



Envision
PALMDALE 2045
a complete community



Chapter 13

Safety

This Safety Element outlines the goals and policies related to hazards and safety in Palmdale.

Statutory Requirements

The United States Federal Government and the State of California require local governments to address potential hazards that may have an impact on community safety including flood hazards, wildfires, seismic risks, and more. Per California Government Code section 65302, a Safety Element provides protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence; liquefaction; and other seismic hazards identified pursuant to Chapter 7.8 (commencing with Section 2690) of Division 2 of the Public Resources Code, and other geologic hazards known to the legislative body; flooding; and wildland and urban fires. The Safety Element also includes mapping of known geologic hazards and addresses 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. The following State and Federal regulations have been established to prevent and mitigate community harm associated with safety hazards.

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) is the national department assigned to prepare for, prevent, and mitigate emergency events and natural disasters within the United States. FEMA was assigned federal authorities under the Stafford Act of 1974 and has since been authorized to oversee hazard mitigation planning through programs such as the National Flood Insurance Program (NFIP).

The NFIP was developed through the Flood Disaster Protection Act of 1973. Under the NFIP, FEMA works to evaluate flood hazards across geographic areas and provide Flood Insurance Rate Maps (FIRM's) for local and regional planners to promote appropriate land use and floodplain development. Further, FEMA maintains a voluntary Community Rating System (CRS) that recognizes communities that implement superior floodplain management practices through a credit-based system. This Safety Element identifies and reviews areas

that are subject to flooding or identified by flood plain mapping prepared by FEMA or the Department of Water Resources.

Senate Bill 379

California Senate Bill (SB) 379 requires cities and counties within the state to consider and address climate change and resiliency within the Safety Element of their General Plans. The Bill requires local agencies to perform a vulnerability assessment that identifies the potential impacts to the community associated with climate change. Further, cities and counties must utilize the vulnerability assessment to develop goals and policies to facilitate climate adaptation and minimize the risks associated with climate impacts. For the purposes of this General Plan, goals and policies related to climate change and vulnerability are addressed within a defined sustainability chapter (Chapter 12: Sustainability and Climate Vulnerability Assessment).

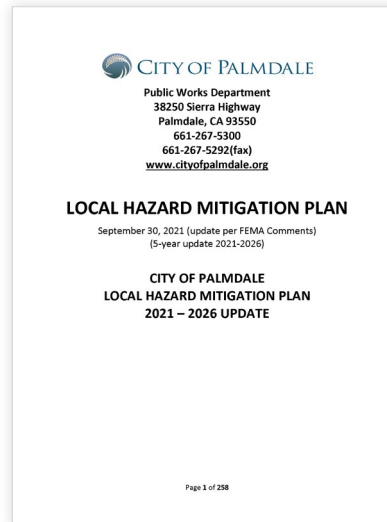
Senate Bill 99 and Assembly Bill 747

SB 99 requires all cities and counties, upon the next revision of the housing element on or after January 1, 2020, to update the Safety Element to include information identifying residential developments in hazard areas that do not have at least two emergency evacuation routes. By increasing the duties of local officials, this bill would impose a state-mandated local program. Assembly Bill (AB) 747 requires all cities and counties to identify evacuation routes in the General Plan Safety Element beginning January 1, 2022. The bill requires evaluation of evacuation route capacity, safety, and viability under a range of emergency scenarios. The bill allows cities or counties with an adopted local hazard mitigation plan, emergency operation plan, or other document that fulfills commensurate goals and objectives, to summarize or incorporate the information from these plans or documents in the safety element to comply with this requirement.

