped, and indicate an active fault within the zone.

**Alquist-Priolo Earthquake Fault Zones** are regulatory zones surrounding the surface traces of active faults in California.

### Ground Shaking

The energy created from earthquakes moves out from the epicenter in waves that affect the various rock and soil types differently. In some instances, ground shaking may cause unconsolidated soils to settle, which can result in significant damage to buildings and structures.

### Landslides

**Landslides** are masses of rock, earth, or debris that move down a slope. Landslides move along surfaces of separation by falling, sliding, and flowing, giving rise to many characteristic features. These features range from largely unweathered and uneroded, to highly weathered and eroded, which are only recognized by topographic layouts.

Landslides are characteristically abundant in areas of high seismicity, steep slope, and high rainfall, but may be triggered by any, or a combination, of the following:

- Type and structure of earth materials.
- Steepness of slope.
- Water.
- Vegetation.
- Erosion.
- Earthquake-generated ground shaking.

Landslides are most likely to occur in areas with a slope greater than 25 percent (hillside areas) and along steep bluffs. Since the City of Irwindale is relatively flat, the City is at low risk for landslides.

### Liquefaction

**Liquefaction** occurs where a soil's strength and stiffness are substantially reduced in response to an applied stress such as shaking during an earthquake or other sudden change in stress condition, causing the soil's composition to liquefy. Soil liquefaction can cause severe damage to property, including damaging pipes, compromising building foundations, and bucking roads and airport runways. The City of

Irwindale could experience seismic shaking levels with the potential to cause liquefaction in areas where groundwater is generally shallower than 30 feet.

## Risk Assessment

### Surface Rupture and Ground Shaking

**Transverse Ranges** are a group of mountain ranges and valleys in the province of the San Bernardino, San Gabriel, and Santa Ynez Mountains.

**Peninsular Ranges** are in Orange, western Riverside, and San Diego counties and extend southward into lower California.

The City of Irwindale, along with the larger South Coast Basin, is located within a seismically active region at the junction of the **Transverse Ranges** and the **Peninsular Ranges**. These two physiographic provinces experience continual seismic activity associated with the lateral movement of the North American and Pacific tectonic plates. The San Andreas Fault system, located approximately 31 miles north of the City, is more than 800 miles long and delineates the boundary where these two plates are joined.

**Figure 2.6-1** shows both ranges in southern California, the San Andreas Fault, and the Garlock Fault. The Garlock Fault is about 160 miles long and extends from near Gorman to the southern end of Death Valley. The Garlock Fault is approximately 65 miles northwest of the City of Irwindale and meets the San Andreas Fault at Frazier Park.

Regional fault zones in proximity to the City are shown in **Figure 2.6-2**. **Figure 2.6-3** shows the fault, liquefaction, and landslide zones within the City.

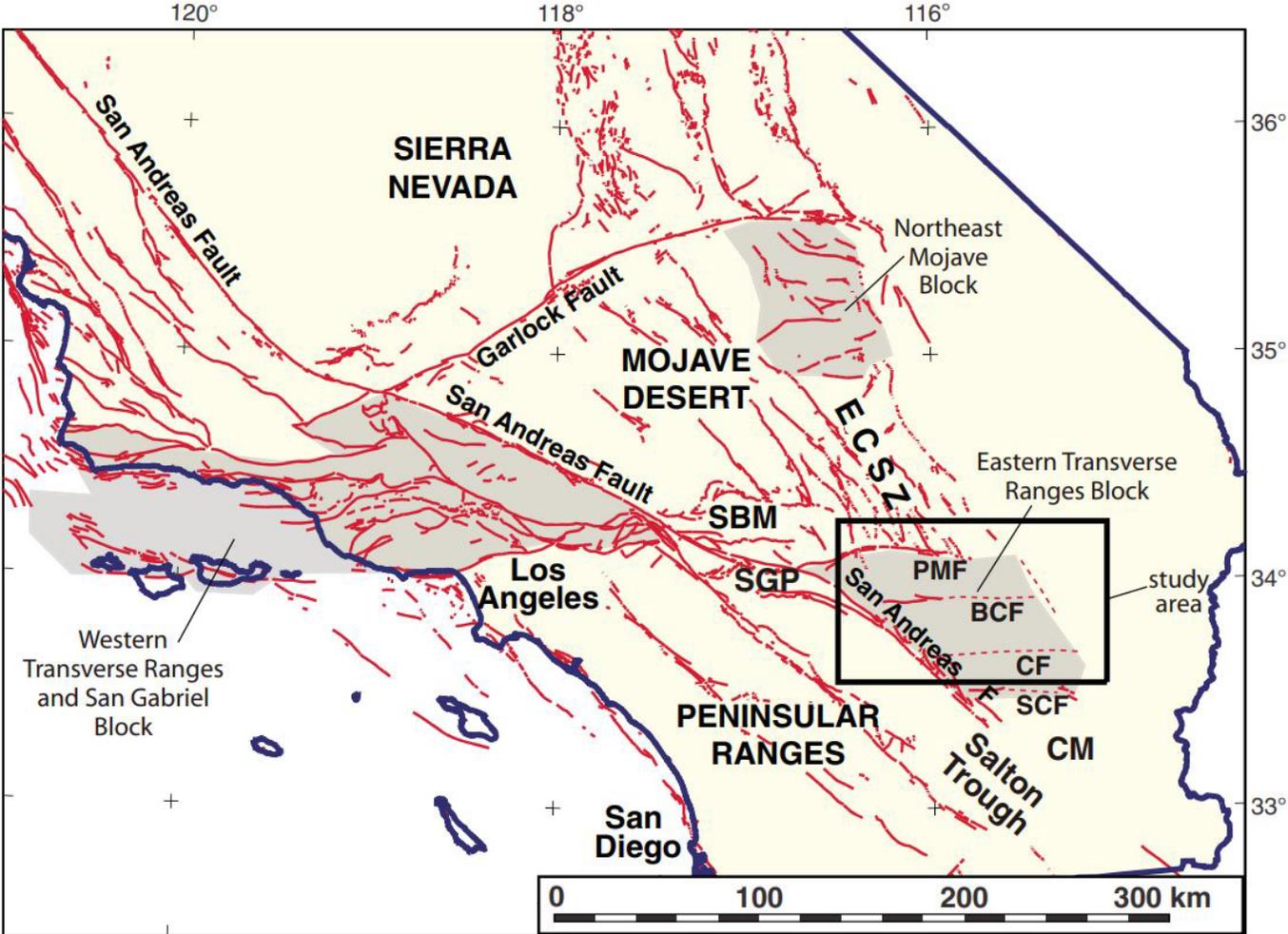
The faults that pose a risk to the City's existing or future structures are described below and are summarized in **Table 2.6-3**.

**TABLE 2.6-3 MAJOR ACTIVE FAULTS IN THE VICINITY OF THE CITY OF IRWINDALE**

Fault	Distance from City	Recent Activity	Potential Magnitude	Potential Damage <sup>a</sup>
Duarte	In the City	N/A	7.0	Widespread heavy damage
Northridge	29 miles W	1994	6.7	Severe damage
Elysian Park Zone	10 miles NE	1987	6.9	Severe damage
Sierra Madre	2 miles N	1971	7.2	Widespread heavy damage
San Andreas	31 miles NW	1857	8.0	Tremendous damage
Newport-Inglewood	29 miles SW	N/A	7.0	Widespread heavy damage
Whittier-Elsinore	9 miles S	1987	5.9	Severe damage
Raymond Hill	3.5 miles NW	Holocene	6.0–7.0	Severe to widespread heavy damage
Clamshell-Sawpit	3 miles W	1991	N/A	N/A

<sup>a</sup> Descriptions were derived from **Table 2.6-1**, Earthquake Magnitude Classes, above.

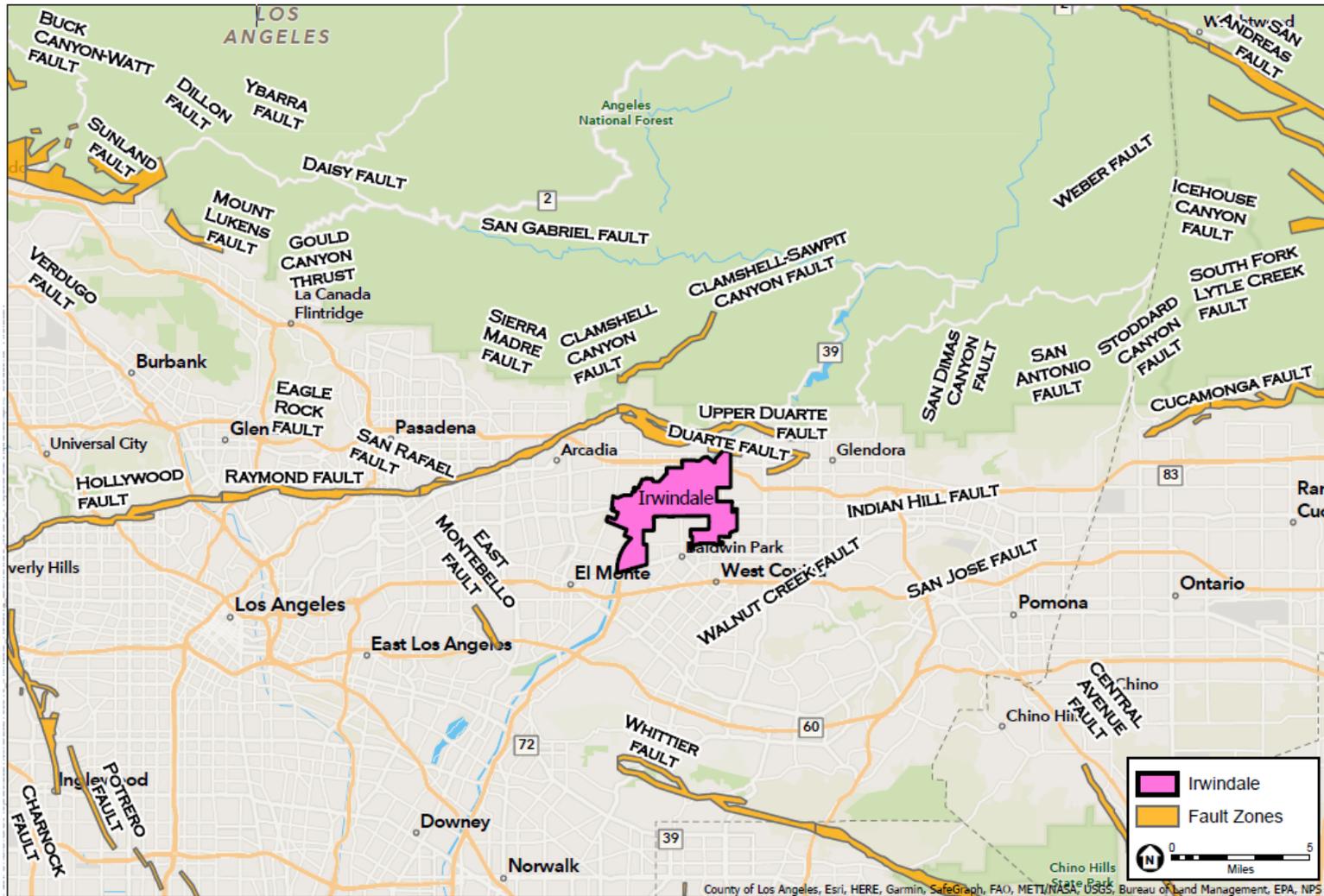
SOURCE: City of Irwindale, 2013 and USGS, 2019



SOURCE: Geosphere Journal, 2009.

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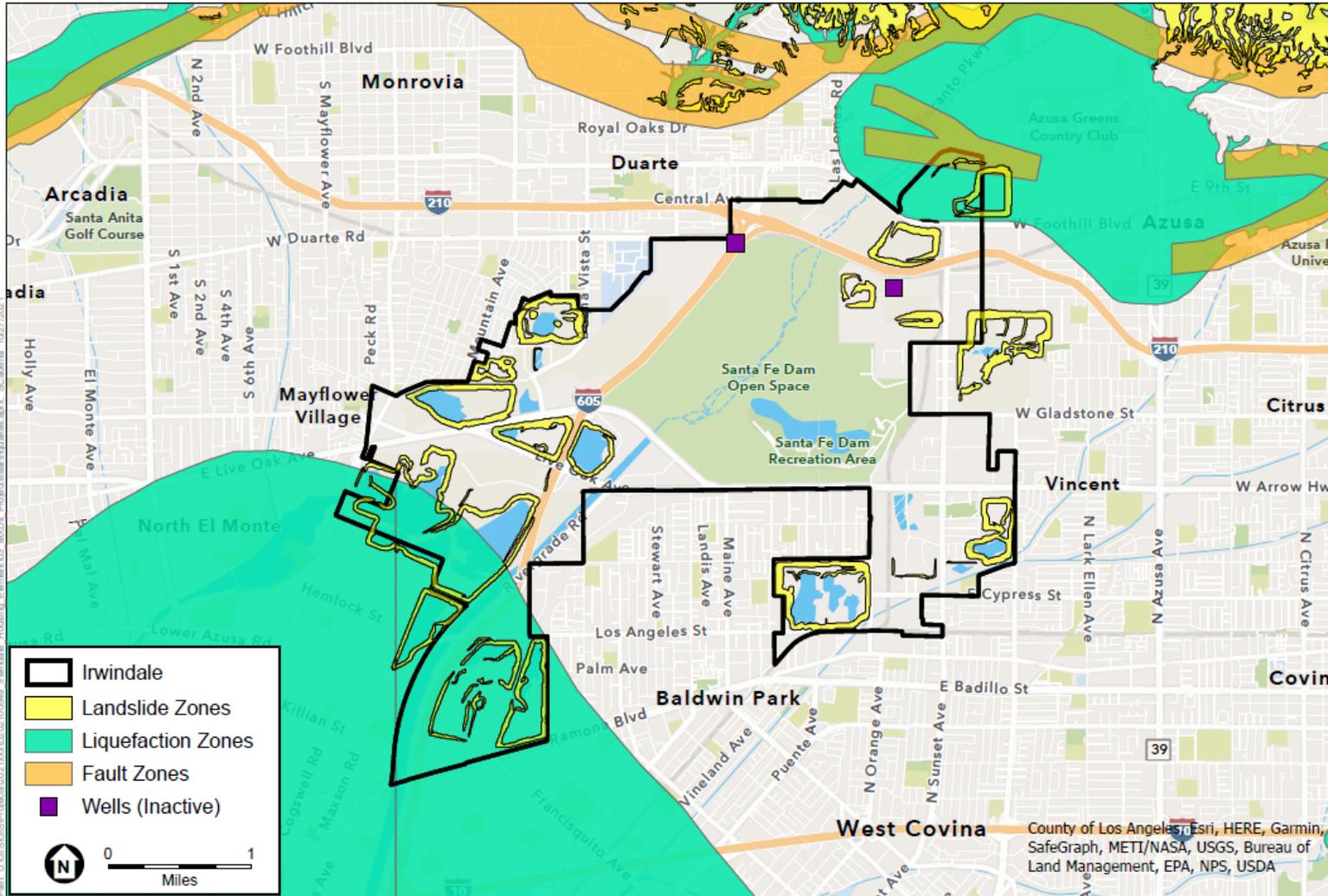
**Figure 2.6-1**  
Transverse and Peninsular Ranges



SOURCE: CalGEM; DOC; UrbanFootprint; ESRI; ESA, 2021.

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**Figure 2.6-2**  
Regional Fault Zones



SOURCE: CalGEM; DOC; UrbanFootprint; ESRI; ESA, 2021.

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**Figure 2.6-3**  
Geologic and Seismic Hazards

*Duarte Fault.* While numerous faults are mapped in the Southern California region, a single fault trace is actually known to be present within the City’s boundaries. A buried segment of the active Duarte fault is known to cross the southwestern corner of the Azusa Largo pit, continuing along Foothill Boulevard to the east. The Duarte fault is a component of the larger Sierra Madre fault zone that is located along the southern foothills of the San Gabriel Mountains.

*Northridge Fault.* The Northridge fault is located approximately 29 miles west of the City and is associated with the 1994 Northridge earthquake. The Northridge earthquake began as a rupture on this fault located beneath the San Fernando Valley.

*Elysian Park Fault.* The Elysian Park fault is located in central Los Angeles, approximately 10 miles northeast of the City of Irwindale. It is estimated that rupture of the Elysian Park fault could produce, on average, a 6.2 to 6.7 earthquake every 500 to 1,300 years. Although this Elysian Park earthquake would recur infrequently, its size and destruction may be similar to the 1971 San Fernando and 1994 Northridge earthquakes (Southern California Earthquake Center 2021).

*Sierra Madre Fault-San Gabriel Fault Zone.* The Sierra Madre fault is located approximately 2 miles north of the City of Irwindale.

*San Andreas Fault.* The San Andreas fault is considered most likely to produce a large seismic event within the next 100 years. The San Andreas fault lies approximately 23 miles northwest of the City of Irwindale. Geologic evidence suggests that a major earthquake (7.5 to 8.5 magnitude) has a 50 percent chance of occurring within the next 30 years. An earthquake of this magnitude is comparable to the 1906 San Francisco earthquake and has the potential for causing considerable damage in the Southern California region.

*Newport-Inglewood Fault.* An earthquake along the Newport-Inglewood fault could impact the City of Irwindale more severely than a San Andreas-induced earthquake. The Newport-Inglewood fault is located approximately 29 miles southwest of the City, and it is estimated that 6.0 to 6.5 magnitude earthquakes on this fault have a 15 to 50 percent probability of occurrence within the next 100 years. An earthquake of this magnitude is comparable to the Long Beach earthquake of 1933, which registered 6.3 magnitude.

*Whittier-Elsinore Fault.* The Whittier-Elsinore fault lies in close proximity to the City of Irwindale approximately 9 miles to the south. Historically, this fault has produced relatively minor earthquakes with a less than 4.5 magnitude. Studies indicate that this fault has less than a 15 percent probability of producing a moderate earthquake (5.5 to 6.0 magnitude) within the next 100 years.

*Raymond Hill Fault.* The Raymond Hill fault extends through the cities of South Pasadena, Pasadena, Arcadia, and San Marino. The Raymond Hill fault is a component of the larger Sierra Madre fault system



The “Raider Crater” Quarry Courtesy of KCET (2016).

that lies approximately 3 miles west of the City of Irwindale. This fault has a potential for a maximum credible magnitude of 6.7.

*Clamshell-Sawpit Fault.* This fault is 15 miles long and extends through the cities of Sierra Madre and Monrovia.

## Landslides

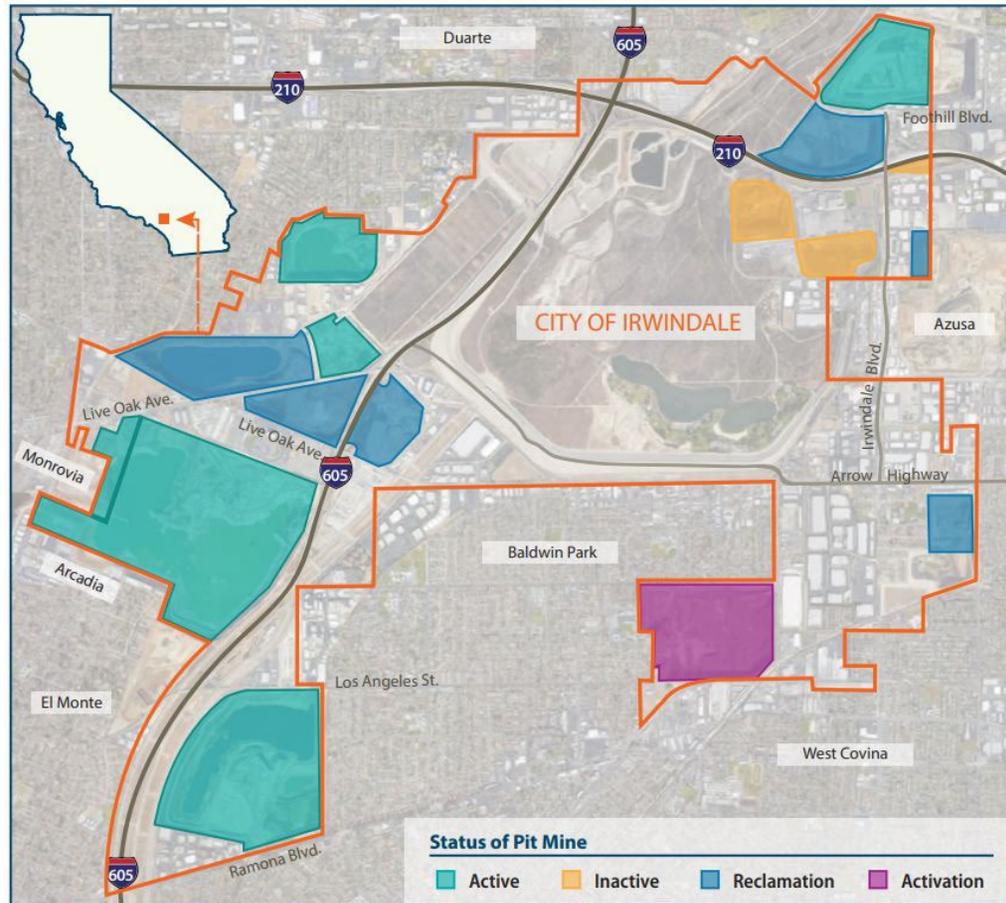
Areas with the potential for earthquake-induced landslides generally occur in areas of previous landslide movement, or where local topographic, geological, geotechnical, and subsurface water conditions indicate a potential for permanent ground displacements.

Areas considered for earthquake-induced landslides are shown on **Figure 2.6-3**. City areas at greatest risk for earthquake-induced landslides include the steep slopes typically found within the quarries. The City is historically known for its mining activity. The large mining pits where the earth was removed to make much of Los Angeles' freeways, roads, and structures are visible from the I-210 and I-605 freeways. Nearly 2.9 square miles, or one-third of the geographical area of the City of Irwindale, consists of 16 gravel and sand pit mines, as shown on **Figure 2.6-4**. Currently, there are six active mines and six pit mines in reclamation that may eventually be redeveloped. Of the four remaining mines, one is an idle pit mine that the City has begun activating and that will resume mining operations, and the other three are and will remain inactive with no plans for future development (California State Auditor 2016). Some slumping and slope-failure could affect structures located at the top of the quarry pits.

The landslide potential zones were compiled from the California Department of Conservation. Mapped earthquake-induced landslide potential zones are intended to prompt more detailed, site-specific geotechnical studies as required by the Seismic Hazard Mapping Act.

## Liquefaction

Liquefaction generally occurs during significant earthquake activity, and structures located on soils such as silt or sand may experience significant damage during an earthquake due to the instability of structural foundations and the moving earth. Many communities in Southern California are built on ancient river bottoms and have sandy soil. In some cases, this ground may be subject to liquefaction, depending on the depth of the water table. Buildings and their occupants are at risk when the ground can no longer support these structures. The California Department of Conservation has evaluated liquefaction susceptibility for most of the City of Irwindale area. The southwestern corner of the City is identified as having a potential for liquefaction, as shown in **Figure 2.6-3** above.



NOTES:  
**Active:** Mines currently generating mining tax revenue.  
**Inactive:** Mines not under reclamation, and not currently generating any mining tax revenue.  
**Reclamation:** Mines not currently generating tax revenue, but with future tax revenue potential if redevelopment occurs.  
**Activation:** Mine not currently generating tax revenue, but will provide future mining tax revenue.

SOURCE: California State Auditor, 2016; City of Irwindale, 2018.

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**Figure 2.6-4**  
 Mine Pits within City Boundaries

## Past Geologic and Seismic Events

Although there are several faults around the vicinity of the City, Irwindale has never been severely impacted by an earthquake. However, there have been tens of thousands of recorded earthquakes in Los Angeles County, most below a magnitude of 3. The most intense earthquakes with a magnitude of 5.0 or greater that have taken place in Los Angeles County between 1769 and 2005 are listed in **Table 2.6-4**. The two most recent damaging earthquakes were the 1987 Whittier earthquake and the 1994 Northridge earthquake. The 1994 Northridge Earthquake occurred at 4:31 a.m. on Monday, January 17 in the San Fernando Valley. This was a moderate but very damaging earthquake with a magnitude of 6.7, which in the following days and weeks resulted in thousands of aftershocks that caused additional damage to affected structures. The 1987 Whittier earthquake happened on October 1, 1987 in Whittier and registered 5.9. The Whittier earthquake resulted in destruction to historic houses and commercial structures dating back to the late 19<sup>th</sup> and early 20<sup>th</sup> centuries (Homestead 2020).

**TABLE 2.6-4 MAJOR EARTHQUAKE EVENTS IN LOS ANGELES COUNTY**

Year	Location
1769	Los Angeles Basin
1812	Wrightwood
1827	Los Angeles Region
1855	Los Angeles Region
1893	Pico Canyon
1910	Glen Ivy Hot Springs
1987	Whittier Narrows
1992	Landers
1994	Northridge
2005	Southern California

SOURCE: California Earthquake Authority (2021).

## Local Vulnerabilities

Earthquakes are a considerable threat to life and property in the City of Irwindale. A moderate to severe seismic incident on any fault zone in close proximity to the City is expected to cause:

- Injury and loss of life.
- Commercial and residential structural damage.
- Disruption of and damage to public utilities and services.
- Damage to transportation routes, resulting in loss of mobility.
- Loss of communications.
- Negative impact on commercial and residential property values.
- Economic impact.

## Population and Property

All people, property, and environments in the City of Irwindale would be exposed to direct and indirect impacts from earthquakes. In general, the population is less at risk during non-work hours (if at home) as wood-frame structures are relatively less vulnerable to major structural damage than are typical commercial and industrial buildings.

Transportation problems are intensified if an earthquake occurs during work hours, as significant numbers of employees would be stranded in the City. An earthquake occurring during work hours would create major transportation problems for those displaced workers.

**CivicReady** is an alert notification system used by the City to issue urgent notifications, critical information, emergency instructions, public safety warnings, and other communications to subscribed users via email, text message, and voicemail. Non-English speakers have the option of automatically translating messages into one of over 100 languages.

## Vulnerable Facilities and Infrastructure

According to the City's Hazard Mitigation Plan, the major form of direct damage from most earthquakes is damage to construction. Bridges are particularly vulnerable to collapse, and dam and water tank failure may generate major downstream flooding. Buildings vary in susceptibility, depending on construction and the types of soils on which they are built. Earthquakes destroy power and telephone lines; gas, sewer, or water mains; which, in turn, may set off fires and/or hinder firefighting or rescue efforts.

Extensive federal assistance could be required and could continue for an extended period. Efforts would be required to remove debris and clear roadways, demolish unsafe structures, assist in reestablishing public services and utilities, and provide continuing care and welfare for the affected population, including temporary housing for displaced persons.

Emergency medical care, food, and temporary shelter would be required for injured or displaced persons. Emergency operations could be seriously hampered by the loss of communications and damage to transportation routes within, and to and from, the disaster area and by the disruption of public utilities and services. The economic impact on the City from a major earthquake would be considerable in terms of loss of employment and loss of tax base. The loss of communications through power outages could seriously disrupt the operations of banks, insurance companies, and other elements of the financial community. In turn, this could affect the ability of local government, business, and the population to make payments and purchases.

## City Capacity to Respond to Geologic and Seismic Hazards

Earthquakes strike suddenly, without warning. Earthquakes can occur at any time of the year and at any time of the day or night. There is currently no reliable way to predict the day or month that an earthquake will occur at any given location. In any earthquake, the primary consideration is saving lives. Time and effort must be given to reuniting families, providing shelter to the displaced persons, and restoring basic needs and services. A major effort will be needed to remove debris and clear roadways, demolish unsafe structures, assist in reestablishing public services and utilities, and provide continuing care and temporary housing for affected citizens.

The City of Irwindale uses the **CivicReady** service to deliver important and timely information, including emergency messages and alerts, at no cost to the community. The CivicReady service delivers trustworthy and important public safety and community event notifications directly from the Irwindale Police

Department via internet, email, text messages, and voice calls. This service could be used as a warning system during an earthquake event. Seconds and minutes of advance warning can allow people and systems to take actions to protect life and property from destructive shaking. Even a few seconds of warning can enable protective actions such as:

- Citizens, including school children, drop, cover, and hold on; turn off stoves, safely stop vehicles.
- Business personnel move to safe locations, automated systems ensure that elevator doors open, production lines are shut down, and sensitive equipment is placed in a safe mode.
- Surgeons, dentists, and others stop delicate procedures.
- Emergency responders such as fire departments can open firehouse doors, and have personnel prepare and prioritize response decisions.
- Power infrastructure and grid facilities can be protected from strong seismic shaking.

The **Emergency Support Function** concept was developed by FEMA in the late 1980s to address the potential management concerns that would be necessary to coordinate a federal response to a catastrophic earthquake in California.

According to the City's Emergency Operations Plan, when a threat or potential threat is first detected, the City Emergency Operations Center (EOC) is activated to a level appropriate to the magnitude of the event. The City's response effort is then initiated through the City Emergency Organization, which is comprised of designated **Emergency Support Function** (ESF) Coordinators from tasked City departments, non-governmental organizations, and volunteer organizations. The Federal Emergency Management Agency (FEMA) implemented the ESF concept in the development of its original National Response Plan and subsequent National Response Framework. The City must be prepared to respond quickly and effectively on a 24-hour basis to developing emergency events, such as earthquakes. These ESF Coordinators are authorized to deploy the resources of their respective department or organization to carry out response and recovery missions that are assigned by functions.

The City also encourages residents and businesses to be prepared for an earthquake or other natural or major disaster by providing education and awareness on the **Emergency Preparedness** webpage (<https://www.irwindaleca.gov/118/Emergency-Preparedness>). The City recommends that everyone be prepared to provide for their care and safety before and after an earthquake event through proper planning and preparedness. The Emergency Preparedness webpage includes a link to download an earthquake preparedness flyer from the Los Angeles County Fire Department as well as links to local, state, and federal emergency preparedness.

## Policies, Plans, and Regulatory Environment

### Alquist-Priolo Earthquake Fault Zoning Act and Seismic Hazards Mapping Act (1972)

The 1971 San Fernando Earthquake resulted in the destruction of numerous structures built across its path. This led to passage of the Alquist-Priolo Earthquake Fault Zoning Act in 1972. This Act prohibits the construction of buildings for human occupancy across active faults in the State of California. Similarly, extensive damage caused by ground failures during the 1989 Loma Prieta Earthquake focused attention on decreasing the impacts of landslides and soil liquefaction. This led to the creation of the

Seismic Hazards Mapping Act, which increases construction standards at locations where ground failures are probable during earthquakes.

## Uniform Building Code

The Uniform Building Code (UBC) was developed by the International Conference of Building Officials (ICBO) and is used by most states, including California, as well as local jurisdictions to set basic standards for acceptable design of structures and facilities. The UBC provides information on criteria for seismic design, construction, and load-bearing capacity associated with various buildings and other structures and features. Additionally, the UBC identifies design and construction requirements for addressing and mitigating potential geologic hazards. New construction generally must meet the requirements of the most recent version of the UBC.

## 2019 California Building Standards Code (CCR, Title 24)

The California Building Code (CBC) is Title 24 of the California Code of Regulations (CCR). The CBC specifies the acceptable design and construction requirements associated with various facilities or structures. This code specifies criteria for open excavation, seismic design, and load-bearing capacity directly related to construction in the State. The CBC augments the UBC and provides information for specific changes to various sections in it.

## Field Act

The Field Act was enacted on April 10, 1933, one month after the Long Beach Earthquake where many schools were destroyed or suffered major damage. Public school construction has been governed by the Field Act since 1933 and enforced by the Division of the State Architect (DSA). In any community, public schools constructed under the Field Act after 1978 are likely to be among the safest buildings in which to experience a major earthquake.

The Field Act requires the following:

- School building construction plans to be prepared by qualified California-licensed structural engineers and architects.
- Designs and plans to be checked by the DSA for compliance with the Field Act before a contract for construction can be awarded.
- Qualified inspectors, independent of the contractors and hired by the school districts, to continuously inspect construction and verify full compliance with plans.
- The responsible architects and/or structural engineers to observe the construction periodically and prepare changes to plans, as needed, subject to approval by DSA.
- Architects, engineers, inspectors, and contractors to file reports, under penalty of perjury, to verify compliance of the construction with the approved plans.

## Emergency Action Plan

The Emergency Action Plan provides the City of Irwindale employees with a plan of action in the unfortunate event of a natural or man-made disaster. The focus of the plan is to protect life and property by encouraging proper planning and preparation. For earthquake events, the plan states that the Chief

Emergency Warden will coordinate all emergency procedures to ensure the safety of staff and visitors during an earthquake emergency.

## 2.7 Hazardous Materials

Hazardous materials are found throughout any urban environment. Industrial businesses use or process potentially hazardous materials and/or hazardous wastes, whereas homeowners often store hazardous materials including used batteries, car oil, pesticides, cleaners, and paint, all of which are potentially hazardous. A **hazardous material** is generally defined as any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or future hazard to human health and safety or to the environment if released. Hazardous materials are produced for specific uses, and **hazardous wastes** are the byproducts of those uses and various processes.

The use of hazardous products in households, businesses, and construction activities is common. However, the amounts, concentration, and/or types of these products are often not significant enough to pose a substantial risk to human health and safety or to the environment. As such, these are often referred to as household hazardous wastes, universal waste, and electronic waste.



Hazardous Waste Facilities. Courtesy of the County of Los Angeles Fire Department

Hazardous materials are more often associated with select commercial, industrial, and agricultural operations where there is the potential for releases, leaks, or disposal of chemical compounds. The potential release or disposal of hazardous materials within a city, such as petroleum hydrocarbons (oil and products such as gasoline and diesel), on or below the ground surface can lead to contamination of surface water and underlying soil and groundwater. As such, hazardous materials and their use and/or disposal is highly regulated by federal and State law. Federal, State, and local regulations are listed below under subsection, *Policies, Plans, and Regulatory Environment*.

## Risk Assessment

### Hazardous Materials Locations

A number of regulated sites are located within the City of Irwindale and in adjacent communities. A listing of toxic releases sites, hazardous waste facilities, permitted underground storage tanks, hazardous waste cleanup sites, and groundwater cleanup sites are provided in **Figure 2.7-1**.

The U.S. Environmental Protection Agency (USEPA) **Toxic Release Inventory (TRI)** is a database that tracks the management of certain toxic chemicals that may pose a threat to human health and the environment. Certain industrial facilities in the U.S. must report annually how much of each chemical is recycled, combusted for energy recovery, treated for destruction, and disposed of or otherwise released on- and off-site. The USEPA TRI lists six sites in the City of Irwindale.

The California Department of Toxic Substances Control (DTSC) maintains the **Envirostor Data Management System**, which provides information on hazardous waste facilities (both permitted and corrective action), as well as any available site cleanup information. **GeoTracker** is the State Water Resources Control Board's (SWRCB) internet-accessible database system used by the SWRCB, regional boards, and local agencies to track and archive compliance data from authorized or unauthorized discharges of waste to land, or unauthorized releases of hazardous substances from underground storage tanks (USTs). According to the DTSC Envirostor database and the SWRCB GeoTracker database, there are 109 sites in the City. Out of the total 109 sites, seven are actively being remediated, assessed, are pending review of an agency, or are in a verification monitoring program; 52 have been closed or require no further action; 10 are inactive or non-operating; and 1 site is eligible for closure (DTSC 2021, SWRCB 2021a and USEPA 2021). Additionally, there are 21 Permitted USTs and six USEPA TRI sites in the City. The remaining 12 sites are groundwater cleanup and hazardous waste cleanup sites that are either open, active, permitted or certified operations and maintenance facilities.

## Hazardous Materials Generators

**Table 2.7-1** identifies registered hazardous waste generators and handlers in the City. There is one permitted operational facility handling the proper disposal of hazardous waste in the City, CleanTech Environmental, and six hazardous waste generators. The six sites were identified in the USEPA TRI and are listed in Table 2.7-1. They represent various industries producing nonmetallic minerals, beverages, and petroleum. Because these businesses use hazardous materials, they are required to obtain necessary permits from various public agencies.

**TABLE 2.7-1 GENERATORS AND/OR USERS OF HAZARDOUS MATERIALS IN IRWINDALE**

Facility Name	Address
CleanTech Environmental Inc.	5820 Martin Road, Irwindale, CA 91706
Calportland Co. Live Oak Plant	590 E Live Oak Avenue, Irwindale, CA 91706
Miller Coors Irwindale-Brewery	15801 E First Street, Irwindale, CA 91706
Wei Irwindale Plant	Live Oak Avenue, Irwindale, CA 91706
All American Asphalt	13646 Live Oak Lane, Irwindale, CA 91706
Irwindale Plant 13	13631 Live Oak Avenue, Irwindale, CA 91706
National Ready Mix Concrete Co.	2620 Buena Vista Street, Irwindale, CA 91706

NOTES: This table includes hazardous waste site and the six sites identified by the USEPA TRI.

SOURCE: DTSC, 2021 and USEPA, 2021.

## Local Vulnerabilities

Many of the City's industries produce, use, and store hazardous materials. As such, communities and neighborhoods near hazardous materials sites are the most vulnerable. A number of industrial plants are located within the City and, in certain instances, these uses are adjacent to residential neighborhoods. Public safety issues involve not only the use of these materials in populated areas but also the transportation and disposal of chemicals and other hazardous substances through the City. Two major freeways (the Foothill Freeway [I-210] and the San Gabriel River Freeway [I-605]), numerous railway

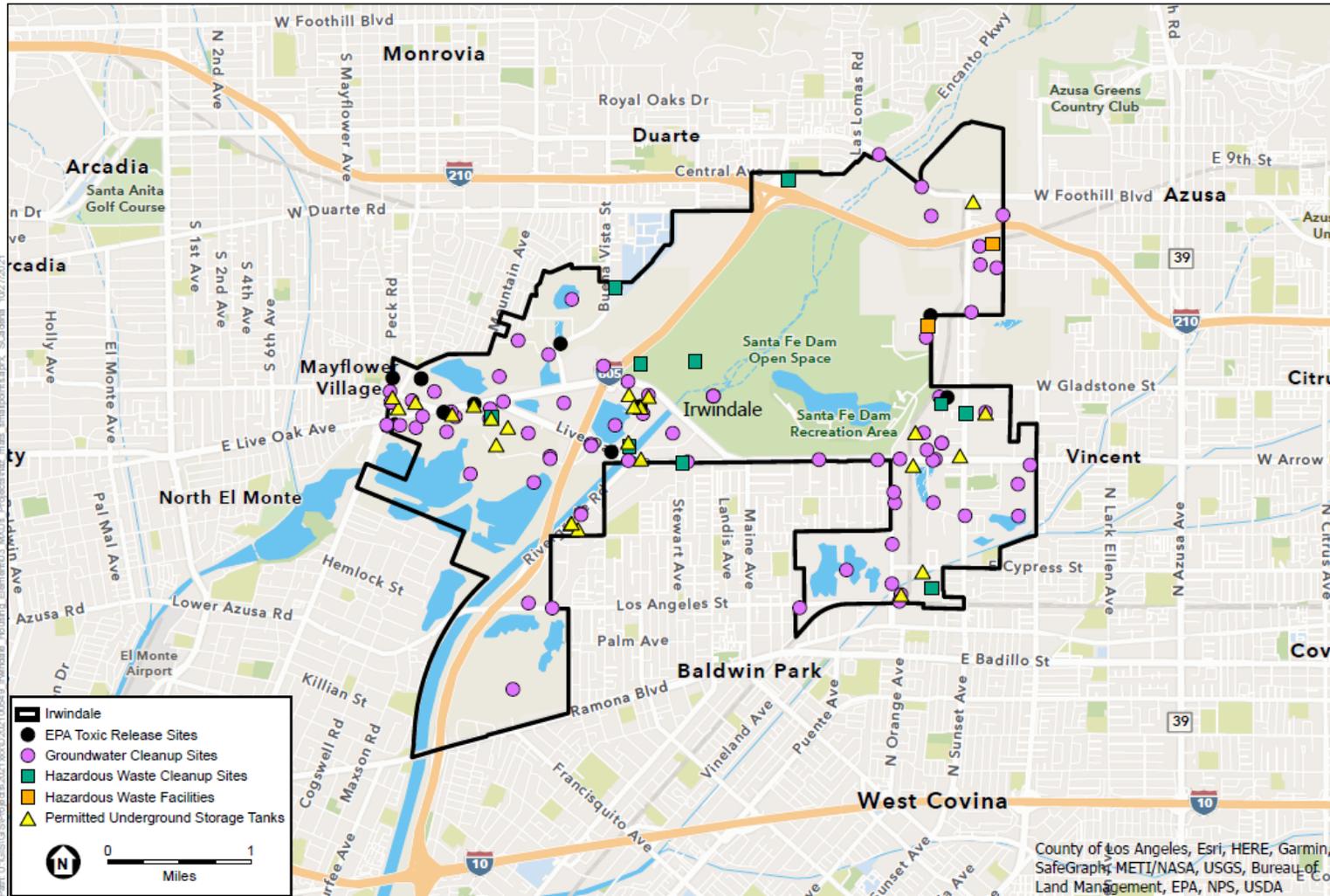
lines, and the urban arterials that traverse the City carry traffic that is involved in the transport of hazardous materials.

These transportation routes carry a variety of materials that could pose health risks to City residents in the event of an accident. The possibility of such an occurrence may be relatively higher in the City than other communities given the extent of freeway and railroad traffic that passes through and the concentration of manufacturing uses in the area.

## Secondary Hazards

Additional secondary hazards of hazardous materials spills include the following, as identified in the 2014 Hazard Mitigation Plan:

- Potential fires and explosions.
- Disruption of transportation systems.
- Need for specialized emergency responders.
- Destruction of utilities and other public services.
- Damage to public infrastructure and facilities.
- Residential displacement (including evacuations).
- Individuals trapped and injured in unsafe conditions.
- Health issues related to discharges or releases.
- Need for emergency food, shelter, and medical care.
- Economic impacts, both short and long term.
- Water pollution and quality degradation.



SOURCE: DTCS; EPA; SWRCB; ESRI; ESA, 2021.

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**Figure 2.7-1**  
Hazardous Materials Sites

## City Capacity to Respond to Hazardous Materials

The City cooperates with county, State, and federal agencies involved in the regulation of hazardous materials storage, use, and disposal. The City works with the Los Angeles County Fire Department (LACFD) in requiring hazardous materials users and generators to store and handle hazardous materials in accordance with best management practices (BMPs) approved by the LACFD Health Hazardous Materials Division, and to identify safety procedures for responding to accidental spills and emergencies. The LACFD Health Hazardous Materials Division requires facilities and businesses to report hazardous materials that exceed the hazardous materials reporting thresholds outlined in its Hazardous Materials Reporting Matrix as well as the thresholds under State Law, pursuant to Health & Safety Code (HSC), Chapter 6.95, Article 1, Section 25507. Hazardous materials that are non-compliant must be reported using the California Environmental Reporting System (CERS). CERS is a statewide web-based system that supports the electronic exchange of required Unified Program information among businesses, local governments, and the USEPA. State law requires that specified changes or updates to a facility's reportable inventory be submitted in CERS within 30 days (HSC Section 25508.1). In addition, a facility is required to submit the hazardous materials inventory annually by the deadline set by the LACFD Health Hazardous Materials Division.