Relevant Plans & Documents

Local Hazard Mitigation Plan (2021)

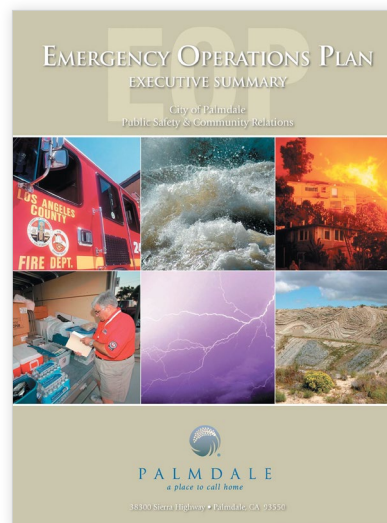
FEMA requires all local governments to participate in local hazard mitigation planning as a prerequisite to qualifying for FEMA grant assistance. As part of this planning process, state and local government agencies must prepare a comprehensive disaster mitigation plan to address risks from natural and manmade hazards and reduce the loss of life associated with local disasters. The City of Palmdale Local Hazard Mitigation Plan (LHMP) was submitted to CalOES for review in January 2022 and will be reviewed by FEMA before it goes to City Council for Adoption. The updated LHMP includes mitigation strategies related to hazard risks such as wildfires, geologic hazards, flooding/inundation, severe weather, and utility failure, among others.



Local Hazard Mitigation Plan (2021)

City of Palmdale Emergency Operations Plan (2012)

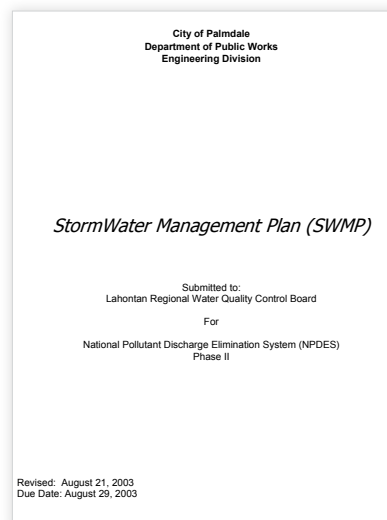
The Palmdale Emergency Operations Plan was developed in 2012 to serve as a guiding document for emergency/disaster response in the city and is currently being updated with the goal of City adoption by December 2022. The Plan assigns responsibility to organizations and individuals for carrying out specific actions at projected times and places in an emergency that exceeds the capability or routine responsibility of any one agency. Sets forth lines of authority and organizational relationships and shows how all actions will be coordinated. Describes how people and property will be protected in emergencies and disasters. Identifies personnel, equipment, facilities, supplies, and other resources available--within the jurisdiction or by agreement with other jurisdictions--for use during response and recovery operations.



Emergency Operations Plan (2012)

City of Palmdale Storm Water Plan (2003)

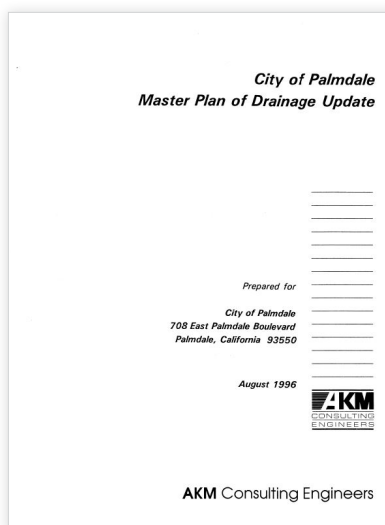
The Palmdale Storm Water Management Plan (SWMP) was adopted in 2003. The Plan was prepared by the Palmdale Department of Public Works with the objective to preserve the quality of city waters, including storm water conveyances such as closed conduits, open channels, drainage basins, and dry wells. The City currently maintains a “small” Municipal Separate Storm Sewer System (MS4) permit that authorizes the City to legally discharge stormwater into local waterways. The goal of the SWMP is to reduce the discharge of pollutants to the MS4 to the Maximum Extent Practicable (MEP). The Plan requires that each development attenuate post-developed flows to 85 percent of pre-developed flows.



City of Palmdale Storm Water Plan (2003)

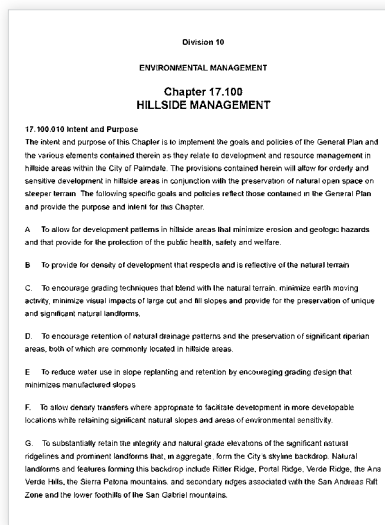
Palmdale Drainage Master Plan (1996)

The most recent Palmdale Drainage Master Plan (DMP) was adopted in 1996 to address existing drainage issues associated with storm water runoff and prepare for anticipated drainage from future development. The DMP outlines construction of flood control facilities in Palmdale that would connect with the planned regional drainage system.