The City also encourages residents to properly dispose of household hazardous waste through the support of Hazardous Materials Collections conducted at specific locations and times within the City. Common household hazardous waste includes batteries, paint, adhesives, drain openers, automotive products, grease and rust solvents, fluorescent lamps, mercury, televisions, computer monitors, and pool chemicals. Periodic household hazardous waste drop-off events are held throughout the year by Los Angeles County. The City keeps the community aware of these events through flyer announcement mail-outs, and posts the events its Household Hazardous & Electronic Waste webpage.

## Policies, Plans, and Regulatory Environment

Hazardous materials are extensively regulated by federal, State, and local regulations, and new regulations are constantly being developed as more knowledge is acquired about the impact that these substances have on human health and the environment. The City's role in managing hazardous materials primarily involves enforcement of these regulations.

### **Comprehensive Environmental Response, Compensation, and Liability Act / Superfund Amendments and Reauthorization Act**

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Superfund Amendments and Reauthorization Act (SARA), an amendment to CERCLA, identify the requirements for planning, reporting, and notification concerning hazardous materials and hazardous material releases into the environment. SARA and CERCLA regulations are presented in Title 40, Code of Federal Regulations (CFR), Parts 305 through 355.

### **Environmental Protection Agency**

The USEPA is the agency primarily responsible for the enforcement and implementation of federal laws and regulations pertaining to hazardous materials. The USEPA works closely with other federal agencies, State and local governments, and Indian tribes to develop and enforce regulations under existing environmental

laws. The USEPA is responsible for researching and setting national standards for a variety of environmental programs and delegates to states and tribes responsibility for issuing permits, and monitoring and enforcing compliance. The USEPA holds the TRI database as a resource for learning about toxic chemical releases and pollution prevention activities reported by industrial and federal facilities.

Prior to August 1992, the USEPA was the principal agency at the federal level regulating the generation, transport, and disposal of hazardous waste, under the authority of the Resource Conservation and Recovery Act (RCRA). As of August 1, 1992, however, the USEPA authorized transfer of authority to implement the State's hazardous waste management program to the California DTSC. The USEPA continues to regulate hazardous substances under CERCLA. Under CERCLA, the USEPA has authority to seek the parties responsible for releases of hazardous substances and ensure their cooperation in site remediation. CERCLA also provides federal funding (the "Superfund") for remediation.

### ***Occupational Safety and Health Act***

The Occupational Safety and Health Administration was created to ensure worker safety and health in the United States by working with employers and employees to create better working environments. Section 1919, Subpart H-Hazardous Materials of the Occupational Safety and Health Act of 1970 provides information and guidelines for working with hazardous materials.

### ***Hazardous Materials Transportation Act***

The U.S. DOT has the authority to regulate safety aspects of hazardous materials transportation in accordance with the Hazardous Materials Transportation Act of 1975. The Motor Carrier Act of 1980 requires carriers of hazardous materials to demonstrate their ability to pay for damages sustained from an accident involving such materials by means of adequate insurance. The California Highway Patrol (CHP) regulates the transportation of hazardous materials in California. Vehicles and drivers involved in the transportation of hazardous materials must obtain a hazardous materials transportation license from the CHP (CHP 2008).

### **Additional Federal Legislation**

The following federal laws and guidelines govern hazardous materials:

- Federal Water Pollution Control
- Clean Air Act
- Occupational Safety and Health Act
- Federal Insecticide, Fungicide, and Rodenticide Act
- Guidelines for Carcinogens and Biohazards
- Superfund Amendments and Reauthorization Act Title III
- Resource Conservation and Recovery Act
- Safe Drinking Water Act
- Toxic Substances Control Act

## California Environmental Protection Agency

The California Environmental Protection Agency (CalEPA) and the State Water Resources Control Board (SWRCB) establish rules governing the use of hazardous materials and the management of hazardous waste. Applicable State and local laws include the following:

- Public Safety/Fire Regulations/Building Codes
- Hazardous Waste Control Law
- Hazardous Substances Information and Training Act
- Air Toxics Hot Spots and Emissions Inventory Law
- Underground Storage of Hazardous Substances Act
- Porter-Cologne Water Quality Control Act

CalEPA protects Californians from hazardous waste and hazardous materials by ensuring that local regulatory agencies consistently apply statewide standards when they issue permits, conduct inspections, and engage in enforcement activities. This program is known as the Unified Program, which is a consolidation of multiple environmental and emergency management programs.

## California Department of Toxic Substance Control

Within CalEPA, the DTSC has primary regulatory responsibility, with delegation of enforcement to local jurisdictions that enter into agreements with the State agency, for the management of hazardous materials and the generation, transport, and disposal of hazardous waste under the authority of the RCRA and the California Health and Safety Code. Senate Bill 1082 requires the establishment of a unified hazardous waste and hazardous materials management program. The result was the CalEPA Unified Program. The Unified Program consolidates, coordinates, and makes consistent the administrative requirements, permits, inspections, and enforcement activities of six environmental and emergency response programs. State agencies responsible for these programs set the standards, while local governments implement the standards. CalEPA oversees implementation of the program, and agencies involved in the program are known as the Certified Unified Program Agency, or CUPA.

## California Accidental Release Prevention Program

Certain regulated substances, known as extremely hazardous substances, require extensive emergency planning. Businesses that meet threshold quantities specified by the USEPA are subject to both State and federal Release Prevention Program (RMP) requirements and shall provide their RMP to both the CUPA and the USEPA on the date on which the regulated substance is first present. Locally, facilities that have regulated substances above State thresholds shall submit an RMP to the CUPA on the date on which a regulated substance is first present. Every 3 years, the owner must certify compliance of their processes and practices, and every 5 years the owner must update their RMP and reevaluate that their process hazard analysis remains current.

## State Water Resources Control Board

The State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs) are responsible for ensuring implementation and compliance with the provisions of the

federal Clean Water Act and the Porter-Cologne Act of 1969. The Porter-Cologne Act is California's statutory authority for the protection of water quality. Along with the SWRCB and RWQCBs, water quality protection is the responsibility of numerous water supply and wastewater management agencies, as well as city and county governments, and requires the coordinated efforts of these various entities. Individual RWQCBs are responsible for identifying, monitoring, and cleaning up leaking underground storage tanks (LUSTs). LUSTs are an important threat to groundwater and pose a potential threat to human health, safety, and the environment. The Los Angeles RWQCB's (LARWQCB) is the local authority for Los Angeles and the City. The LARWQCB UST Program is carried out exclusively by the Underground Tanks Section. UST Program staff duties primarily include pollution source investigation, monitoring, and cleanup for protection of groundwater resources and enforcement actions (SWRCB 2021b).

### **Aboveground Petroleum Act**

The Aboveground Petroleum Act (APSA) went into effect on August 16, 1989. The APSA regulates facilities with aggregate aboveground petroleum storage capacities of 1,320 gallons or more, which include aboveground storage containers or tanks with petroleum storage capacities of 55 gallons or greater. These facilities typically include large petroleum tank facilities, aboveground fuel tank stations, and vehicle repair shops with aboveground petroleum storage tanks. The Act does not regulate non-petroleum products. Facilities with total petroleum storage quantities at or above 10,000 gallons are inspected at least once every 3 years by a CUPA.

### **Regional Water Quality Control Board**

The RWQCB develops and enforces water quality objectives and implementation plans that protect beneficial uses of the State's waters. The City of Irwindale is located within the jurisdiction of the Los Angeles RWQCB, the primary regulatory agency for stormwater discharges and for sites that impact or have the potential to impact the quality of surface or groundwater.

### **City of Irwindale Natural Hazard Mitigation Plan**

On February 27, 2013, the City of Irwindale City Council adopted the Natural Hazard Mitigation Plan (NHMP) in accordance with the Federal Disaster Mitigation Act of 2000. The NHMP is a collection of analyses, policies, and actions that serve as a blueprint for how the City of Irwindale can achieve sustainability and disaster resiliency. The Plan ensures that the City of Irwindale will be eligible for future pre-disaster and post-disaster mitigation program funds from the Federal Emergency Management Agency (FEMA) to ensure the health, safety, and welfare of its citizens.

### **City of Irwindale General Plan**

The City of Irwindale's General Plan Update (2008) is the City's planning policy document that establishes, through its policies, the general direction for the physical planning and form of the City. The General Plan is considered a living document intended to change and evolve with the dynamics of the changing community. The 2008 General Plan includes the following goals and policies to mitigate potential safety issues from hazardous materials:

- **Safety Element Policy 1.** The City of Irwindale will continue to review and if necessary, update its comprehensive emergency preparedness plan and hazard mitigation plan.

- **Safety Element Policy 2.** The City of Irwindale, at a minimum, will maintain current emergency response standards.

## City of Irwindale Municipal Code

The City of Irwindale’s Municipal Code (Code, or IMC) addresses a variety of hazards and related topics, including hazardous materials and waste and safety. The California Fire Code is adopted as Chapter 15.12 of the Code.

Chapter 13.04 of the Code is the Sanitary Sewer and Industrial Waste Ordinance, which regulates the following:

- Discharge, deposit, and disposal of all waste, including any material that may cause pollution of underground or surface waters, in, upon, or affecting the City.
- The design, construction, alteration, use, and maintenance of public sewers and house laterals, industrial connection sewers, water pollution control plants, sewage pumping plants, industrial liquid-waste pretreatment plants, dairy screen-chambers, sand and grease interceptors, and appurtenances.
- The issuance of permits and the collection of fees thereof, and fees to pay the cost of checking plans, inspecting the construction, and making record plans of the facilities permitted.

Chapter 13.08 of the Code establishes regulations for underground utility districts. Any business operation requesting the use, sale, or storage of hazardous materials would also be subject to Conditional Use Permit per IMC Subsection 17.80.030(27).

## 2.8 Law Enforcement and Crime

The City of Irwindale Police Department was established November 1, 1960 with one police unit and five motorcycles. Today, the Police Department has grown to have five bureaus and provides law enforcement, traffic enforcement, and police helicopter patrols, and assists in regional task forces and public safety services to the community through its 29 officers and nine civilian employees. The Police Department also became the first in the San Gabriel Valley to incorporate radar speed enforcement capabilities and a police canine team.

The City has one police station, located to the southwest of the community. The Police Department includes stolen vehicle tracking devices and radar-equipped motor units. The Police Department has a response time of up to 5 minutes for most areas within the City. Through a mutual aid contract with the Los Angeles County Sheriff’s Department, the City of Irwindale receives special weapons team services as necessary as well as other specialized equipment and services to assist with law enforcement. The City also has contracts with the West Covina Police Department and Baldwin Park Police Department for Jail Facility services and the Foothill Air Support Team, hosted by Pasadena Police Department for air support services.

The City of Irwindale Police Department manages the City’s emergency preparedness alerts, offers a Safe Medication Disposal Program, and coordinates with other local cities for an airborne law enforcement program.

## Risk Assessment

### Local Conditions

According to the Federal Bureau of Investigations (FBI) “Uniform Crime Report” (UCR) for the United States, the City of Irwindale Police Department had 17 reported crimes in 2020 and 26 reported crimes in 2019. The FBI considers four types of offenses within the UCR: aggravated assault, homicide, rape, and robbery. In 2020, reported violent crimes totaled 17, while reported property crimes totaled 182.

### Violent Crime

The FBI separates crime into categories. **Violent crime** includes murder, non-negligent manslaughter, rape, robbery, and aggravated assault. **Figure 2.8-1** shows a summary of all violent crimes reported in the City of Irwindale from 2010 to 2020. The red represents all violent crimes reported, while blue represents crimes that have been cleared. **Clearances** are crimes that are cleared, or closed, by police departments either by arrest or by exceptional means. Pursuing clearance by exceptional means requires police departments to have met four conditions set by the FBI’s UCR program:

- Identified the offender;
- Gathered sufficient evidence to support an arrest, charge, and handover to the court for prosecution;
- Identified the offender’s location, for the offender to be taken into custody; and
- Encountered circumstances beyond law enforcement control that prohibited an arrest, charge, and prosecution.

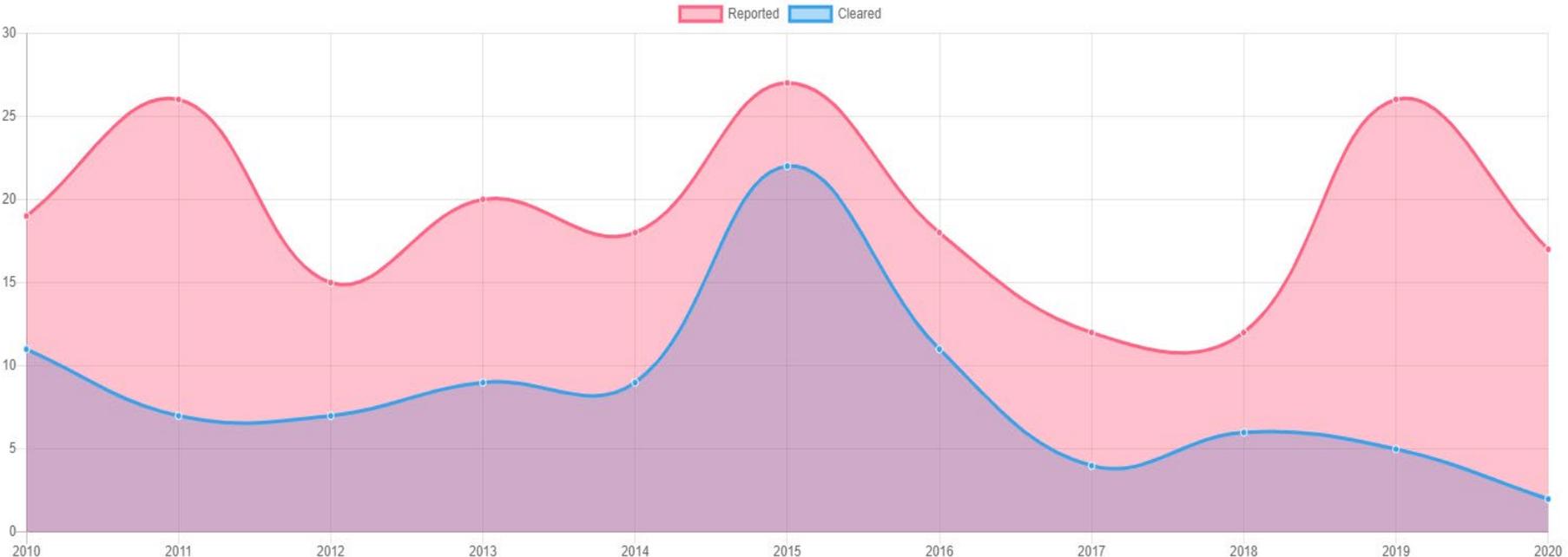
Examples of clearances by exceptional means include death of the offender and a crime victim’s refusal to cooperate with prosecution proceedings.

Violent crime in the past 10 years has fluctuated, with peaks in 2011, 2015, and most recently in 2019. The year 2015 saw the highest number of crime, with 27 reports submitted, 22 of which were cleared. Violent crime reports across 2010 to 2020 totaled 210, with an average of 19 violent crimes reported per year. The City of Irwindale has a higher violent crime rate than other communities statewide, with a rate of 17.7 per 1,000 people compared to the state rate of 4.41 per 1,000 people (FBI 2019).



Irwindale K9 Officer “Duke.” *Courtesy of Irwindale Police Department*

### Summary Crime reported by the Irwindale Police Department 2010-2020



SOURCE: TBD.

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**Figure 2.8-1**  
Violent Crime Over Time

## Property Crime

**Property crime** refers to burglary, larceny-theft, and motor-vehicle theft. **Figure 2.8-2** shows a summary of all property crimes, which are reported separately and not included under violent crimes. In total, 2,171 property crimes were reported from 2010 to 2020, with an annual average of 197 reports per year. The highest number of property crime was reported in 2019, with 240 reports.

## Arson

The FBI defines **arson** as willful or malicious burning, or attempting to burn, of dwellings, facilities, vehicles, or other personal or private property. From 2010 to 2020, there were 20 reports of arson made by the City of Irwindale Police Department, four of which were cleared. The year with the highest number of reports was in 2010 with four reports, while the most recent year for data available, 2020, saw two reports.

## Hate Crime

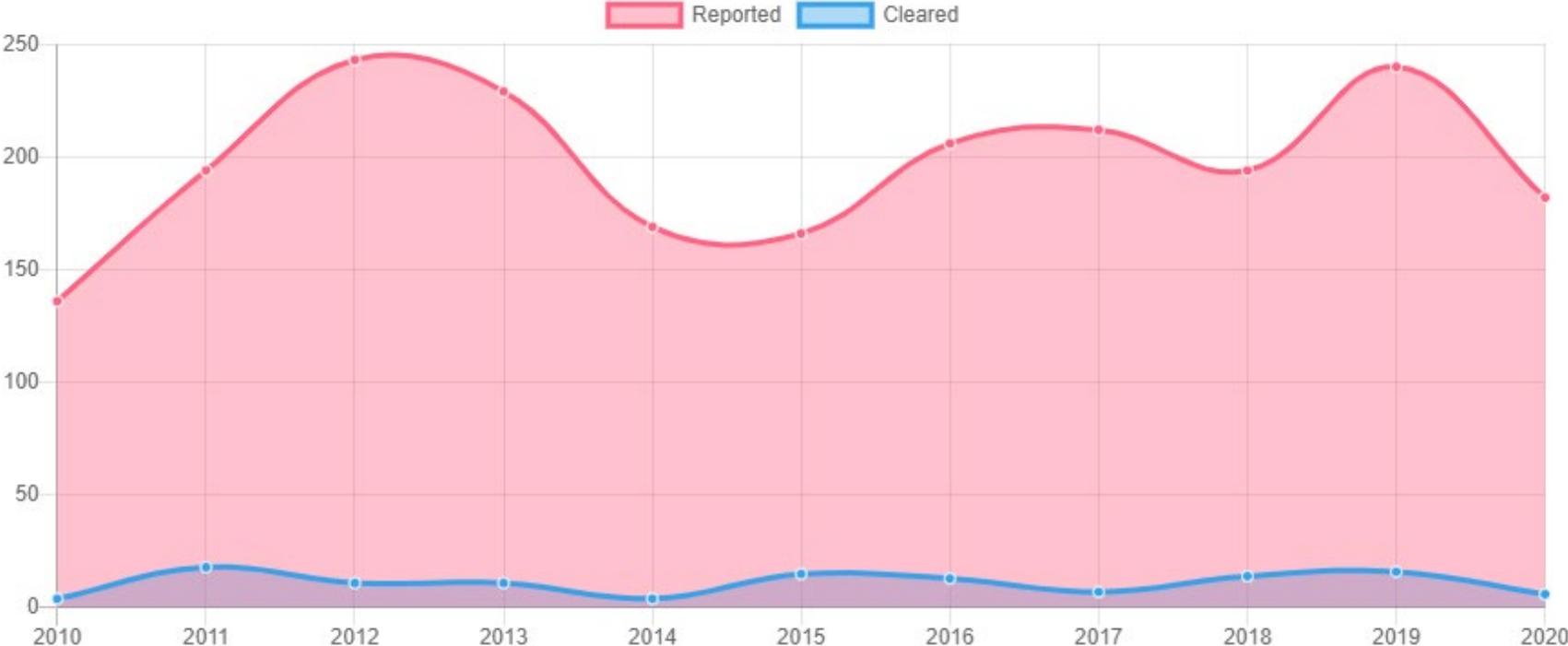
**Hate crimes** are criminal offenses committed that are motivated in whole or in part by bias against race, disability, ethnicity, gender or gender identity, religion, or sexual orientation. While hate crimes have generally increased in California by 25 percent from 2011 to 2020, the City of Irwindale has had zero reports of hate crimes in the last decade. Certain factors, such as population density, cultural diversity, community policing, and law enforcement training for identification of hate crimes, can influence reporting numbers in communities (California DOJ 2021).

## Local Vulnerabilities

Safe neighborhoods free of crime are significant to healthy communities and public safety. Vulnerable groups most at risk include persons of color and younger individuals, who are disproportionately impacted from violent crime. In 2020, the majority of homicide crime victims in California were Hispanic (45.3%), followed by Blacks (30.7%). Additionally, the majority of homicides occurred outdoors (38.7%), on a street or sidewalk (California DOJ 2021). Individuals affected by crime are more likely to experience post-traumatic stress and mental health impacts. Separately, physical structures and operations are also at risk of crime. The local police stations, dispatch centers, and emergency response facilities are critical facilities as they are involved in first response to crime situations.

Crime can cause secondary impacts on people, finances, and communities. Neighborhoods with higher levels of crime may have individuals less likely to spend time outdoors and use public/recreational amenities, including parks, playgrounds, and trails. High levels of reported crime can also impact real estate and economic development in cities.

# Summary Crime reported by the Irwindale Police Department 2010-2020



SOURCE: FBI, 2021.

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**Figure 2.8-2**  
Property Crime Over Time

## City Capacity to Respond to Crime

### Irwindale Police Department

The Irwindale Police Department is located at the southeast area of the city at 5050 N. Irwindale Avenue. The Department consists of 38 staff across five bureaus: Administration, Communications, Records, Patrol, and Detective. Together, the Police Department staff provide public safety services to the City of Irwindale. **Table 2.8-1** lists Police Department personnel by bureau. The **Administration Bureau** staff includes the Police Chief, Lieutenant, and Public Information Officer who manage the department's leadership activities. The **Communications Bureau** includes dispatchers and clerks, who are the first line of response to calls for service. Dispatchers and clerks monitor and maintain communication with law enforcement officers on duty, and support officers with criminal history, warrant, and vehicle record checks. The **Detective Bureau** conducts crime investigations, including those of theft, assaults, and others. Detective staff are trained in investigative and interview techniques, and collaborate with county and federal task forces on narcotic, automobile, and theft investigations. The **Records Bureau** maintains documentation of all police incidents and provides support for court documentations and processes public records requests. The **Patrol Bureau** includes sergeants, corporals and sworn police officers. With the largest number of staff, the Patrol Bureau is the most visible bureau within the Department and regularly conducts preventive patrols and responds to services and requests. The primary responsibility of the Patrol Bureau staff is to protect life and property, conduct arrests, and provide law enforcement.

**TABLE 2.8-1 IRWINDALE POLICE DEPARTMENT PERSONNEL**

Bureau	Staff Number
Administration	2
Communications	5
Detective	5
Records	1
Patrol	25
<b>Total</b>	<b>38</b>

SOURCE: City of Irwindale (2021)

## Policies, Plans, and Regulatory Environment

### City of Irwindale General Plan

The City's 2008 General Plan addresses law enforcement and crime within the Public Safety Element. The following policies and actions relate to law enforcement and crime:

- **Emergency Preparedness.** The City of Irwindale will strive to maintain the highest levels of readiness to respond to disasters or local emergencies.
- **Police & Fire Services Review.** The City shall regularly review the adequacy of law enforcement services and fire protection and emergency services in the City. This review effort shall be a component of the annual budget review of the contract with the Fire Department, and the City shall work with the Fire Department to correct any identified deficiencies. Local law enforcement officials

and Fire Department representatives shall also continue their review of any proposed development plans. Annual reports concerning each Department will be submitted to the City Council for consideration.

## 2.9 Wildfire

Wildfires are a natural part of the landscape across California. In Southern California, fire has a critical role in ecosystem function for fire-adapted habitat types. In recent years, the fire season in California has gotten worse with more frequent and destructive fires. Recent fires in Los Angeles County have highlighted the direct and indirect impacts that fires can have on public health, property, and infrastructure. In Los Angeles County, hot, dry summer and fall weather combined with Santa Ana Winds and low fuel moisture levels often create severe wildfire conditions across the county. These conditions, which lead to dangerous wildfire conditions, are expected to worsen with climate change. The San Gabriel Mountains, which are just a few miles from the City of Irwindale, are considered the area of Los Angeles County with the greatest wildfire risk. Climate change could result in a 40 to 50 percent increase in burned areas in the San Gabriel Mountains by mid-century (CalAdapt 2021). In general, wildfires across the state are also expected to become larger, more severe, and more destructive.

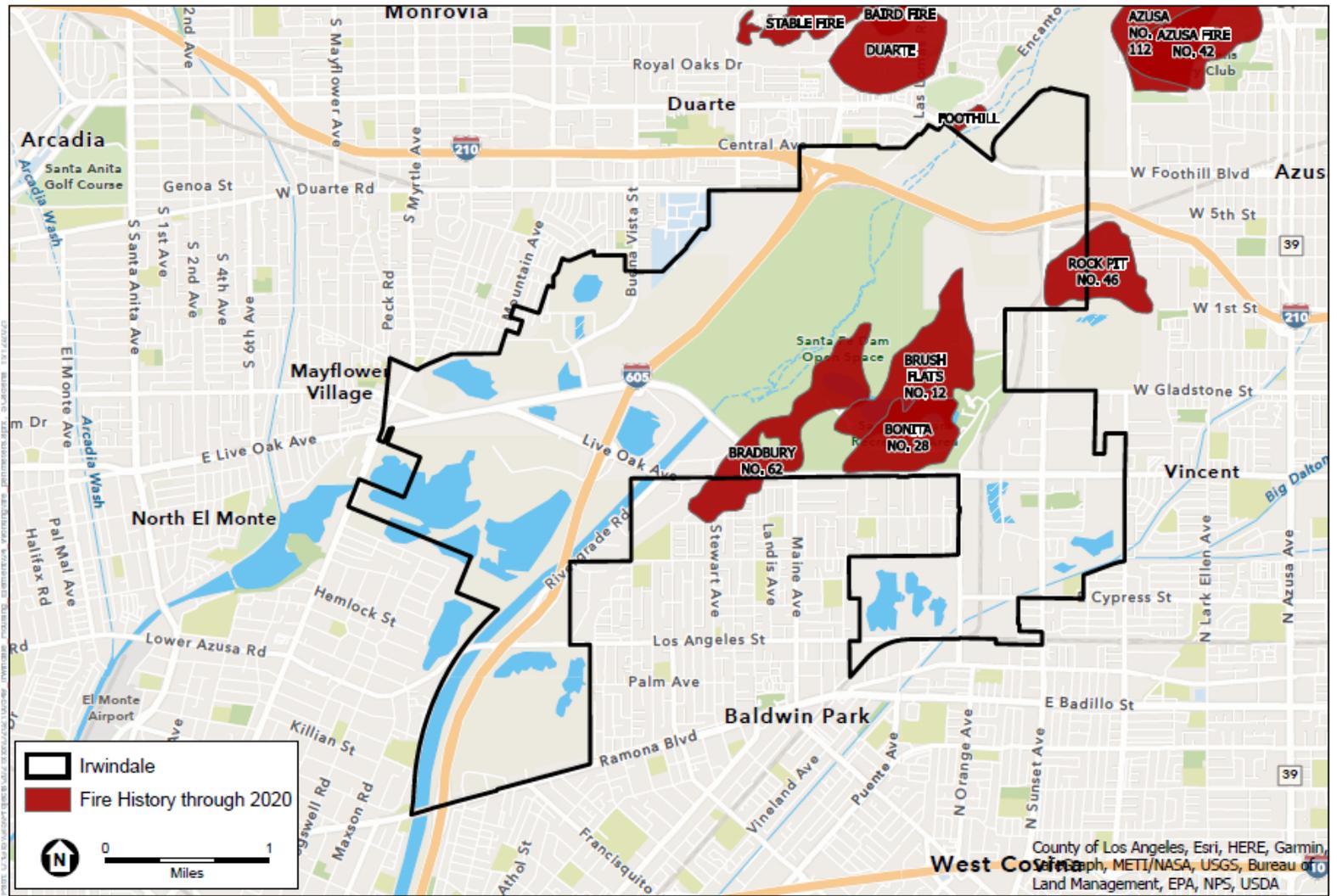
This section describes the existing environmental conditions that influence wildfire hazards in the City Irwindale and provides an assessment of community vulnerability to wildfire hazards. This section also describes relevant State and local regulations that are in place to make the City of Irwindale more resilient to wildfire.

## Risk Assessment

### Local Conditions

Fires can occur within urban settings as well as in undeveloped land. Fires are influenced by a number of factors including ignition sources, fuel composition and moisture content, wind and humidity, and slope and topography. Ignition sources can be either natural, such as lightning, or human-caused such as downed power lines, campfires, equipment use, and arson. Land use within the City of Irwindale is primarily urban; therefore, the majority of fire risk in the City is anticipated to be the risk of structure fires within the City. However, within the City boundaries, there are large areas of open space that are susceptible to brush fires.

The California Department of Forestry and Fire Protection (CAL FIRE) has adopted Fire Hazard Severity Zone (FHSZ) mapping throughout the state. These maps rate wildfire hazards as “moderate,” “high,” or “very high” based on fuel loading, slope, fire weather, and other relevant factors. As shown in **Figure 2.9-1**, within the City boundary, approximately 2.1 square miles, or 1,321.2 acres, of land are designated by CAL FIRE as a Very High Fire Hazard Severity Zone (VHFHSZ). This includes areas of open space east of I-605 and south of the I-210 freeways around the Santa Fe Dam Recreation Area and adjacent quarry (see **Figure 2.9-1**). Additionally, the City is located approximately 1.5 miles from the base of the San Gabriel Mountains, which are located in a VHFHSZ and have a history of frequent wildland fires.



SOURCE: CAL FIRE; ESRI; ESA, 2021.

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**Figure 2.9-1**  
Fire History through 2020

The Wildland Urban Interface (WUI) is the zone of transition between unoccupied land and human development. It is defined as the line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels (U.S. Fire Administration 2021). WUI zones are relevant to wildfire risk assessment for a number of reasons. Human ignitions are more likely in WUI zones, making fires more likely. Second, wildfires in undeveloped areas near WUI zones have the potential to be catastrophic due to the proximity of lives and homes. Additionally, fighting fires in WUI zones is more difficult due to the presence of homes and development, and the possibility of allowing fires to burn becomes impossible. The City of Irwindale is not located within the WUI but is adjacent to the area of the foothills of the San Gabriel Mountains that is designated as a WUI (USFS 2010).

The vegetation in the undeveloped areas of the City that are designated as VHFHSZs is primarily alluvial scrub, which is an assortment of drought-tolerant shrubs and large evergreen woody shrubs that are flammable. Alluvial areas in the City of Irwindale have been highly disturbed by sand and gravel extraction and other activities. Land cover in other areas of the City includes industrial uses, areas disturbed by sand and gravel mining, commercial and residential areas, as well as parks and open space (City of Irwindale 2008). There are no significant fuel loads in the City outside of the areas designated as VHFHSZs. The City of Irwindale is relatively flat and does not have steep slopes, other than slopes created by sand and gravel mining. In the nearby San Gabriel Mountains, terrain is relatively rugged with steep slopes and canyons. Vegetation in the foothills of the San Gabriel Mountains is characterized by scrub and chaparral.

As described in the City's General Plan, the City of Irwindale is included in the Los Angeles County Consolidated Fire District, which maintains a single fire station in the City, Station No. 48. This station, located at 15546 Arrow Highway near the Civic Center, consists of 16 full-time fire fighters. The station's equipment includes one pumper, one reserve truck, and a paramedic unit. The average response time throughout the City is 6 minutes (City of Irwindale 2008). Additional emergency resources are available from California Division of Forestry (CDF) stations. Fire protection within the Santa Fe Dam Recreation Area is also provided by the Los Angeles County Consolidated Fire District. During fires, an interagency command post at the dam site is activated to coordinate wildfire response (USACE 2011).

## Past Wildfire Events

Because of its mostly urban setting, large wildfires within the City of Irwindale are limited; however, brush fires do occur in areas of open space within the City limits, such as the Santa Fe Dam Recreation Area. For example, a brush fire ignited on August 1, 2021 in the Santa Fe Dam Recreation Area burned approximately 26 acres. Another brush fire was ignited on June 15, 2021 and burned approximately 50 acres. In 2018, a fire burned through approximately 30 acres in the Santa Fe Dam Recreation Area, threatening portions of the Miller Coors Brewery and injuring one civilian due to smoke inhalation (ABC News 2018).

As noted above, the City of Irwindale is located near the foothills of the San Gabriel Mountains where multiple, large wildland fires have occurred in the past 20 years just a few miles from the City limits. Recent larger wildfires in the nearby San Gabriel Mountains are listed in **Table 2.9-1**.

**TABLE 2.9-1 WILDFIRE EVENTS NEAR THE CITY OF IRWINDALE 2000 – 2020**

<b>Date</b>	<b>Event Name</b>	<b>Size in Acres</b>	<b>Approximate Distance From Irwindale</b>
9/6/2020	Bobcat	115,796	2.2
8/13/2020	Ranch 2	4,119	1.8
7/30/2020	Dam	226	3.0
11/6/2020	San Dimas	131	12.0
6/20/2016	San Gabriel Complex (Fish Fire)	4,246	4.2
6/20/2016	San Gabriel Complex – Reservoir Fire	1,147	0.8
1/15/2014	Colby	1,952	1.6
9/2/2012	Williams	4,192	9.4
8/26/2009	Station Fire	160,833	7.2
8/25/2009	Morris	2,237	4.4
10/21/2003	Grand Prix	50,618	14.0
9/22/2002	Williams	38,199	3.1

SOURCE: CAL FIRE (2012).

## Local Vulnerabilities

Fires can have a multitude of impacts. Individuals that live or work near fires or respond to fires can face injuries or death from fire and the resultant smoke. Fires can also result in property loss and damage and can displace large communities. Fires can result in wider community wide impacts such as evacuations, power outages, economic losses, road and school closures, losses of biodiversity and natural environment, and disruptions to recreational activities. Power outages are particularly concerning for populations who rely on electricity for medical devices, do not have a personal vehicle, rely on transit access, and/or have a pre-existing medical conditions (Los Angeles County 2021).

The smoke impacts of wildfire are often widespread and can result in respiratory health impacts and the worsening of existing health conditions. Smoke can also have mental health impacts such as post-traumatic stress disorder (PTSD) and depression and may make individuals more susceptible to respiratory infections such as COVID-19 (Harvard School of Public Health 2021; Eisenman et al. 2021).

In terms of the City’s vulnerability to fire, Irwindale faces threats from the potential spread of brush fires in VHFHSZs within the City limits; the impact of smoke and the potential spread of fires in the nearby San Gabriel Mountains; and the potential for structure fires in residential, commercial, and industrial structures in the City.

Fires within and near the City of Irwindale are influenced by the following factors: fuel type and loading, ignition sources, weather, and topography. As shown in Table 2.9-1, the majority of large fires near the City of Irwindale were ignited in the summer and fall months (July to November). The risk of the ignition and spread of wildfire will likely increase in the future due to climate change as the result of warming temperatures, the increased severity of drought and resultant dry fuels, and the potential for severe wind events, such as the occurrence of Santa Ana Winds.

## Population

No residential land uses are in or adjacent to the regions of the City designated as a VHFHSZ. As shown in **Figure 2.9-1**, the areas within the City designated as VHFHSZs include commercial and industrial land uses and quarry sites, which could be places of employment for either Irwindale residents or individuals who commute into the City for work. Individuals who live or work near the areas of the City designated as a VHFHSZ are the most vulnerable to the direct health and property loss impacts from wildfires. These areas include residential areas between Meridian Street and Schrode Avenue on the western edge of the City, and residential areas along Gladstone Avenue on the eastern edge of the City.

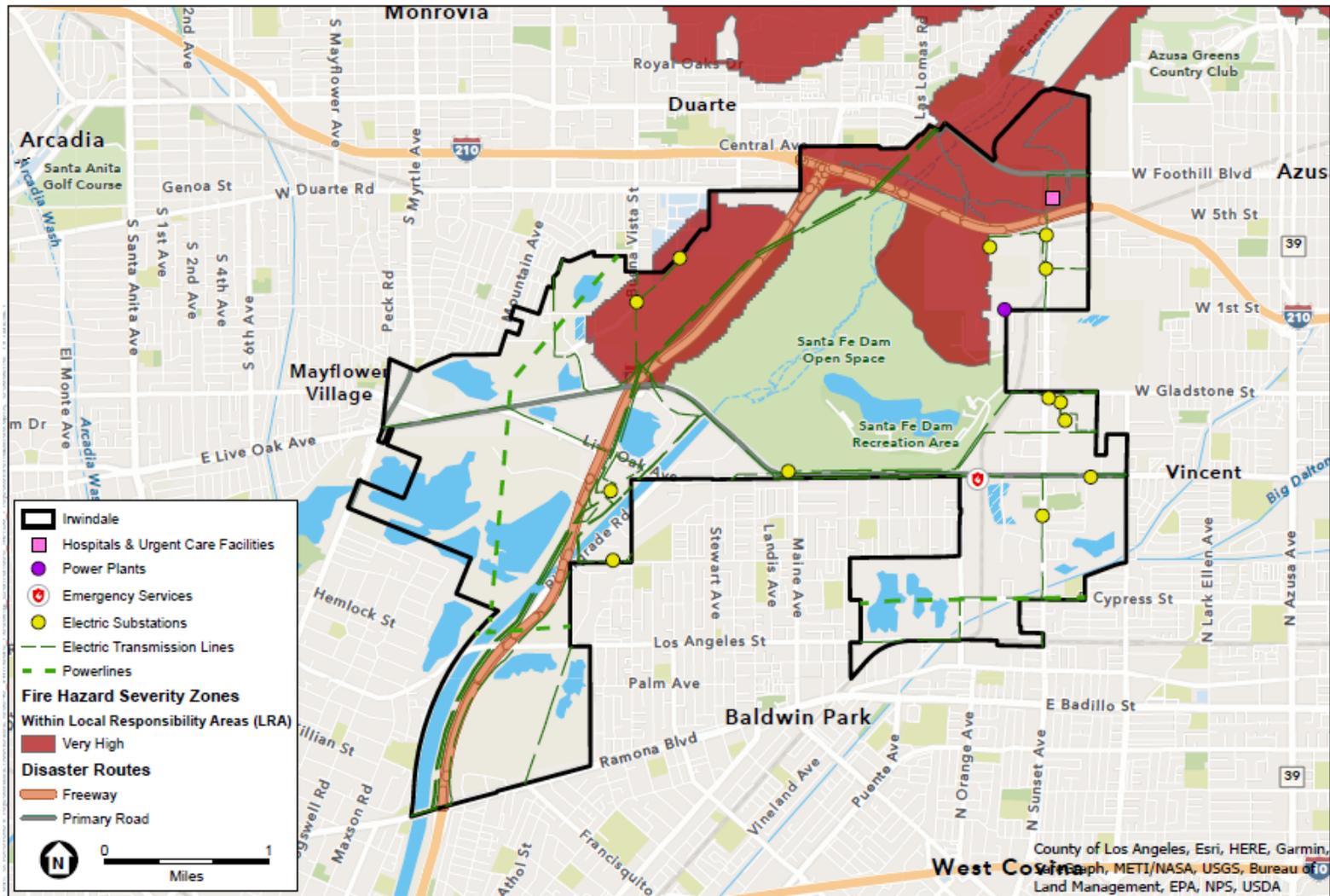
Populations that are particularly vulnerable to the impacts of wildfire include individuals or families without access to an automobile or transit, linguistically isolated individuals, older adults, children, individuals with pre-existing health conditions, individuals with disabilities, and individuals without health insurance.

### ***Vulnerable Development, Critical Facilities, and Infrastructure***

As defined in the State's Office of Planning and Research Guidelines, critical facilities include "facilities that either (1) provide emergency services or (2) house or serve many people who would be injured or killed in case of disaster damage to the facility." Examples include hospitals, fire stations, police or emergency service facilities, utilities, or communications facilities.

The following critical facilities and infrastructure are located in VHFHSZs in the City of Irwindale (**Figure 2.9-2**):

- Two electrical substations near the western edge of the City.
- An electrical transmission line that runs from the northeast corner of the City to the southwest corner of the City.
- An urgent care clinic in the northeastern corner of the City.
- The I-210 Freeway and the I-605 Freeway, which are critical transportation and access routes for the City of Irwindale.



SOURCE: CAL FIRE; CEC; DHS; LA County DPW; USEPA; USGS; ESRI; ESA, 2021.

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**Figure 2.9-2**  
Vulnerable Facilities and Infrastructure in the City of Irwindale

## City Capacity to Respond to Fires

As described above, fire protection is provided by the Los Angeles County Fire Department, which maintains a fire station within the City with 16 full-time fire fighters and equipment. The City does have an emergency alert system that could be used to alert residences of fire and smoke risk. The City does not have its own Fire Department and, therefore, it relies on fire protection services from the Los Angeles County Fire Department. Depending on the capacity of the Los Angeles County Fire Department, if there are multiple fires or emergencies to respond to within an area, it may reduce the Fire Department's ability to provide fire protection services to the City of Irwindale.

The frequency and severity of wildfire will likely increase with climate change. In the nearby San Gabriel Mountains, climate change could increase the number of burned acres by 40 to 50 percent by mid-century (CalAdapt 2021). The City of Irwindale will continue to experience the impacts of fires within the areas of the City that are designated as VHFHSZs, the potential for structure fires, and the potential for fires in the San Gabriel Mountains to spread to the City of Irwindale and to create far-reaching smoke impacts. The increase of wildfire with climate change may test the capacity of local and regional fire protection services.

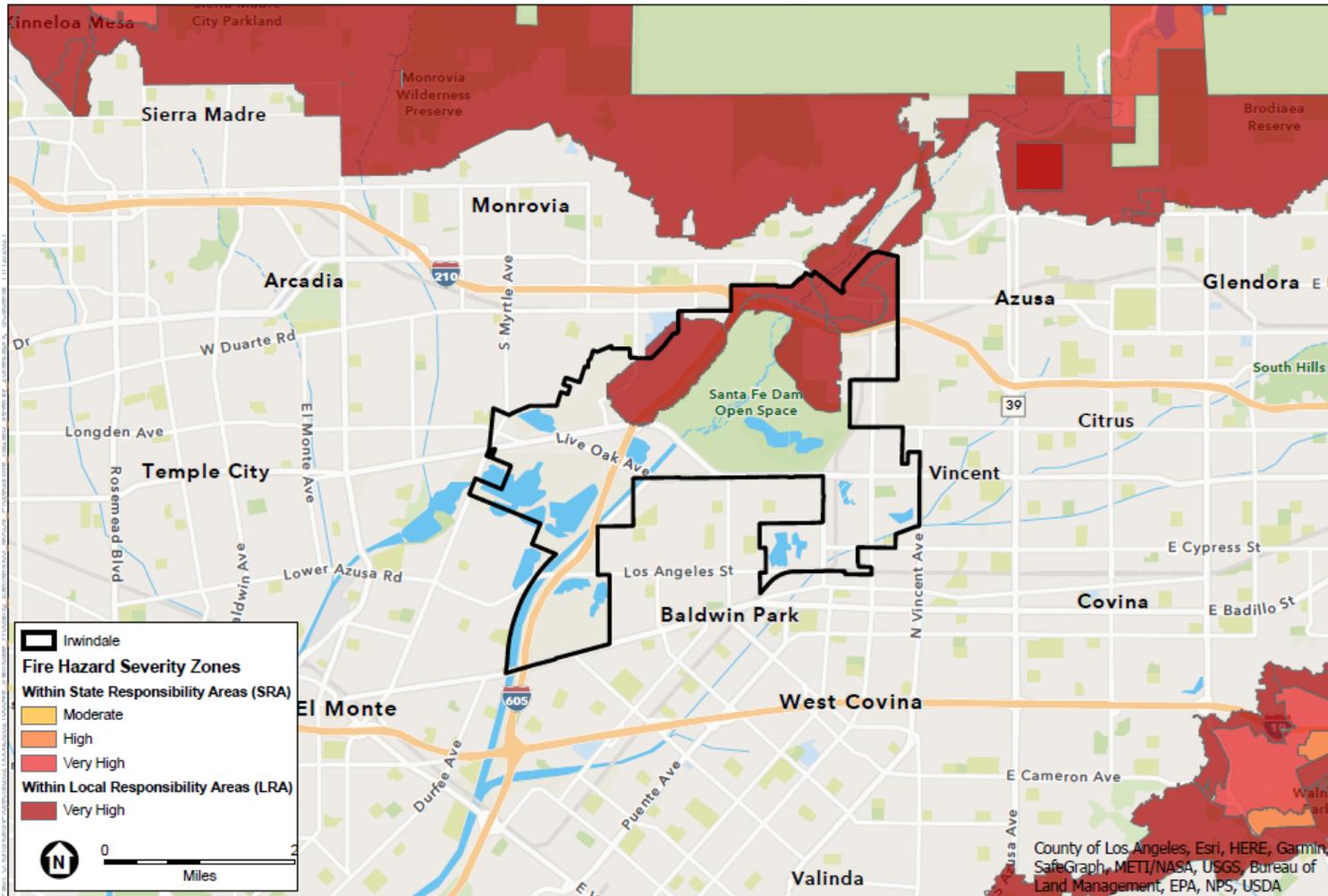
## Policies, Plans, and Regulatory Environment

### Wildfire Protection Responsibility in California

In California, local, State, tribal, and federal organizations all have legal and financial responsibility for wildfire protection. To address wildfire jurisdictional responsibilities, in 1981 the California State Legislature outlined various wildfire responsibility areas, described below, in Cal. Pub. Res. Code § 4291.5 and Cal. Health & Safety Code § 13108.5.