Palmdale Hillside Management Ordinance

Palmdale Municipal Code Chapter 17.100 was adopted to establish hillside development standards to prevent landslide and erosion hazards. The Ordinance establishes the maximum angle and height of manufactured slopes and maintenance of natural drainage.



Existing Context

Geologic and Seismic Hazards

Fault Rupture

Palmdale lies within a seismically active geographic area in California. Several faults in the city are capable of producing fault rupture hazards in the event of an earthquake. Faults in the city include the San Andreas, Nadeau, Cemetery, Little Rock, and Leona Avenue. All of these are considered active or potentially active. Palmdale lies in the northern portion of Los Angeles County, through which the San Andreas Fault runs. It is estimated that large and potentially destructive earthquakes occur on the San Andreas Fault about every 130 years. Figure 13.1 shows the location of local faults, and the earthquake fault zones where there is the potential for surface rupture.

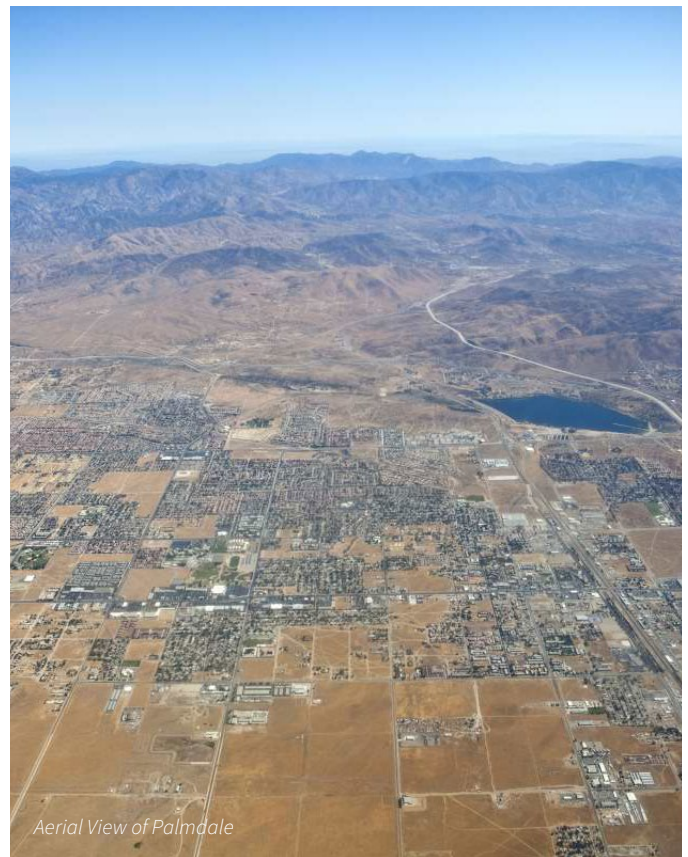
The Alquist-Priolo Earthquake Fault Zoning Act requires State Geologists to delineate “special study zones” along known active faults. The San Andreas Fault zone is among those identified; therefore, the City is required to regulate development within these seismic hazard zones. The City implements the Alquist-Priolo Earthquake Fault Zoning Act by means of development review process, in which every proposed development within a seismic hazard zone is required to prepare a detailed geotechnical report and fault rupture survey.

Ground Shaking

The intensity of ground shaking during an earthquake is dependent upon the distance from the fault; the magnitude and failure mechanism of the earthquake; and the nature of the bedrock, alluvium, and soil through which the shock waves travel. There are a number of existing faults within Palmdale that may cause ground shaking. The city’s proximity to the San Andreas Fault makes it susceptible to the highest level of earthquake hazard risk related to ground shaking. The fault is estimated to be capable of producing earthquakes of magnitude 8.0 or greater. In addition to faults within the city, there are several city-adjacent faults that are capable of producing ground shaking which could impact Palmdale. These adjacent faults include the Sierra Madre-San Fernando, Garlock, Owens Valley, and White Wolf faults. Generally, shock waves weaken with distance from the focus of the earthquake; therefore, faults located further away from the city are likely to have a lesser impact.