- **Federal Responsibility Areas (FRAs)** — FRAs include lands administered or controlled by the federal government where federal agencies are responsible for wildland fire protection under various federal laws. Within the City of Irwindale, the Santa Fe Dam Recreation Area is designated as an FRA.
- **State Responsibility Areas (SRAs)**—SRAs are lands in California where CAL FIRE has legal and financial responsibility for wildfire protection and where CAL FIRE administers fire hazard classifications and building standard regulations. SRA boundaries are those adopted by the California Board of Forestry and Fire Protection and are reviewed and updated every 5 years. There are no SRAs in the City of Irwindale.
- **Local Responsibility Areas (LRAs)** — LRAs include land in cities, cultivated agriculture lands, unincorporated non-flammable areas, and lands that do not meet the criteria for SRAs or FRAs. LRA fire protection is typically provided by city or county fire departments, fire protection districts, or by CAL FIRE under contract to local governments. LRAs may include areas of flammable vegetation and WUI. Outside of the Santa Fe Dam Recreation Area, all remaining land within the City of Irwindale is designated as an LRA.

The FRAs and LRAs in Irwindale are illustrated in **Figure 2.9-3**.



SOURCE: CAL FIRE; ESRI; ESA, 2021.

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**Figure 2.9-3**  
Irwindale Fire Hazard Severity Map 2000–2020

## Los Angeles County Fire Code (2019)

The City of Irwindale has adopted the Los Angeles County Fire Code (Title 32), which incorporates and amends the 2019 Edition of the California Fire Code. The California Fire Code is intended to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises, and to provide safety and assistance to fire fighters and emergency responders during emergency operations.

## California Building Code (2019)

The City of Irwindale has adopted the Los Angeles County Building Code (Title 26), which incorporates and Amends the 2019 California Building Code. This code includes materials and construction methods for exterior wildfire exposure and standards of quality for fire-resistant buildings. See Cal. Building Codes, Chapter 7a (2019).

## Los Angeles County Fire Department 2021 Strategic Plan

The Los Angeles County Fire Department has executed a contract with the State of California to provide wildland fire protection on SRAs. Therefore, the Department functionally operates as a unit of CAL FIRE and implements Strategic Fire Plan activities in the county. The Strategic Fire Plan is a living document and outlines a comprehensive program designed to improve emergency operations, public service and organizational effectiveness, and emergency preparedness within the unit.

## Los Angeles County General Plan

The 2015 Los Angeles County General Plan Safety Element includes the following goals, policies, and action items pertaining to wildfire mitigation:

- **Goal S 3:** An effective regulatory system that prevents or minimizes personal injury, loss of life, and property damage due to fire hazards.
  - **Policy S 3.1:** Discourage high density and intensity development in VHFHSZs.
  - **Policy S 3.2:** Consider climate change implications in fire hazard reduction planning for FHSZs.
  - **Policy S 3.3:** Ensure that mitigation of fire related property damage and loss in FHSZs limits impacts to biological and other resources.
  - **Policy S 3.4:** Reduce the risk of wildland fire hazards through the use of regulations and performance standards such as fire resistant building materials, vegetation management, fuel modification and other fire hazard reduction programs.
  - **Policy S 3.5:** Encourage the use of low-volume and well maintained vegetation that is compatible with the area's natural vegetative habitats.
  - **Policy S 3.6:** Ensure adequate infrastructure, including ingress, egress, and peak load water supply availability for all projects located in FHSZs.
  - **Policy S 3.7:** Site and design developments located within FHSZs, such as in areas located near ridgelines and on hilltops, in a sensitive manner to reduce the wildfire risk.
  - **Policy S 3.8:** Support the retrofitting of existing structures in FHSZs to help reduce the risk of structural and human loss due to wildfire.

- **Policy S 3.9:** Adopt by reference the County of Los Angeles Fire Department Strategic Fire Plan, as amended.
- **Policy S 3.10:** Map oak woodlands in Los Angeles County as part of implementation of the Oak Woodlands Conservation Management Plan.
- **Policy S 3.11:** Support efforts to address unique pest, disease, exotic species and other forest health issues in open space areas to reduce fire hazards and support ecological integrity.
- **Policy S 3.12:** Support efforts to incorporate systematic fire protection improvements for open space, including facilitation of safe fire suppression tactics, standards for adequate access for firefighting, fire mitigation planning with landowners and other stakeholders, and water sources for fire suppression.

## City of Irwindale General Plan

The following policies in the Safety Element of the City’s General Plan address emergency preparedness and response:

- The City of Irwindale will continue to review and if necessary, update its comprehensive emergency preparedness plan.
- The City of Irwindale, at a minimum, will maintain current emergency response standards.
- The City of Irwindale will work to reduce potential hazards through conscientious land use planning.

## Hazard Mitigation Plan

The City’s 2014 Hazard Mitigation Plan addresses wildfire through the following mitigation strategies:

- **Local Mitigation Action #3 – Disaster Response Database.** Under this program, a database will be created to identify Police Explorers, medical professionals, heavy equipment operators, and volunteers trained in first aid and search-and-rescue. The database would identify other volunteers that would staff emergency collection centers, distribution centers, and otherwise assist in the recovery efforts. This information, and the appropriate procedures, would then be incorporated into the City’s Emergency Preparedness Plan.
- **Local Mitigation Action #4 – Fire Prevention.** The City shall also encourage periodic inspections of existing structures by the Fire Department for compliance with fire safety standards and practices. All new development plans must be submitted to the Fire Department for review and comment during the plan check process. This review must be completed for the development process to continue. New development must conform to applicable standards and regulations.

## 2.10 Windstorm

Severe windstorms pose a significant risk to life and property in the City of Irwindale by creating conditions that disrupt essential systems such as public utilities, telecommunications, and transportation routes. Winds vary in strength and destructive power. A **windstorm** is a storm with high winds or violent gusts that are strong enough to cause at least some damage to trees and buildings

**High wind** is caused by air moving from an area of high pressure to an area of low pressure. High winds occasionally cause tornado-like damage to local homes and businesses in and near the community. High

winds have destructive impact, especially to trees, power lines, and utility services.

**Damaging winds** are classified as those exceeding 58 miles per hour (mph) and account for half of all severe weather reports in the contiguous United States (NOAA 2020).

## Risk Assessment

### Local Conditions

As climate change continues to impact the severity and frequency of windstorm events, all future development in the City of Irwindale will be affected by severe windstorm events. The City's ability to withstand impacts lies in sound land use practices and consistent enforcement of codes and regulations for new construction.



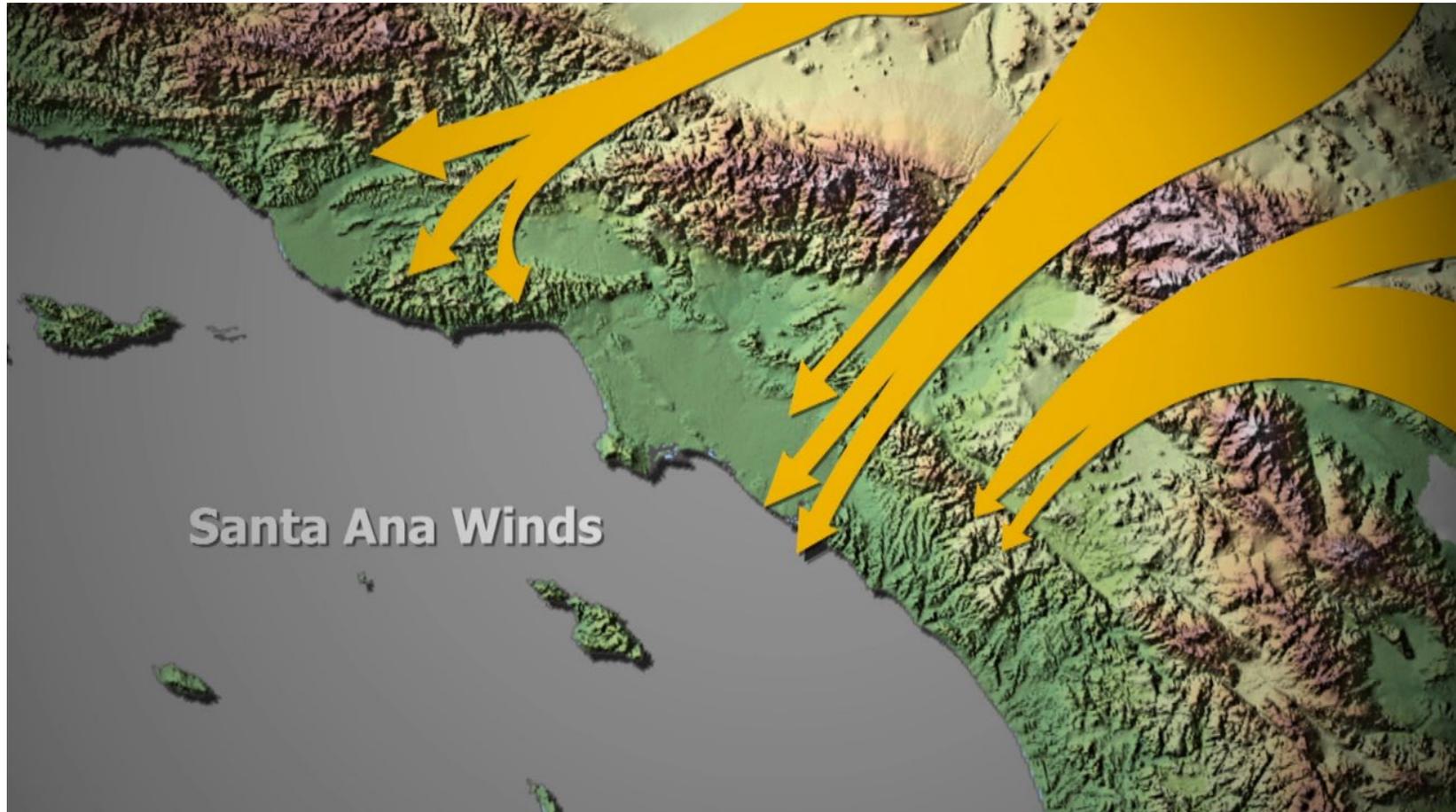
The 2011 windstorm event caused a tree in Pasadena to fall on a gas station. *Courtesy of the San Gabriel Valley Tribune*

### Santa Ana Winds

The most common wind condition in the City is a Santa Ana Wind. Santa Ana Winds are generally defined as warm, dry winds that blow from the east or northeast. These winds occur below the passes and canyons of the coastal ranges of Southern California and in the Los Angeles and Riverside County basins. Santa Ana Winds often blow with exceptional speed in the Santa Ana Canyon, which is commonly known as the origin of the name. Santa Ana Winds commonly occur between September through May, with the highest frequency of events in December.

Commonly, Santa Ana Winds develop when a region of high pressure builds over the Great Basin, which is the high plateau east of the Sierra Nevada and west of the Rocky Mountains, including most of Nevada and Utah. Clockwise circulation around the center of this high pressure area forces air downslope from the high plateau. Santa Ana Winds typically feel warm (or even hot) because as the cool desert air moves down the side of the mountain, it is compressed, which causes the temperature of the air to rise. The air warms as it descends toward the California coast due to compressional heating, which provides the primary source of warming (see **Figure 2.10-1**). The air is dry since it originated in the desert, and it dries out even more as it is heated. The strongest winds in the basin frequently occur during the night and morning hours due to the absence of a sea breeze. The sea breeze, which typically blows onshore daily, can moderate the Santa Ana Winds during the late morning and afternoon hours.

Forecasters at the National Weather Service offices in Oxnard and San Diego usually place speed minimums on these winds and reserve the use of Santa Ana for winds greater than 29 mph. These winds accelerate to speeds of 40 mph as they move through canyons and passes, with gusts to 58 or even 69 mph. These strong winds can cause major property damage. They also increase wildfire risk because of the dryness of the winds and the speed at which they can spread a flame across the landscape.



SOURCE: USGS, 2021.

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**Figure 2.10-1**  
Santa Ana Winds

## Measuring Windstorm Effects

The Beaufort Wind Scale is one of the first scales to estimate wind speeds and their effects. The scale was created by Britain's Admiral Sir Francis Beaufort (1774–1857). He developed the scale in 1805 to help sailors estimate the winds via visual observations. The scale starts with 0 and goes to a force of 12.

**Table 2.10-1**, *The Beaufort Wind Scale*, illustrates the effect that varying wind speed can have on structures.

**TABLE 2.10-1 THE BEAUFORT WIND SCALE**

Force	Wind (mph) <sup>a</sup>	WMO Classification <sup>b</sup>	Appearance of Wind Effects on Land <sup>c</sup>
0	Less than 1	Calm	Calm, smoke rises vertically.
1	1–3	Light Air	Smoke drift indicates wind direction, still wind vanes.
2	4–7	Light Breeze	Wind felt on face, leaves rustle, vanes begin to move.
3	8–11	Gentle Breeze	Leaves and small twigs constantly moving, light flags extended.
4	12–18	Moderate Breeze	Dust, leaves, and loose paper lifted, small tree branches move.
5	19–24	Fresh Breeze	Small trees in leaf begin to sway.
6	25–31	Strong Breeze	Larger tree branches moving, whistling in wires.
7	32–38	Near Gale	Whole trees moving, resistance felt walking against wind.
8	39–46	Gale	Twigs breaking off trees, generally impedes progress.
9	47–54	Strong Gale	Slight structural damage occurs, slate blows off roofs.
10	55–63	Storm	Trees broken or uprooted; considerable structural damage.
11	64–73	Violent Storm	Seldom experienced inland; considerable structural damage.
12	>74	Hurricane	Widespread damage. Very rarely experienced on land.

NOTES:

a Original scale provided wind speed in knots, which has been converted to miles per hour (mph) in this table.

b World Meteorological Organization.

c Original scale provided wind effects for on land and at sea. However, as the City is located on land, only those effects are presented.

SOURCE: NOAA (n.d.).

## Past Windstorm Events

Based on local history, most incidents of high wind in the City are the result of Santa Ana Wind conditions. While high impact wind incidents are not frequent in the area, significant Santa Ana Wind events and sporadic tornado activity have been known to negatively impact the local community.

The City was severely impacted in November 2011 by unexpected fierce windstorms, which caused significant damage to City infrastructure. The windstorm events began on November 30, 2011 with powerful windstorms blowing through Los Angeles County including much of the San Gabriel Valley. The event caused major damage, including toppling trees, downing power lines, slowing traffic, road closures, damaging homes and vehicles, and knocking out electricity for over 350,000 customers. Road closures occurred on Live Oak Avenue and Arrow Highway as approximately 20 power poles owned by Southern California Edison were reported to have snapped (Los Angeles Daily News 2011). The cleanup in Los Angeles County alone topped \$17 million, while the City estimated that damages totaled approximately \$400,000 (City of Irwindale 2012).

[NOTE TO REVIEWER: Please provide any updated information RE: history of windstorms, if available]

## Local Vulnerabilities

### Population

Windstorm events can be expected, perhaps annually, across widespread areas of the region. All people, property, and environments in the City could be exposed to the impacts of windstorm events. Populations living at higher elevations with large trees and areas with surrounding power lines may be more susceptible to wind damage such as toppling trees and black-out. In addition, debris carried along by extreme winds can directly contribute to injury and loss of life.

Vulnerable populations such as the elderly, low-income or linguistically isolated populations, people with life-threatening illnesses, and residents living in structures with weak reinforcement have the potential to suffer to a greater extent during severe weather events.

### Property

Both residential and commercial structures with weak reinforcement are susceptible to damage from windstorm events. Wind pressure creates a direct and frontal assault on a structure, pushing walls, doors, and windows inward. In contrast, passing currents create lift suction forces that pull building components and surfaces outward. With extreme wind forces, the buildings can fail, causing considerable damage through collapse or debris.

Debris carried along by extreme winds can directly contribute to loss of life and indirectly to the failure of protective building envelopes, siding, or walls. This can result in the involvement of City emergency response personnel during a wide-ranging windstorm or microburst tornadic activity. When severe windstorms strike, downed trees, power lines, and damaged property can be major hindrances to emergency response and disaster recovery.

### Vulnerable Facilities and Infrastructure

As described above, all property is vulnerable during severe windstorm events, but properties in poor condition or in particularly vulnerable locations are at risk of the most damage. Historically, falling trees are the major cause of power outages in the region. Windstorms such as strong microbursts and Santa Ana Wind conditions cause flying debris and downed utility lines. Windstorms can damage buildings, power lines, and other property and infrastructure, due to falling trees and branches. For example, tree limbs breaking in winds of only 45 mph can be thrown over 75 feet and damage overhead power lines. During wet winters, saturated soils cause trees to become less stable and more vulnerable to uprooting from high winds. Falling trees bring electric power lines down to the pavement, creating power outages and the possibility of lethal electric shock.

Windstorm activity impacts local transportation in addition to the problems caused by downed trees and electrical wires blocking streets and highways. During periods of extremely strong Santa Ana Winds, major highways can be temporarily closed to truck and recreational vehicle traffic. Typically, these disruptions are not long lasting, nor do they carry a severe long-term economic impact on the region.

## Secondary Hazards

Perhaps the greatest secondary hazard resulting from windstorm activity in Southern California comes from the combination of the Santa Ana Winds with major fires that occur in the urban/wildland interface. During the Santa Ana Winds, the speed and reach of the flames from an urban/wildland fire is even greater than in times of calm wind conditions.

Additional secondary hazards of windstorm events include the following, as identified in the 2014 Hazard Mitigation Plan:

- Secondary health hazards (e.g., fine particles and dust could lead to respiratory issues).
- Damage to roads/bridges resulting in loss of mobility.
- Significant economic impact (jobs, sales, tax revenue) upon the community.
- Negative impact on commercial and residential property values.
- Significant disruption to educational facilities and relocations.

## City Capacity to Respond to Windstorms

[NOTE TO REVIEWER: Please provide available information regarding City capacity to respond to windstorm hazards]

## Policies, Plans, and Regulatory Environment

Very few formal regulations pertain directly to windstorm events. However, as outlined in the City's General Plan, the City has adopted the **Uniform Building Code (UBC)**, **California Building Code (CBC)**, and the **Los Angeles County Building Code**, which is generally adequate to properly address development impacts from windstorm events through specific building code standards.

### Uniform Building Code

The UBC was developed by the International Conference of Building Officials (ICBO) and is used by most states, including California, as well as local jurisdictions to set basic standards for the acceptable design of structures and facilities. The UBC provides information on criteria for safe design, construction, and load-bearing capacity associated with various buildings and other structures and features.

### California Building Standards Code

The CBC (California Code of Regulations, Title 24) specifies the acceptable design and construction requirements associated with various facilities or structures. This code specifies criteria for open excavation, seismic design, and load-bearing capacity directly related to construction in the State. The CBC augments the UBC and provides information for specific changes to various sections in it. The most recent version of the CBC was published July 1, 2019, with an effective date of January 1, 2020. The 2019 CBC includes evaluation criteria under Section 405 A.2.3.1, *Evaluation*, for design professionals to assess structural damage due to extreme wind loads. Section 405 A.2.3.3, *Extent of Repair for Noncompliant Buildings*, includes criteria for building repairs on noncompliant buildings affected by wind. Sections are provided under Section 405A, *Structural*, of the 2019 CBC.

## County of Los Angeles / City of Irwindale Building Code

As indicated under Chapter 1 of Title 26 of the Los Angeles County Code, the County of Los Angeles has adopted the 2019 CBC. In addition, Ordinance Number 743 states that under Section 15.04.010 of the Irwindale Municipal Code, the City of Irwindale has adopted the County's Code as its own Building Code.

### 2.11 Emergency Preparedness

Emergency preparation is key to the safety of a community in the event of a disaster. Emergency situations can arise from natural disasters such as earthquakes, floods, and fires, or human-caused events like hazardous materials spills, security incidents, or train accidents. This section defines the levels that hazards can occur in, and identifies and describes the systems, organizations, policies, and programs that the City of Irwindale has in place to respond to hazards and ensure the safety and wellbeing of its residents.

#### Contrast Between Incidents, Emergencies, and Disasters

It is important to understand the difference between incidents, emergencies, and disasters as these terms are often used interchangeably by different organizations. According to the City of Irwindale Emergency Operations Plan, these are described as follows (2021):

- **Incident:** An occurrence or event, either human-caused or caused by natural phenomena, that requires action by emergency response personnel to prevent or minimize loss of life or damage to property and/or natural resources. Examples of incidents include protests or demonstrations, sink holes, structural fires, or downed utility lines.
- **Emergency:** Incidents that require more than one City department or discipline and require substantial City resources to mitigate. Examples of emergencies include river flooding, earthquakes, or major fires.
- **Disaster:** A disaster is a calamitous emergency event bringing great damage, loss, or destruction with long-term recovery activities. Disasters may occur with little or no advance warning (e.g., an earthquake or a flash flood), or they may develop from one or more incidents (e.g., a major brush fire). Long-term recovery issues are often associated with disasters.

All of the hazards that are identified in this section have the ability to affect the greater Irwindale community at varying intensities and would require consistent collaboration across City departments and private organizations to effectively address. As such, the City has organizations, programs, and policies in place to ensure that the City of Irwindale is prepared in the event of a hazard event.

#### City Capacity to Respond to Emergencies

##### Law Enforcement and Crime Prevention Services

Law enforcement and crime prevention services in Irwindale are provided by the City of Irwindale Police Department. The Irwindale Police Department is comprised of 38 employees and is divided into five distinct bureaus each of which has its own role within Irwindale Police operations – the Administration Bureau, the Patrol Bureau, the Detective Bureau, the Communications Bureau, and the Records Bureau. The sole police station in Irwindale is within Irwindale City Hall at 5050 N Irwindale Avenue, as shown in **Figure 2.11-1**. Police personnel provide several programs and services focused on crime prevention, including

Neighborhood Watch, Substance Medication Disposal, and Air Support. The Irwindale Police Department also uses the CivicReady system to issue urgent notifications, critical information, emergency instructions, public safety warnings, and other communications to subscribed users via email, text message and voicemail.

For more detailed information on law enforcement services and crime in Irwindale, please refer to Section 2.8, Law Enforcement and Crime.

## Fire Protection

To provide a high level of cost-effective fire protection and prevention services to residents and the business community, the City contracts with the Los Angeles County Fire Department. In addition to emergency operation services such as firefighting, urban search and rescue, hazardous materials response, and homeland security, the Los Angeles County Fire Department conducts wildfire prevention activities and administers special programs to make communities more resilient to the effects of wildfire.

The Los Angeles County Fire Department operates Station 48 located at 15546 E Arrow Highway in Irwindale; see **Figure 2.11-1**. The Station serves not only the City of Irwindale, but also the cities of Azusa, Baldwin Park, Covina, and Duarte.

## Hospitals

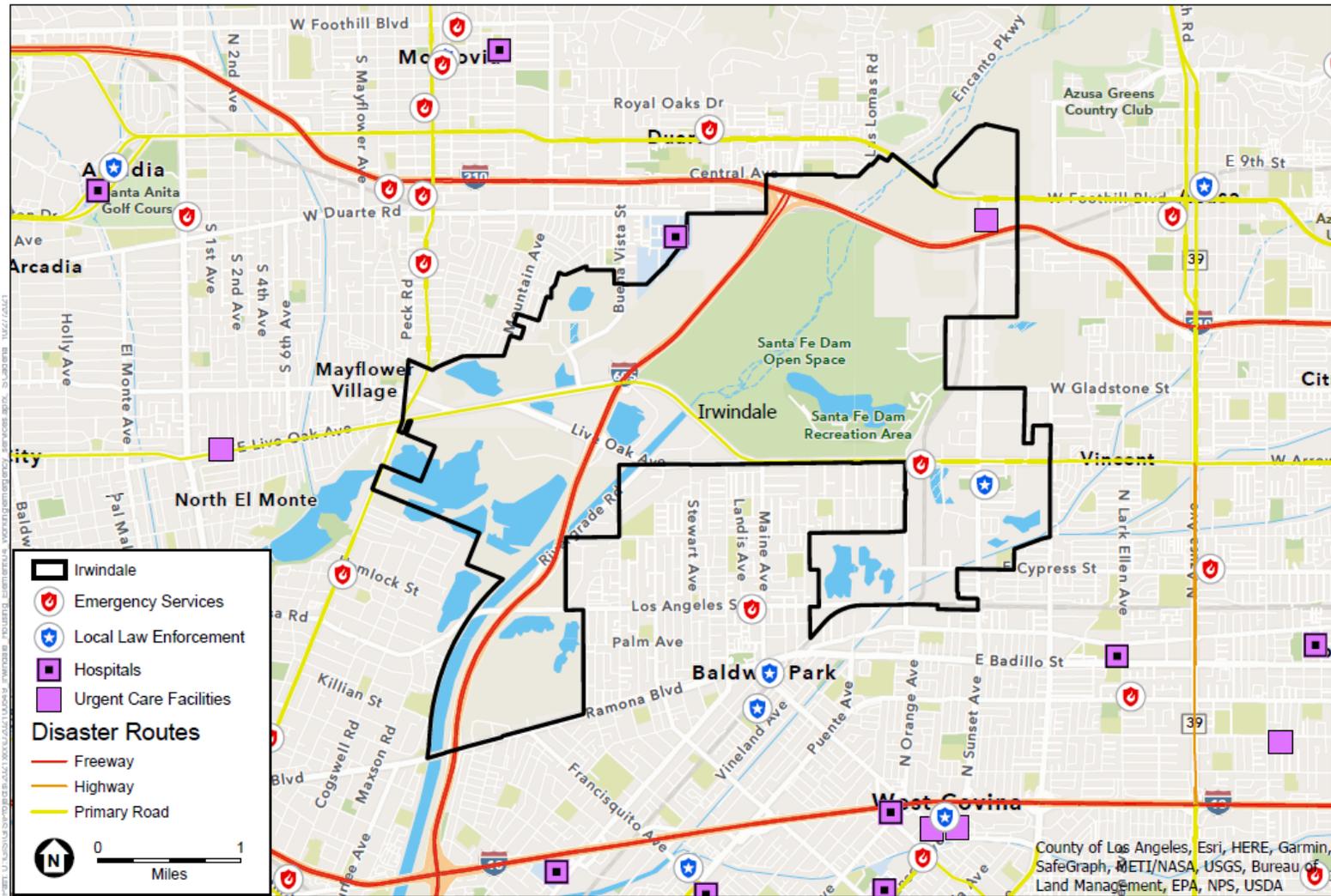
Two major hospital complexes serve the City of Irwindale – Kaiser Permanente and Citrus Valley Health Partners. In addition, there are three industrial medical clinics in the City: Trans-Valley Medical Clinic, Foothill Medical Clinic, and Irwindale Industrial Medical Clinic. The City of Hope medical complex and hospital is located in nearby Duarte and also serves Irwindale residents.

## Emergency Shelters

According to the Los Angeles County Office of Emergency Management, an evacuation shelter may be set up by the Red Cross at the request of the County if an area must be evacuated for an extended amount of time. In general, however, the location for an evacuation shelter will be announced by local officials once a safety assessment is complete and the shelter is ready to accept those affected by the evacuation. Currently, the City does not have any emergency shelters designated in the City in the event of a natural disaster or emergency.

## Evacuation Routes

Pursuant to recent State legislation, Safety Elements must identify and analyze evacuation routes to use in the event of an emergency. Specifically, Senate Bill (SB) 99 requires the identification of residential developments in hazard areas that do not have at least two emergency evacuation routes, and Assembly Bill (AB) 747 requires an evaluation of the capacity of the evacuation network under a variety of evacuation events. Emergency evacuations can occur due to any number of events and are unpredictable, as are individual behaviors related to an event. Nevertheless, it is important to plan for evacuation events and identify key areas of the City where additional focus and planning are needed due to limited access and/or capacity constraints on the transportation system.



SOURCE: HIFLD; LA County; ESRI; ESA, 2021.

Irwindale 2021-2029 General Plan Update

**Figure 2.11-1**  
Emergency Preparedness

## Additional City Safety Services

### Air Support

The City of Irwindale Police Department is a partner in the Foothill Air Support Team, otherwise known as FAST. The FAST program is a partnership between the cities of Alhambra, Arcadia, Covina, Glendora, Irwindale, Monrovia, Pasadena, Pomona, San Marino, Sierra Madre, and South Pasadena.

FAST helicopter crews monitor police radio calls within the FAST cities, and they respond on calls where an airborne response would prove beneficial to officers on the ground. Once overhead, the air crew provides an aerial platform for ground operations.



Foothill Air Support Team.  
Courtesy of the City of Irwindale

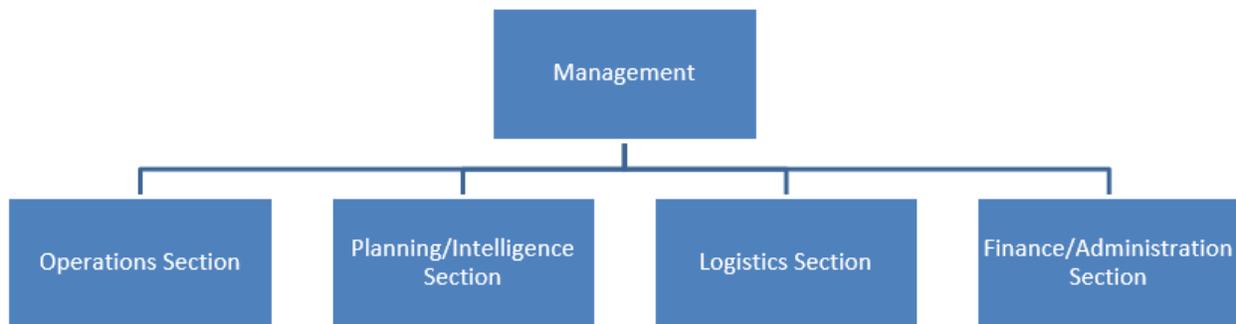
**CivicReady** is an alert notification system used by the City to issue urgent notifications, critical information, emergency instructions, public safety warnings, and other communications to subscribed users via email, text message, and voicemail. Non-English speakers have the option of automatically translating messages into one of over 100 languages.

### CivicReady

As mentioned above and described further in Section 2.6, Geologic and Seismic Hazards, public safety organizations in Irwindale, such as the Irwindale Police Department, use the **CivicReady** service to deliver important and timely information at no cost to the community.

### Emergency Operations Center

According to the City’s Emergency Operations Plan, when a threat or potential threat is first detected, the City Emergency Operations Center (EOC) is activated to a level appropriate to the magnitude of the event. The Irwindale EOC is organized in accordance with the California Standardized Emergency Management System (SEMS) and has five standard functions, as detailed in **Figure 2.11-2**.



SOURCE: TBD.

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**Figure 2.11-2**  
California Standardized Emergency Management System (SEMS) Structure

The City's response effort is then initiated through the City Emergency Organization, which is comprised of designated **Emergency Support Function (ESF)** Coordinators from tasked City departments, non-governmental organizations (NGOs), and volunteer organizations.

**The Emergency Support Function** concept was developed by FEMA in the late 1980s to address the potential management concerns that would be necessary to coordinate a federal response to a catastrophic earthquake in California.

FEMA implemented the ESF concept in the development of its original National Response Plan and subsequent National Response Framework. The City must be prepared to respond quickly and effectively on a 24-hour basis to developing emergency events. These ESF Coordinators are authorized to deploy the resources of their respective department or organization to carry out response and recovery missions that are assigned by functions.

### Emergency Preparedness Resources for City of Irwindale Residents

The City also encourages residents and businesses to be prepared for natural or major disasters by providing education and awareness on the **Emergency Preparedness** webpage (<https://www.irwindaleca.gov/118/Emergency-Preparedness>). The City recommends that everyone be prepared to provide for their care and safety before and after a hazard or emergency event through proper planning and preparedness. The City's Emergency Preparedness webpage includes information related to different types of hazards, such as an earthquake preparedness flyer from the Los Angeles County Fire Department, as well as links and resources to other local, state, and federal agency emergency preparedness guides.

## Policies, Plans, and Regulatory Environment

### National Response Framework

Established by FEMA, the National Response Framework (NRF) is a guide to how the nation responds to all types of disasters and emergencies. The NRF describes specific authorities and best practices for managing incidents that range from the serious but purely local, to those that are catastrophic and national in scope. The NRF specifies that an effective, unified response to a disaster or emergency requires supporting capabilities across sectors, while understanding each organization's goals. These sectors and groups include individuals and communities, the private sector, NGOs, and all levels of government.

According to the NRF, some of the best practices and activities that each of these groups can engage in collectively and individually to increase response capability include, but are not limited to:

- Developing plans that ensure continuity of operations.
- Conducting risk assessments to prepare for incidents and coordinating damage assessments during an incident.
- Providing and directing resources and capabilities.
- Gathering lessons learned.

## State of California Emergency Plan

The State of California Emergency Plan provides a consistent, statewide framework to enable state, local, tribal, and federal government, and the private sector to work together to mitigate, prepare for, respond to, and recover from the effects of emergencies regardless of cause, size, location, or complexity (California Office of Emergency Services 2017).

As part of a comprehensive preparedness program, the Emergency Plan specifies that a community can take specific actions to enhance operational capacity to respond to and recover from an emergency. Similar to the strategies and actions that were identified in the NRF, the Emergency Plan directs the emergency management community at the regional and local levels to develop hazard-specific plans and procedures, maintain prevention programs, manage resources, establish mutual aid agreements, train personnel, and educate the public.

All local governments with a certified disaster council are required to develop Emergency Operation Plans (EOP) for their jurisdictions that meet state and federal requirements. The City of Irwindale Emergency Operations Plan (EOP) is described in further detail below.

## City of Irwindale Emergency Action Plan

The Emergency Action Plan provides City of Irwindale employees with a plan of action in the unfortunate event of a natural or man-made disaster. The focus of the plan is to protect life and property by encouraging proper planning and preparation. The plan specifically designates and defines department and employee roles in the event of a natural or man-made disaster.

## City of Irwindale Emergency Operations Plan

The City of Irwindale Emergency Operations Plan (EOP) establishes the policies and framework to effectively manage extraordinary emergencies and disasters that occur in the City. The EOP is designed to coordinate closely with the State of California Emergency Plan and the NRF. The EOP is an all-hazard plan that incorporates and complies with the principles and requirements found in federal and state laws, regulations, and guidelines.

The City of Irwindale EOP considers the following five major hazard categories, and is structured to enhance the City's ability to work collaboratively with other regional, state, and federal response partners and plans:

- Natural Hazards
- Infrastructure and Systems Disruptions
- Human-caused Events and Hazards
- Technological Hazards
- Terrorist and Criminal Act Incidents

It is important to note that the EOP differs from the Safety Element in that the EOP provides management and response actions rather than policies and programs. All City departments and employees have a role

during emergencies and recovery operations. Additionally, all City employees are considered Disaster Service Workers (DSW) and may be called to order during times of proclaimed or declared disasters.

As described in the EOP, the City of Irwindale emergency operations, organizational structure, and support functions are organized in accordance with the California SEMS and National Incident Management System (NIMS) concepts and principles.

### **City of Irwindale 2014 Hazard Mitigation Plan**

As the cost of damage from natural disasters continues to increase nationwide, the City of Irwindale recognizes the importance of identifying effective ways to reduce vulnerability to disasters. The 2014 Hazard Mitigation Plan provides a set of action items that the City should take to reduce future damage from natural hazards. These actions include education and outreach programs and policy actions, and also to discuss timing and financing. The 2014 Hazard Mitigation Plan is integrated with other City plans, including the City of Irwindale EOP, the General Plan and other department specific standard operating procedures.

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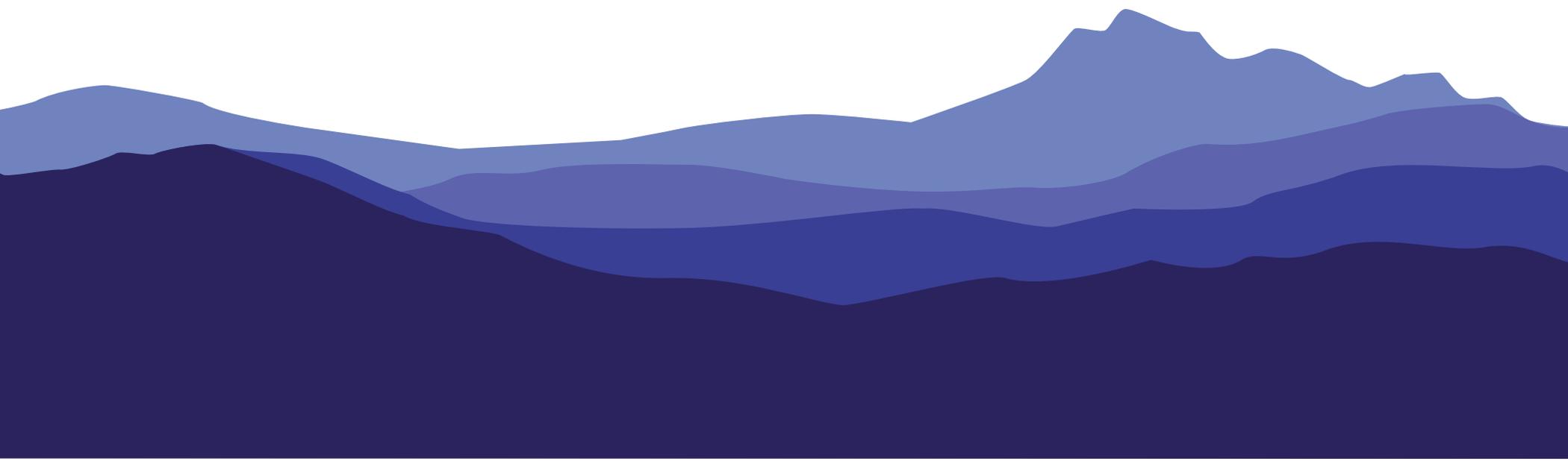
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APPENDIX B    Community Engagement  
Report



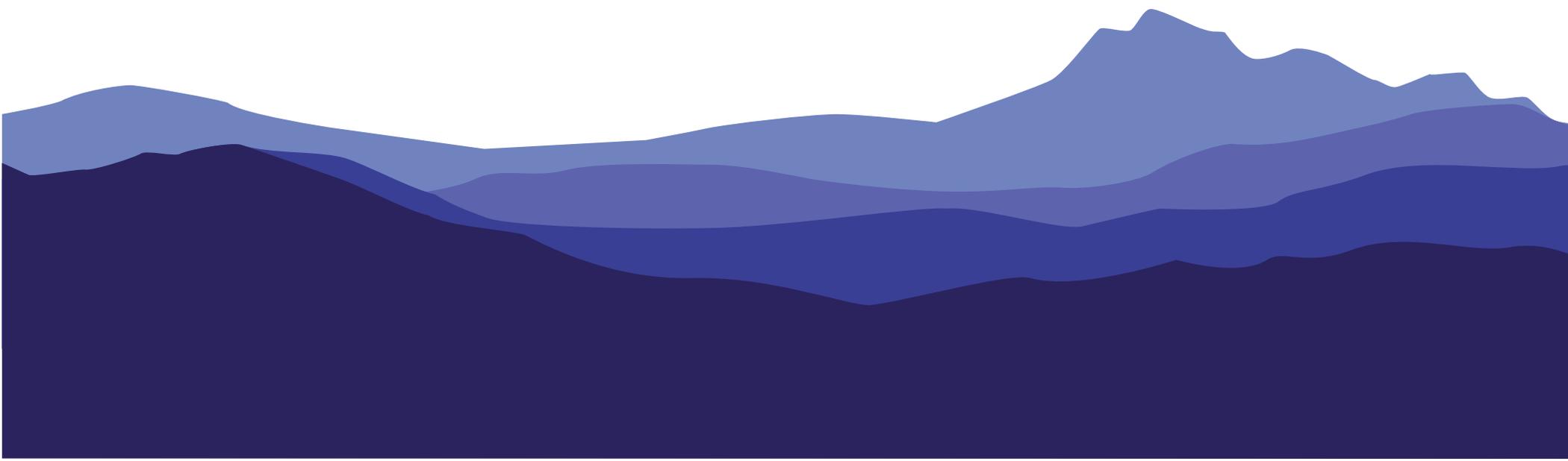




**City of Irwindale General Plan Update: Housing, Safety, and Environmental Justice Elements**

# **Community Engagement Summary Report**

**April 2024**



### Introduction

This community engagement report summarizes the collective voices and perspectives gathered through a comprehensive series of outreach efforts undertaken for Irwindale's General Plan Update, which included updates to the City's Housing and Safety Elements, and a new Environmental Justice Element. The community engagement initiatives aimed to facilitate inclusive dialogue and solicit feedback from residents, employees, and stakeholders at each milestone in the planning process. This community engagement process was key in highlighting community needs and priorities as part of the General Plan Update.

### Workshop #1

April 7, 2022, 6–7:30 p.m., 11 attendees

Community Workshop #1, a virtual meeting held on April 7, 2022, from 6 to 7:30 p.m., marked the start of the community engagement process for Irwindale's Housing Element Update, Safety Element Update, and the city's inaugural Environmental Justice Element within the General Plan. The workshop introduced the key components of housing, safety, and environmental justice to the eleven attendees. Additionally, emphasis was placed on participating in the community engagement survey.

The event included Spanish translation to ensure inclusivity. From the community, several concerns and desires emerged:

1. **Budget Priorities:** There was a sentiment that the budget process was not effectively prioritizing residents' desires or going towards addressing community needs, such as a new library or improvements to recreational facilities like the gym.
2. **Infrastructure and Services:** Residents highlighted issues with the timing of traffic lights on residential streets, expressing frustration over lengthy waits and a perceived lack of synchronization with traffic flow. Additionally, there was a desire to revitalize business activity and ensure access to community programs without requiring proof of immigration status.