Liquefaction

Liquefaction occurs when soil that exists below the water table temporarily loses strength during an earthquake and changes to a near-liquid state. Liquefaction can cause large movements of surface ground and damage buildings and buried utilities. A related occurrence, known as lateral spreading, can cause damage to structures located on gently sloping ground. Figure 13.2 shows liquefaction risk zones within Palmdale. The majority of Palmdale consists of low relative liquefaction susceptibility zones, which are indicated on the map as non-shaded areas. However, liquefaction risk zones are present in the city. These areas include Little Rock Wash in the eastern portion of the city as well as Anaverde Creek, and areas along the San Andreas Fault. Development in liquefaction risk zones is subject to the same regulations as described for ground shaking hazard; a geotechnical study is required along with compliance with the Palmdale Building Code and California Building Code.



Erosion

Erosion occurs when the land detaches because of the movement of soil and rock fragments during a flood or storm over years through the action of wind, water, or another geological process. Though not immediately impacted by erosion in Palmdale, concerns arise because of the impact erosion can have on transportation assets throughout Southern California. Areas within Palmdale have been identified to have moderate erosion potential and therefore, erosion control measures are common for development projects within Palmdale.

Landslides

A landslide refers to the movement of rock, earth, or debris down a sloped section of land. Slopes greater than 25 percent are considered unsafe for development as they typically have high risk of landslides. Slopes ranging from 10 to 25 percent are required to implement hillside construction techniques to reduce risk of landslides, while slopes lower than 10 percent are considered to have low landslide risk. As shown in Figure 13.3, the southern and western edges of Palmdale contain steep hillsides with slopes greater than 25 percent that are susceptible to landslides. The remainder of the Planning Area is relatively flat, with low landslide risk.

Dam Failure

Earthquakes can cause the rupture of dams in Palmdale. The rupture of the Lake Palmdale Dam or the Littlerock Dam can result in flooding. Subsequent flooding could be as deep as 50 feet immediately downstream of the Littlerock Dam. Failure of the Littlerock Dam would result in the inundation of a 300-foot-wide area for 0.25 miles north of the dam. The water depth would vary from 50 to 15 feet along this length. Earthquake damage to Lake Palmdale, would greatly impact one of the City's primary sources of water and cause inundation across the city reaching Plant 42. Ten minutes after the dam failure, the floodwater would veer eastward for 800 feet to Avenue U, where the depth would be reduced to 10 feet. Trending north from Avenue U, the water would eventually dissipate so that the depth is no longer a risk to downstream developments.

Tsunami

A tsunami is a great sea wave produced by submarine earth movement or volcanic eruption. Tsunamis are not a threat in Palmdale since Palmdale is located approximately 40 miles from the coast.



Open Space in Palmdale

High Wind Hazards

High winds are commonly associated with severe thunderstorms and hurricanes. In southern Palmdale, they occur due to differences in air pressure and are called Santa Ana winds. Santa Ana winds are defined as warm, dry winds that blow down from the east or northeast into basins. These winds are usually strongest in the valley and canyon areas near the mountains and typically occur in the fall and winter. Typically, these winds blow in the 40-55 mile per hour range and can gust up to 90 miles per hour. Santa Ana winds develop when a high-pressure region builds over the high plateau east of the Sierra Mountains and west of the Rocky

Mountains. Clockwise circulation around the center of a high-pressure area forces air down the slope from the high plateau. The air warms as it descends toward the California coast due to the heating of the air caused by compression. This heating of the air as it is compressed provides the primary source of warming. The air is dry since it originated in the desert, and its moisture will continue to dissipate as it is heated. Santa Ana winds typically occur between October and April and can be catalysts for wildfire outbreaks in the region. They also cause downed power lines, blown over trees, and blown debris.

Wildfires

Wildfire hazard is determined by a combination of factors including precipitation, winds, temperature, landscape, and vegetation conditions. Based on these factors, Palmdale has been identified by the California Department of Forestry and Fire Protection (CAL FIRE) as being within a wildland-urban interface. Wildland-urban interface areas are those areas in which homes or other structures are built near or among lands prone to wildland fire. The extent to which lands are prone to wildfire can be determined using CAL FIRE severity zone designations. The zone designations are based on factors such as fuel, slope and fire weather and include the following designations:

- Moderate Fire Hazard Severity
- High Fire Hazard Severity
- Very High Fire Hazard Severity

In Palmdale, the areas south and west of the California Aqueduct, including Joshua Ranch, Ritter Ranch, and Anaverde Nuevo neighborhood and the adjacent open space, are identified as very high fire hazard severity zones (VHFHSZ) and are considered to be under local fire agency responsibility (see Figure 13.4). These areas consist primarily of undeveloped open space, which is largely vegetated with chaparral, trees and grassland groundcover, which can provide fuel for wildfires. Development within VHFHSZ's is considered unless fire suppression improvements are built to address existing issues like lack of water, rugged terrain, and lack of fire facilities. The remainder of Palmdale is not under significant wildfire hazard risk. The sparse vegetation and urban development do not provide significant fuel for wildfire propagation.

There are several notable areas adjacent to Palmdale that are subject to high and very high fire risk. These areas have the potential to rapidly spread wildfire into the city and may have widespread air quality impacts. These notable areas include the areas to the south and west of Palmdale, within Palmdale's sphere of influence. There are moderate fire hazard severity zones just south of Avenue S - between Sierra Highway and SR-14 and just south of where Pearblossom Highway intersects Fort Tejon Road. In addition, there are high and very high fire hazard severity zones that extend outside of these identified areas. As shown in Figure 13.8, there are no public or emergency facilities located in the VHFHSZ or in the State Responsibility Areas (SRAs).

Although Palmdale has not experienced any major fire events, it should be noted that there has been two major fire events in the outlying areas of the Antelope Valley. The Powerhouse Fire occurred in May 2013 and burned 30,274 acres in the Antelope Valley and the Los Angeles County mountains. In 2010, the Crown Fire occurred west of Palmdale in the Leona Valley Area and burned more than 14,000 acres, destroying 10 structures and damaged 6 homes.

Hazardous Materials

A wide variety of products, chemicals, and elements that are considered hazardous or toxic are used in households, commercial businesses, and industrial operations and processes. The improper use and management of hazardous materials can pose a significant potential threat to the community and its environment. Prevalent sources of hazardous material exposure in cities are often commercial and industrial sites. Leaking underground storage tanks (LUST) and former industrial and commercial land uses sites can expose the community and environment to hazardous materials. Leaks require immediate action upon detection to reduce the spread of contaminants and reduce potential harm. In addition, industrial and commercial activities sometimes utilize hazardous and toxic chemicals for operations. Spills or mishandling of

these materials can result in site contamination. These sites are known as “brownfields”, and their clean-up and revitalization is regulated by the U.S. Environmental Protection Agency.

A number of hazardous material sites are located in Palmdale. These include LUST and contaminated groundwater sites under the jurisdiction of the State Water Resources Control Board Site Cleanup Program. While many of these sites have been remediated or closed, there were five open or active cleanup sites within the city and its sphere of influence in 2019. As of 2021, three of these five sites have been remediated. The status of the five sites is listed in Table 13.1 with their locations shown in Figure 13.6.

Table 13.1

Palmdale Open And Active Cleanup Sites

Site Name/Site ID	Site Type	Site Status	Address	Contaminants Present
Circle K Store # 2709464 (T10000012661)	LUST Cleanup Site	Completed- Case Closed as of 2/18/2020	520 West Rancho Vista Boulevard	None Present
Petro-Lock Inc. (T0603700266)	LUST Cleanup Site	Completed- Case Closed as of 7/7/2021	38206 Sierra Highway North	Gasoline
Shayan Capital Ventures (T10000012057)	LUST Cleanup Site	Completed- Case Closed as of 1/9/2020	103 W Palmdale Boulevard	Diesel
Palmdale Water Reclamation Plant (T10000004967)	Cleanup Program Site	Open-Assessment & Interim Remedial Action as of 10/15/2006	39300 30th Street East	Nitrate
Air Force Plant 42 (Multiple)	Military Cleanup Site	Open	2503 East Avenue P	Metal, VOCs, Trichloroethylene Cyanide