3. **Community Development:** The community expressed a vision for an ideal Irwindale, characterized by increased family-oriented housing, expanded dining options near the Metrolink, and cultivating a vibrant city identity through business development. There was a strong emphasis on preserving and enhancing parks, including the need for green spaces and tree planting to promote a sense of vitality and connection with nature.

## Workshop #2

August 9, 2022, 6–7:30 p.m., Irwindale Community Center

Community Workshop #2, held on August 9, 2022, from 6 to 7:30 p.m. at the Irwindale Community Center, continued the discussion from Workshop #1, focusing on key safety and environmental justice themes. The workshop began with a recap of the previous session and a reminder of the six pillars of Environmental Justice. It then delved into community discussion questions and group activities, generating valuable insights and recommendations:

1. **Air Quality:** Residents expressed concerns about air pollution from businesses and freeways, proposing solutions such as urban greening, EV infrastructure implementation, and active transportation promotion. Suggestions included enhancing greenery along Irwindale Avenue, near industrial areas, and along the Gold Line, alongside better code enforcement and increased setbacks from residential areas.
2. **Extreme Weather:** Ideas for mitigating the effects of heat included expanding tree coverage, improving drain maintenance, and extending operating hours for community centers during the summer months.
3. **Emergency Preparedness:** Residents desired stronger community relationships with emergency services and advocated for city-led preparedness training and regular dissemination of emergency information through local publications.
4. **General/Overall Safety:** Improvements in safety, including crime reduction, graffiti removal, and sidewalk maintenance, were suggested. Areas of concern for pedestrian safety, such as Arrow



## WORKSHOPS #3 & 4

Highway, were identified, alongside recommendations for zoning adjustments and sidewalk expansions.

5. **Public Facilities:** The need for additional public amenities, such as dog parks, farmer's markets, and improved police stations, was highlighted. Residents also emphasized maximizing the use of existing facilities through expanded programming and transportation services to neighboring cities.
6. **Access to Healthy Foods:** Suggestions included establishing community gardens, farmers' markets, and food pantries, focusing on centralized markets, accessible locations, and partnerships with local organizations.
7. **Safe and Sanitary Homes and Neighborhoods:** Recommendations included support for housing improvements, including addressing issues of lead, mold, and aging infrastructure. Ideas included incentivizing multi-family housing near transit hubs and enhancing neighborhood safety.
8. **Health and Physical Activity:** Residents called for improved opportunities for active transportation, including bike-friendly infrastructure, expanded bike lanes, and increased access to recreational areas such as the Santa Fe Dam.
9. **Other Notes/Ideas:** Additional suggestions ranged from partnering with rideshare programs to enhance transportation access to advocating for more retail and mixed-use development to increase local amenities.

## Workshops #3 & 4

Workshop #3, held on September 19, 2023, at the Irwindale Senior Center served as critical meeting for evaluating proposed policies and actions in the Draft Safety and Environmental Justice Elements. The same workshop format was held on October 18, 2023, at Irwindale City Hall, to provide an additional opportunity to provide input. These interactive sessions focused on gathering feedback and assessing

consistency with community input from previous workshops. Below is a synthesis of the comprehensive notes from both workshops:

1. **Clean Environment:** Community members across all groups expressed concerns about air quality and industrial development. There was a strong consensus on the need for alternative fueling options, increased green spaces, and buffers between residential and industrial areas to mitigate pollution. Suggestions included implementing hydrogen fueling stations, promoting urban greening initiatives, and limiting new industrial developments.
2. **Safe Communities:** Improving safety was a priority for residents, with calls for enhanced lighting, expanded bike lanes, and safer road infrastructure. Concerns were raised about overgrown trees, the impact of truck traffic on roads, and the potential pollution from certain industrial activities. Suggestions included better road maintenance, proactive code enforcement, and measures to prevent hazardous conditions at bus stops.
3. **Healthy Communities:** Residents emphasized the importance of access to healthy food options and recreational opportunities. Calls were made for city-initiated community gardens, additional food banks, and programs promoting fruit tree cultivation. Suggestions included integrating farmers' markets with city events and making public spaces more accessible for individuals with disabilities.
4. **Resilience and Preparedness:** There was a strong desire for proactive measures to address housing maintenance issues, enhance emergency preparedness, and improve infrastructure resilience. Suggestions included updating emergency plans, increasing police presence, and providing grants for home improvements. Concerns were raised about outdated emergency plans, inadequate drainage infrastructure, and the need for designated meeting areas during emergencies.
5. **Ecological Disaster and Hazard Adaptation:** Residents highlighted the importance of studying storm drain capacities, retrofitting residential structures for disaster preparedness, and maintaining flood control infrastructure. Concerns were raised about code enforcement, sidewalk maintenance, and drainage issues, with calls for proactive measures to prevent hazards and ensure community safety.



## Stakeholder Engagement

The Public Safety and Air Quality/Pollution Stakeholder Engagement meeting on January 10, 2023, brought together diverse participants, including representatives from Martin Marietta, SCAQMD, Ready Pack, Irwindale Police Department, and various community stakeholders. Here's a summary of the discussion:

1. **Air Quality and Pollution:** SCAQMD provided an overview of the authority, programs, and resources available to address air quality concerns. The discussion highlighted the importance of sharing SCAQMD resources with the community and integrating them into the Safety Element.
2. **Extreme Weather and Drought:** Participants discussed transportation to cooling centers during extreme heat events, with suggestions for shuttle services for seniors and community members.
3. **Flood and Dam Failure:** Concerns were raised about stormwater flooding affecting Ready Pack facilities, with suggestions for city involvement in developing support lines for flooding issues. Participants discussed the potential for program development and increased transparency regarding flood-related concerns.
4. **Law Enforcement and Crime:** Chief Rob Castro shared information about safety improvement programs, including grant writing services provided by California Consulting. Participants highlighted the police department's active shooter training and efforts to address crime associated with unhoused populations.
5. **Emergency Preparedness:** Chief Rob Castro outlined the use of social media for emergency response information dissemination.
6. **Wildfire:** SCAQMD provided resources for wildfire smoke and ash health and safety tips.

The meeting provided valuable insights into stakeholder perspectives on public safety and air quality/pollution issues, with suggestions for collaboration and program integration to address community concerns.

## Community Survey

The Irwindale Community Survey was conducted to gather input from residents and employees to understand their needs and desires better. The survey aimed to inform updates to the Irwindale General Plan's Safety Element, 2021-2029 Housing Element, and Environmental Justice Element, identify future land use practices and guide the Planning Commission.

**Methodology.** The survey covered topics such as access to healthy food, park usage, street conditions, and air quality to improve the quality of life in Irwindale. The City informed residents about the survey through newsletters, mail, the City website, and social media platforms like Instagram, Facebook, and Twitter. Hard copies of the English and Spanish surveys were mailed to residents twice. The surveys were also available online via SurveyMonkey. The survey remained active from December 13, 2021, to January 17, 2022. This methodology ensured broad outreach and participation, allowing for a comprehensive understanding of the community's concerns and preferences.

**Results.** The resident community survey yielded 19 responses, all from English-speaking respondents with no Spanish-speaking respondents. The employee community survey yielded 64 responses: 62 English-speaking respondents and 2 Spanish-speaking.

**Resident Community Survey Results.** The community survey results from residents of Irwindale highlighted various concerns and aspirations across different aspects of community life. Residents voiced significant concerns about pollution and air quality, mainly from nearby industrial sources, advocating for infrastructural enhancements such as improved roads, sidewalks, and lighting to bolster safety and connectivity throughout the city. There was a desire among residents for healthier dining options and increased access to fresh produce, with many advocating for the establishment of a local grocery store and the cultivation of community gardens and farmers' markets. Safety emerged as a major concern, calling for heightened law enforcement and safety measures along streets to address crime-related concerns. Additionally, residents expressed interest in streamlining governmental constraints on housing development and expanding affordable housing opportunities. Residents had a concern regarding the effectiveness of civic engagement processes, with many having doubts about the authorities' responsiveness to their opinions.



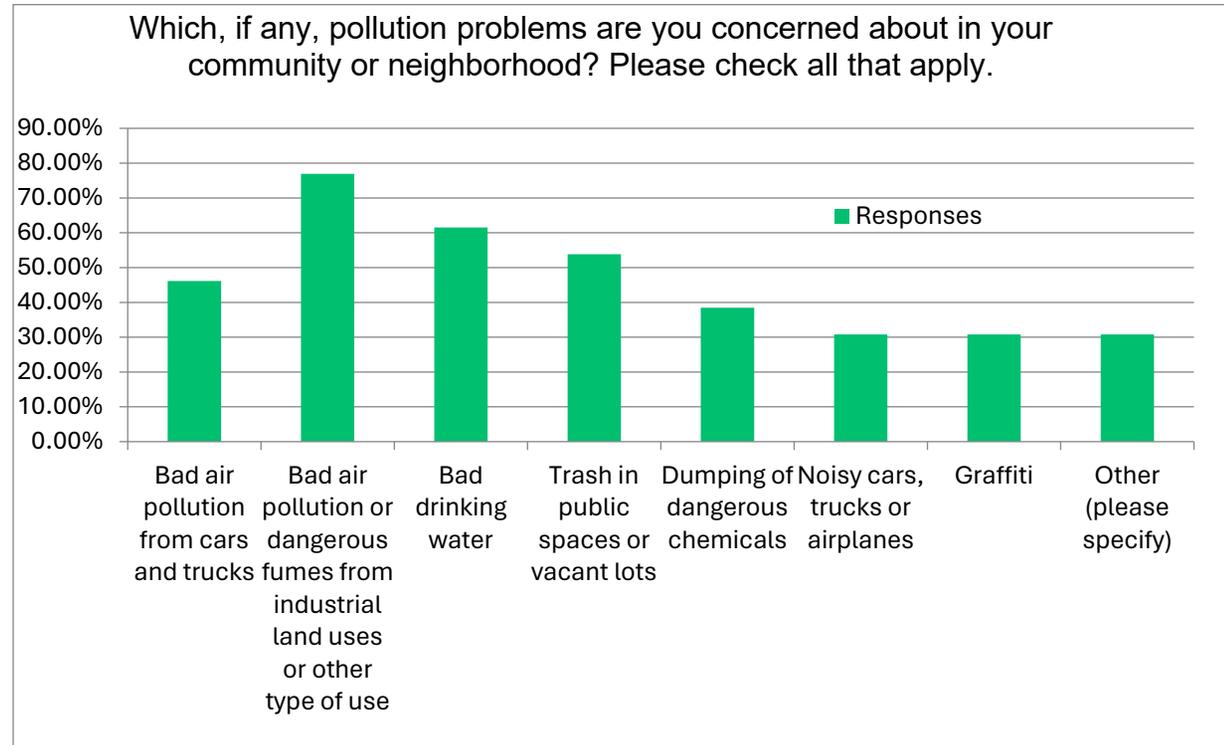
**Employee Community Survey Results.** Employees echoed similar sentiments about pollution and air quality, highlighting the need for infrastructure improvements and enhanced transportation options, including creating safe bike lanes and incentives for alternative modes of travel such as walking, biking, and carpooling. Employees also emphasized the importance of access to healthy food options, advocating for establishing a local grocery store and the availability of healthier dining alternatives. Safety remained a central issue for employees, with requests for increased street lighting to address traffic safety and crime concerns. Many employees faced challenges in utilizing public facilities due to work schedules and safety concerns. Housing preferences among employees varied, with some expressing unwillingness to reside in Irwindale due to pollution, affordability, and community dynamics.

**Survey Question Summaries.** The following provides a summary of responses to each survey question for both residents and employees.

## Pollution Exposure/Air Quality

### RESIDENT SURVEY RESULTS

The following bar chart shows the pollution problems that concerned respondents and are summarized below the chart.



- 77% of resident respondents identified "bad air pollution or dangerous fumes from industrial land uses or other type of use" as a primary issue.
- 62% expressed concerns about "bad drinking water."
- 54% cited "trash in public spaces or vacant lots" as a problem.
- 46% of respondents were troubled by "bad air pollution from cars and trucks."



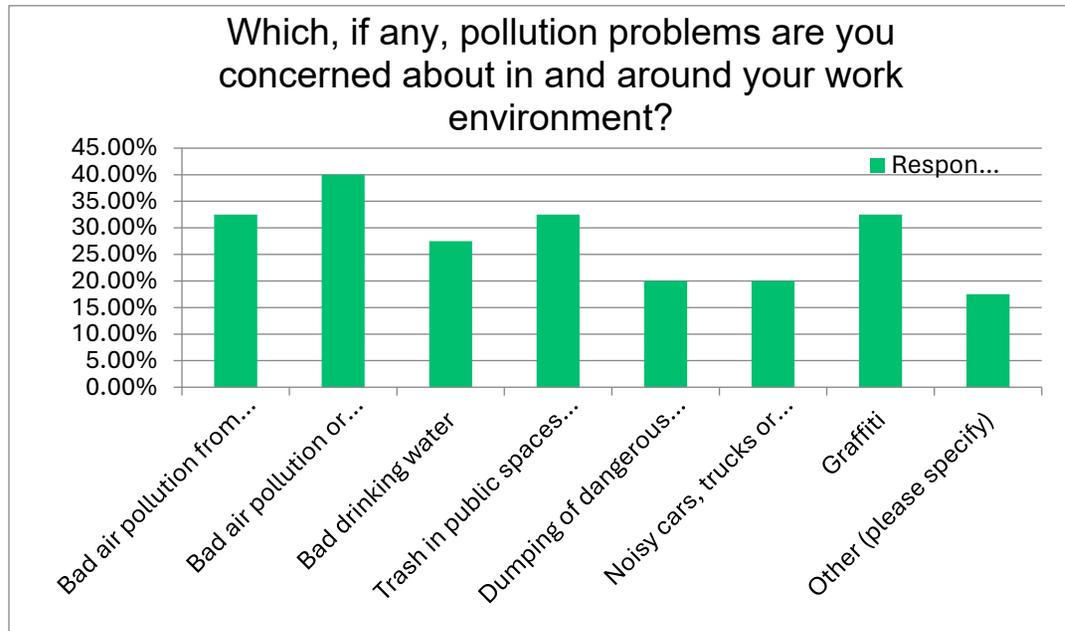
## COMMUNITY SURVEY

Responses under the "other" category included mentions of hazardous waste dumping, poor faucet water quality, and issues with homeless encampments in the city. Solutions proposed by residents to reduce pollution included:

- Improved water infrastructure
- Stricter compliance with vehicle pollution requirements
- Enhancements to streets and sidewalks to promote pedestrian and cyclist-friendly environments

## EMPLOYEE SURVEY RESULTS

The following bar chart shows the pollution problems that concerned employee respondents and are summarized below the chart:



- 40% of employee respondents expressed concern about "bad air pollution or dangerous fumes from industrial land uses or other type of use."

- 33% were troubled by "bad air pollution from cars and trucks," while another 33% cited concerns about "trash in public spaces or vacant lots."
- 33% of employees were worried about "graffiti," and about 28% were concerned about "bad drinking water."

Responses under the "other" category included mentions of wildfire impacts, hazards in older buildings, traffic congestion of non-commercial vehicles, extreme heat impacts, and homelessness.

Proposed solutions for reducing pollution from employee respondents included:

- Adoption of alternative forms of energy such as electric vehicles
- Removal of industrial facilities in Irwindale
- Mandating local businesses to recycle, reduce pollution, and implement safer protocols
- Reducing overall vehicle trips and encouraging transit use
- Increasing tree coverage and maintaining clean streets
- Incentivizing carpool programs
- Advocating for discounts from local businesses for Irwindale employees
- Expanding housing opportunities to reduce commuting distances
- Promoting walking and biking as alternative transportation options

## Public Facilities

### RESIDENT SURVEY RESULTS

Summary of Resident Engagement with Parks and Recreational Facilities:

- About 71% of resident respondents indicated that they use parks and recreational facilities in Irwindale, while 29% stated they do not. Among those who don't, reasons included:
  - Lack of programming, such as community exercise classes or 3D printing opportunities.
  - Existing facilities needing improvements.



## COMMUNITY SURVEY

When asked about factors that would encourage them to use the parks and its programs, residents suggested:

- Increasing youth programs.
- Updating the skate park trail surface.
- Introducing new classes or programs, such as exercise programs or technology-related activities.

Additional notes from the survey include:

- Suggestions to update the City website weekly for information regarding City Hall, the Recreation Center, and the Senior Center.
- Recommendations to increase advertisement of surveys to enhance community engagement.
- Requests for an increase in Saturday classes at the gym.
- Suggestions to utilize public facilities for hosting big events.

## EMPLOYEE SURVEY RESULTS

Only about 22% of employee respondents indicated that they access parks and recreational facilities in Irwindale, while a significant 78% stated they do not. Reasons provided by those who don't use the facilities include:

- Not being residents of the City.
- Utilizing parks in their home city.
- Distance from their residence.
- Time constraints or conflicts with work schedules.
- Lack of awareness about recreational programs in Irwindale.
- Concerns related to the pandemic.
- Perception of limited activities for adults, with a focus on kids and the elderly.
- Perception of parks not being welcoming, convenient, or clean.
- Concerns about houseless individuals occupying parks.

When asked about factors that would encourage them to use the parks and its programs, employees suggested:

- Receiving more information about weekend events or programs.
- Offering more adult activities tailored to the 18-35 age group.
- Improving lighting in parks at night.
- Enhancing cleanliness.
- Creating a welcoming atmosphere.
- Living closer to or within Irwindale.
- Starting programs earlier, such as offering lap swimming at 5 am before work.
- Providing better parking facilities.
- Addressing concerns about homelessness in parks.

## Healthy Food Access

### RESIDENT SURVEY RESULTS

About 69% of resident respondents indicated they are able to access food in Irwindale, while 31% stated they cannot. Reasons provided by those who cannot access food include:

- Lack of availability of fresh produce.
- Suggestions for establishing a community garden or farmer's market.
- Time constraints for commuting to shop elsewhere.
- Suggestions for developing markets with fresh produce or organic supply near residential areas.
- Requests for local healthy restaurants.

When asked about the types of healthy foods they would like to get but can't, residents mentioned:

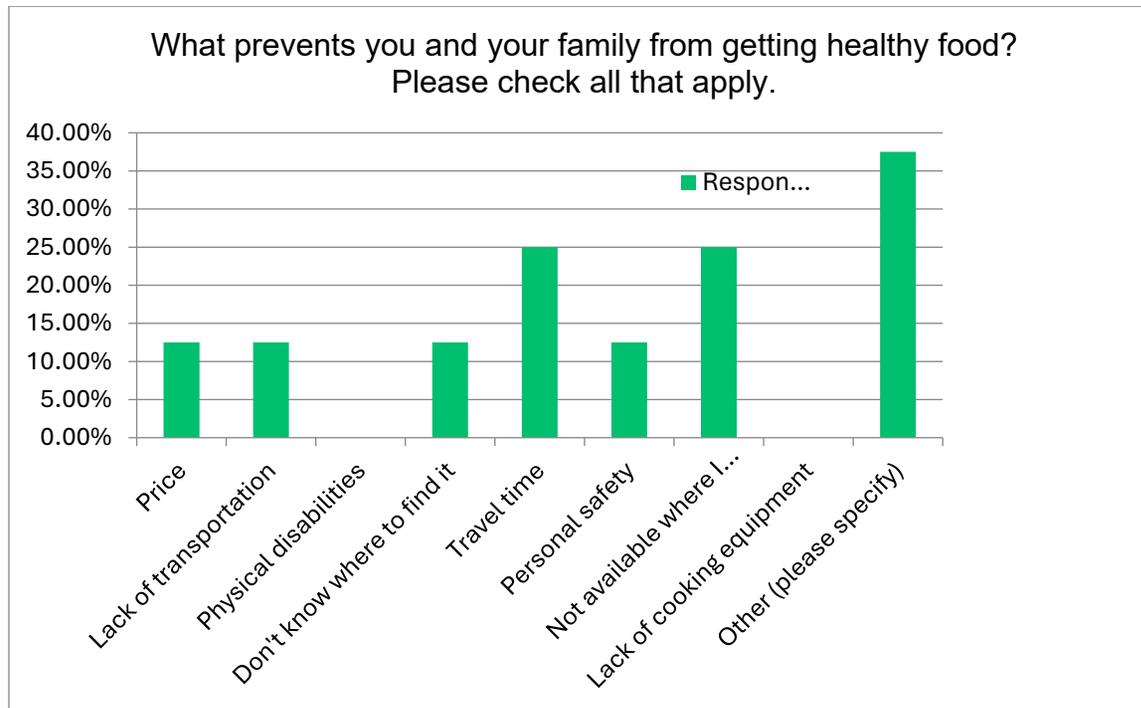
- Organic fruits and vegetables.
- Financial constraints preventing access to healthier options.
- Overall limited access to healthy food.



## COMMUNITY SURVEY

- Desire for organic food options at reasonable prices.
- Concerns about the prevalence of fast food restaurants and limited healthier food options.

The following bar chart shows the responses for what prevents resident respondents from getting healthy food:



- Regarding the challenges in accessing healthy food, 25% of respondents cited "Travel time" and another 25% mentioned "Not available where I regularly shop."