Source: California Water Resource Control Board. Geotracker. <https://geotracker.waterboards.ca.gov/>. Accessed October 30, 2021

Climate Change

Climate Change is the long-term modification of temperature and weather patterns associated with human activity. Forecasted effects to Palmdale from climate change include increased average temperature, increased prevalence of wildfires and extreme heat, and diminished local air quality. The goals and policies included in this Element are related to safety in the City and account for local climate change vulnerabilities as identified within the 2021 Vulnerability Assessment. Detailed goals and policies related to climate

vulnerability and adaptation, in accordance with SB 379, are included within the Sustainability Element of the General Plan.

Flooding

Flood damage is a significant hazard for many communities across California. In Palmdale, localized flooding occurs when rainfall is heavy and prolonged. Rainfall in the city is typically sparse due to its location on the leeward side of the Sierra Pelona and San Gabriel Mountains. The typical amount of rainfall for Palmdale is 7.4 inches per year. Nevertheless, periods of excessive rainfall can occur during winter storms, from October to March, and monsoonal thunderstorms during summer months.

Areas in Palmdale with known flood hazards include the natural drainage channels of Amargosa Creek, Anaverde Creek, Little Rock Wash and Big Rock Wash. These natural drainage channels are mapped in Figure 11.4 of the Conservation, Natural, and Cultural Resources chapter. The drainage channels are subject to a one-percent annual-chance-flood, also referred to as a 100-year flood.

Portions of Palmdale adjacent to Amargosa Creek and Anaverde Creek, along the southwestern portion of Palmdale, are classified by FEMA as Zone A, AE, or AO—areas subject to inundation by the 1-percent-annual-chance flood. A wide swath along the Little Rock Wash in the eastern portion of Palmdale (and currently occupied by mining operations) is also classified as Zone A. Flat plains and natural depressions in Palmdale are also subject to flooding. These depressions in combination with increases in impermeable surfaces have contributed to street flooding caused by storm water runoff. Some of the city flat plain and depression areas are within 500-year flood zones. These include urban areas near the center of Palmdale and the undeveloped region east of Sierra Highway. Figure 13.5 depicts FEMA Flood Insurance Program designated flood zones in the City.

Emergency Evacuation

Emergency evacuation is a vital component of ensuring community safety and resilience in the face of a hazardous event. Facilitating efficient evacuation within a coordinated system of emergency service providers, facilities, and among residents is essential. Palmdale contracts law enforcement, fire, and emergency medical services to the County of Los Angeles, as noted in Chapter 10 Public Facilities, Services, and Infrastructure. As discussed earlier in this Chapter under Relevant Plans and Documents, the City’s Emergency Response Plan is currently being updated with the goal of City Council adoption by December 2022. This updated Plan identifies evacuation routes, personnel, equipment, facilities, supplies, and other resources available for use during response and recovery operations.

This Safety Element addresses recent evacuation legislation (Senate Bill 99 and Assembly Bill 747) to: 1) identify residential developments in hazard areas that do not have at least two emergency evacuation routes and 2) evaluate evacuation route safety under a range of emergency scenarios. A brief summary of this analysis is provided below.

1. Most residential developments throughout the city have at least two points of ingress and egress. However, five neighborhoods, only 4 of which are currently within the City of Palmdale—developments with 30 or more homes—have only one point of access, some of which are located in the Fire Hazard Severity Zones. These are shown in Figure 13.7 Single Access Neighborhoods.
2. The existing grid pattern roadway network allows for many ways to exit the city, therefore emergency evacuation is not a major concern in Palmdale. A scenario-based evacuation analysis shows that generally the vulnerability of the city’s transportation network during an emergency event is low. Events that could cause delays in evacuation