Additional reasons provided by respondents who selected "other" include:

- Lack of stores or markets within the city.
- Limited local availability of healthy food options.
- Lack of preference for healthy food options among some residents

## EMPLOYEE SURVEY RESULTS

Approximately 74% of employee respondents indicated that they can access food in Irwindale, while 26% reported being unable to do so. Reasons provided by employees unable to access fresh fruits and vegetables include:

- Presence of too many fast food options.
- Lack of fresh produce.
- Absence of grocery stores in the city.
- Insufficient vegan options.
- Limited access to healthy options.
- Travel or commute time to reach healthier options.
- Suggestions to improve access to healthy foods include:
  - Increasing diversity in restaurant options to include healthier food choices.
  - Encouraging more retail and grocery stores in the city.
  - Addressing affordability concerns by increasing pay or wages.
  - Establishing a farmer's market accessible during the day

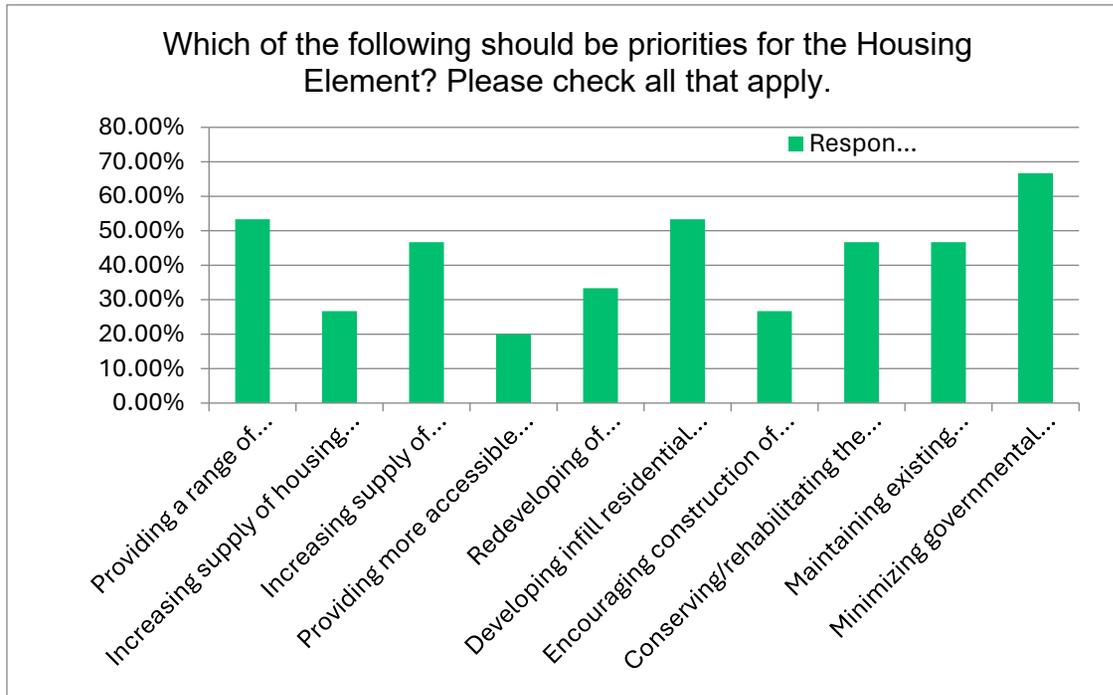
## Safe Neighborhoods and Safe, Sanitary Homes

### RESIDENT SURVEY RESULTS

Housing:

- **Home Ownership:** Approximately 97% of resident respondents indicated that they own their own home, while approximately 13% do not.
- **Perception of Multifamily Housing:** About 44% of resident respondents believe that Irwindale has an adequate supply of multifamily housing, while approximately 56% do not share this belief.





Housing Problems:

- Housing costs represent more than 50% of income for 22% of respondents.
- 33% of respondents reported that their housing unit is in poor condition.
- 11% of respondents stated that their housing unit is too small for their household size.

Other issues reported by about 56% of respondents included:

- Pollution.
- Poorly constructed homes.
- Issues with electricity.
- Presence of vacant lots in the neighborhood affecting property value.
- Need for low-income housing.



#### Safety:

- Perception of Safety: 35% of respondents indicate that they feel safe. However, the majority of respondents selected either "no" (~29%) or "somewhat" (~35%).

#### Concerns Raised by Respondents Feeling "Somewhat" Safe:

- Public spaces such as the train station, parks, and bus stops were mentioned as feeling unsafe.
- Concerns about the frequency of shooting incidents.
- Dimly lit streets and sidewalks.
- Overgrown vegetation hindering visibility for drivers.
- Lack of pedestrian-friendly walk paths and sidewalks.
- Primary Hazard Concerns:
  - Crime was reported as the highest concern among community residents (~62%).
  - 55% of residents don't feel safe from crime when biking or walking.
  - 38% of residents selected "pandemic" as a primary hazard concern.

## EMPLOYEE SURVEY RESULTS

#### Housing:

- Resident Composition: Only about 2% of employee respondents live in Irwindale.
- Interest in Living in Irwindale: When asked if they would consider living in Irwindale, only 18% of respondents expressed interest, while 54% said no, and 27% were unsure. Reasons for not wanting to live in Irwindale included concerns about safety, air quality, lack of amenities, industrial uses, affordability, and feeling unwelcome or lacking diversity.

#### Safety:

- Perception of Safety: Most employee respondents, approximately 82%, feel safe getting to and from work. Only about 3% felt unsafe, and roughly 15% felt somewhat safe.



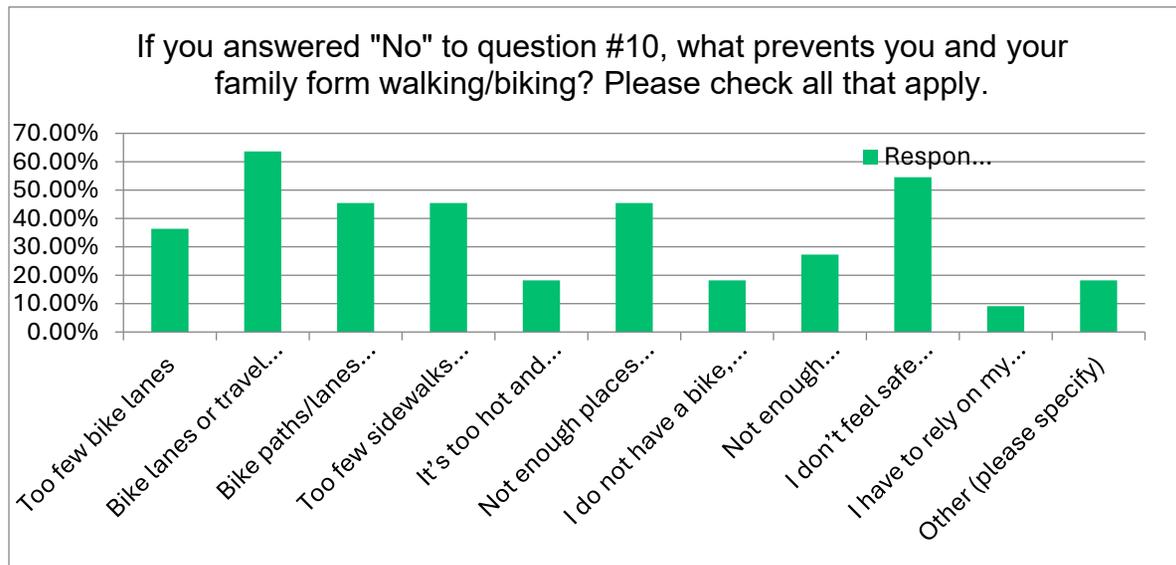
## COMMUNITY SURVEY

- Safety concerns related to traffic, houseless individuals, cyclists, heavy machinery/vehicles in traffic, and dust pollution impairing eyesight while commuting.
- Employee respondents suggested various measures to enhance safety, including increasing law enforcement presence, clearing vegetation, removing graffiti, enhancing business security requirements, relocating houseless individuals, improving property security, reducing traffic congestion, increasing lighting in alleys and on roads, and providing dedicated bike lanes and pedestrian-friendly elements within the city.

## Physical Activity

### RESIDENT SURVEY RESULTS

Approximately half of resident respondents reported being usually able to walk and/or bike in Irwindale, while the other half stated they were not.



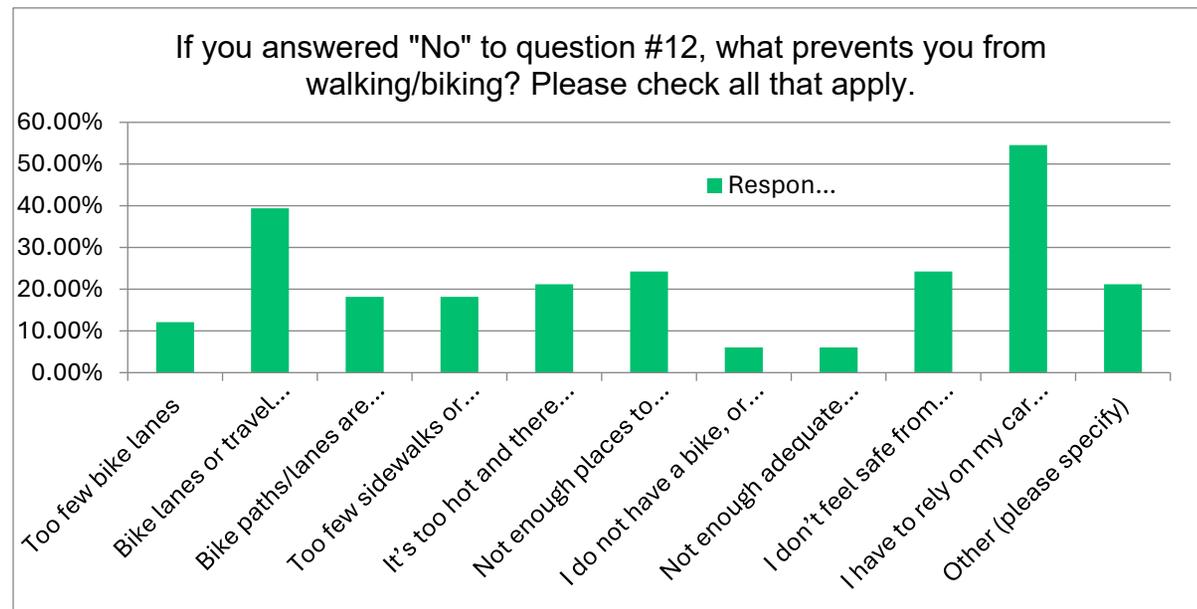
- **Barriers to Walking/Biking:** The top reasons preventing residents from walking or biking included concerns about the safety of bike lanes and travel lanes due to high-speed traffic (~64%), feeling

unsafe from crime (~55%), inconsistent or non-existent bike paths (~45%), lack of destinations within reasonable biking or walking distance (~45%), and inadequate bicycle parking (~27%).

- **Encouraging Factors:** Residents suggested that enhancing law enforcement presence, improving bike and walk paths with tree canopy coverage, upgrading existing infrastructure such as the Skate Park and poorly lit sidewalks, organizing community-sponsored events, conducting bike safety outreach programs and raffles, and ensuring the availability of safety gear would encourage them to walk or ride their bikes more.
- **Health Concerns:** Principal health concerns among resident respondents included staying fit through physical exercise, healthy living, remaining active, managing conditions like diabetes, and addressing home-related issues such as mold and rat infestations.

### EMPLOYEE SURVEY RESULTS

Approximately half of employee respondents reported being usually able to walk and/or bicycle in Irwindale, while slightly more than half stated they were not.

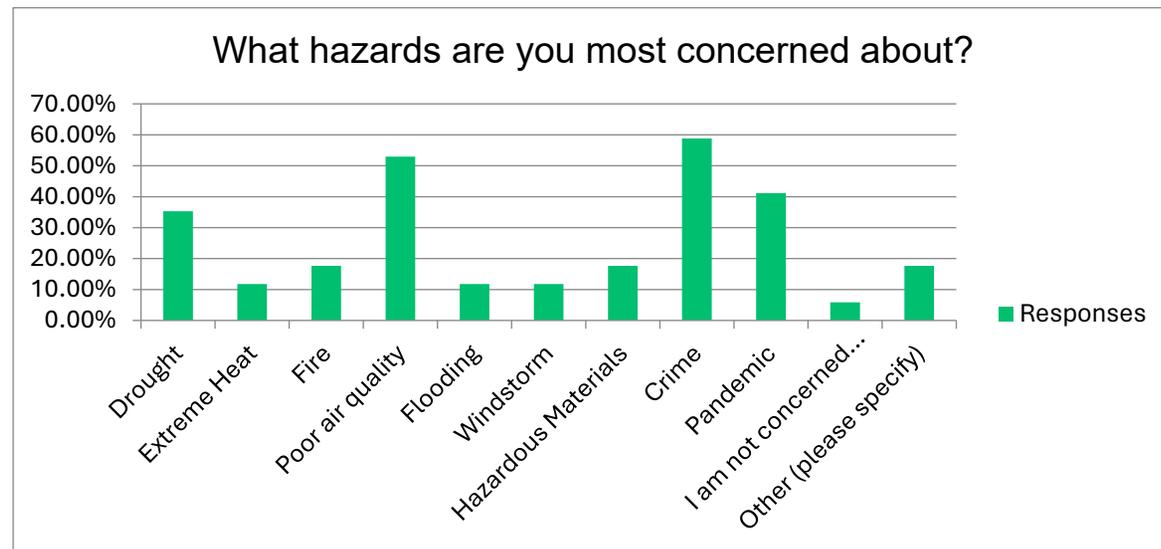


- **Barriers to Walking/Biking:** The top reasons preventing employees from walking or biking included the need to rely on cars for time-saving and multiple trips per day (~55%), concerns about the safety of bike lanes due to high-speed traffic (~39%), feeling unsafe from crime (~24%), and inadequate destinations within reasonable walking or biking distance (~24%).
- **Other Concerns:** Employee respondents also raised concerns about specific hazards such as sudden narrowing of roads, inability to leave for lunch, and issues related to the homeless population.
- **Encouraging Factors:** To encourage more walking or biking among employees, respondents suggested addressing safety concerns related to homelessness, increasing bike lanes and tree coverage along streets, providing access to fresh produce and grocery stores, offering incentives for biking, improving sidewalk and bike path aesthetics, and creating more interesting places along routes.
- **Health Concerns:** Principal health concerns among employee respondents included air quality, issues related to transients and homelessness, access to food and restaurants during lunch, safety, pollution from industrial uses, pandemic-related concerns such as masks and vaccinations, time constraints on health practices, water quality, extreme heat, and concerns about business COVID protocols.

## Community Hazards

### RESIDENT SURVEY RESULTS

Resident responses are listed/ranked by percentage:



1. ~59% of residents selected “crime” as a primary hazard concern
2. ~53% of residents selected “poor air quality” as a primary hazard concern
3. ~41% of residents selected “pandemic” as a primary hazard concern
4. ~35% of residents selected “drought” as a primary hazard concern
5. ~18% of residents selected “other”
6. ~18% of residents selected “hazardous materials” as a primary hazard concern
7. ~18% of residents selected “fire” as a primary hazard concern
8. ~12% of residents selected “windstorm” as a primary hazard concern



## COMMUNITY SURVEY

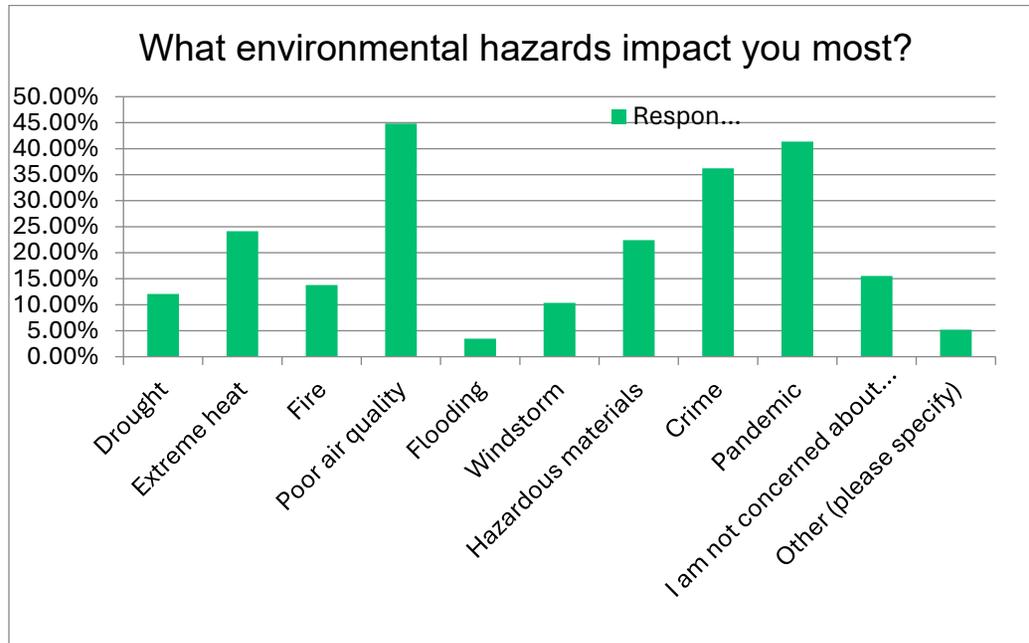
9. ~12% of residents selected “flooding” as a primary hazard concern
10. ~12% of residents selected “extreme heat” as a primary hazard concern

Resident respondents that selected “other” were given the option to type in a response. Responses are summarized as follows:

- Concerns regarding the pandemic
- Concerns with infrastructure and transit

## EMPLOYEE SURVEY RESULTS

Employee responses are listed/ranked by percentage:



1. ~45% of residents selected “poor air quality” as a primary hazard concern
2. ~41% of residents selected “pandemic” as a primary hazard concern

3. ~36% of residents selected “crime” as a primary hazard concern
4. ~24% of residents selected “extreme heat” as a primary hazard concern
5. ~22% of residents selected “hazardous materials” as a primary hazard concern
6. ~14% of residents selected “fire” as a primary hazard concern
7. ~12% of residents selected “drought” as a primary hazard concern
8. ~10% of residents selected “windstorm” as a primary hazard concern
9. ~5% of residents selected “other”
10. ~3% of residents selected “flooding” as a primary hazard concern

Employee respondents that selected “other” were given the option to type in a response. Responses are summarized as follows:

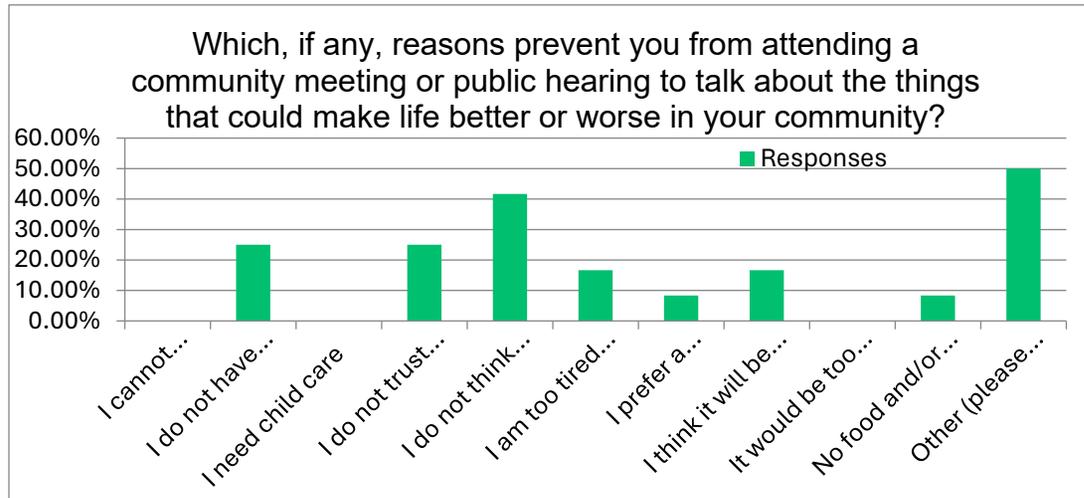
- Noise from traffic
- Traffic pollution

## Civic Engagement

### RESIDENT SURVEY RESULTS

Summary of Factors Preventing Resident Attendance at Community Meetings:





- Lack of Confidence in Representation: 42% of residents cited concerns about their opinions not being taken seriously.
- Distrust in Government: 25% of residents expressed distrust in the government, reflecting skepticism about the effectiveness and transparency of governance.
- Time Constraints: 25% of residents cited being too busy to attend meetings.
- Fatigue: 17% mentioned fatigue as a barrier to attending meetings after work.
- Perceived Ineffectiveness: 17% expressed concerns about meetings being a waste of time.
- Preferences for Meeting Timing: 8% preferred daytime or weekend meetings.
- Lack of Refreshments: 8% mentioned the absence of food and drinks at meetings as a deterrent.
- Other Factors: 18% cited various other reasons, including lack of trust in the City Council, pandemic concerns, and feelings of misrepresentation.

Suggestions for Increasing Community Involvement:

- Residents proposed increasing community outreach efforts to better inform and engage residents.
- Providing advanced notification of meetings was suggested to allow residents to plan attendance.



- Making meeting notes available on the City website would facilitate access to information for residents unable to attend in person.
- Maintaining accessibility to meetings via platforms like Zoom
- Increasing the frequency of town hall meetings during community events.
- Residents emphasized the importance of fair representation of community members in decision-making processes.

#### Ideas for City and Community Improvements:

- Residents called for greater accountability from the City regarding properties at risk of hazardous substances.
- Suggestions were made to bridge the gap between different age groups within the community.
- Residents proposed increasing the diversity of City council members to better represent the community's demographics.

## EMPLOYEE SURVEY RESULTS

There were no questions regarding civic engagement in the employee community survey.

## Improvements and Programs

### RESIDENT SURVEY RESULTS

The following are additional concerns/notes derived from survey questions (results listed under other EJ topics below) that relate to “improvements and programs”:

- Update City website weekly for City Hall, Recreation Center, and Senior Center
- Increase the hours of the Senior Center
- More funds for the Community Service department
- Increase weekend programs.
- Build a cancer foundation.
- Increase youth programs, i.e., dance classes, karate, host tournaments, and competitions.



## EMPLOYEE SURVEY RESULTS

Written responses were solicited regarding other comments, thoughts or suggestions they have about the city environment around where they work. Responses are summarized as follows:

- Increase and maintain public trash cans.
- Improve/fix traffic signals at crosswalks.
- Increase trees throughout City.