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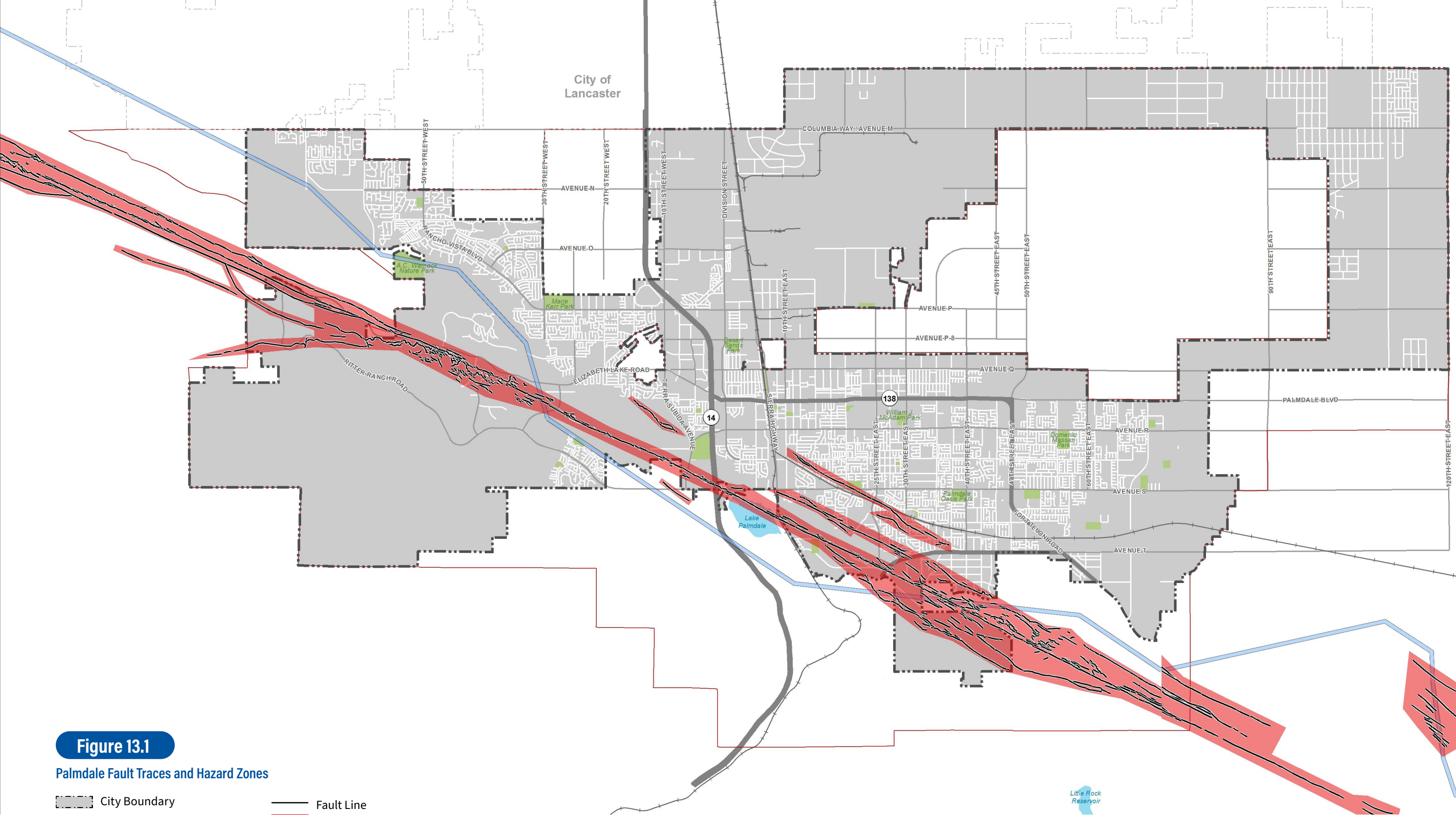
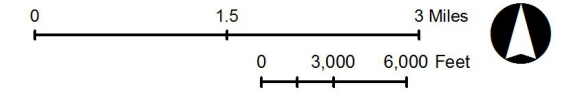


Figure 13.1

Palmdale Fault Traces and Hazard Zones

- City Boundary
- Sphere of Influence
- Major Arterials
- Highway
- Railroad
- Fault Line
- Fault Zone
- Water Body
- Parks
- California Aqueduct



Data Sources: City of Palmdale GIS data; California Geological Survey, 1979; USGS.

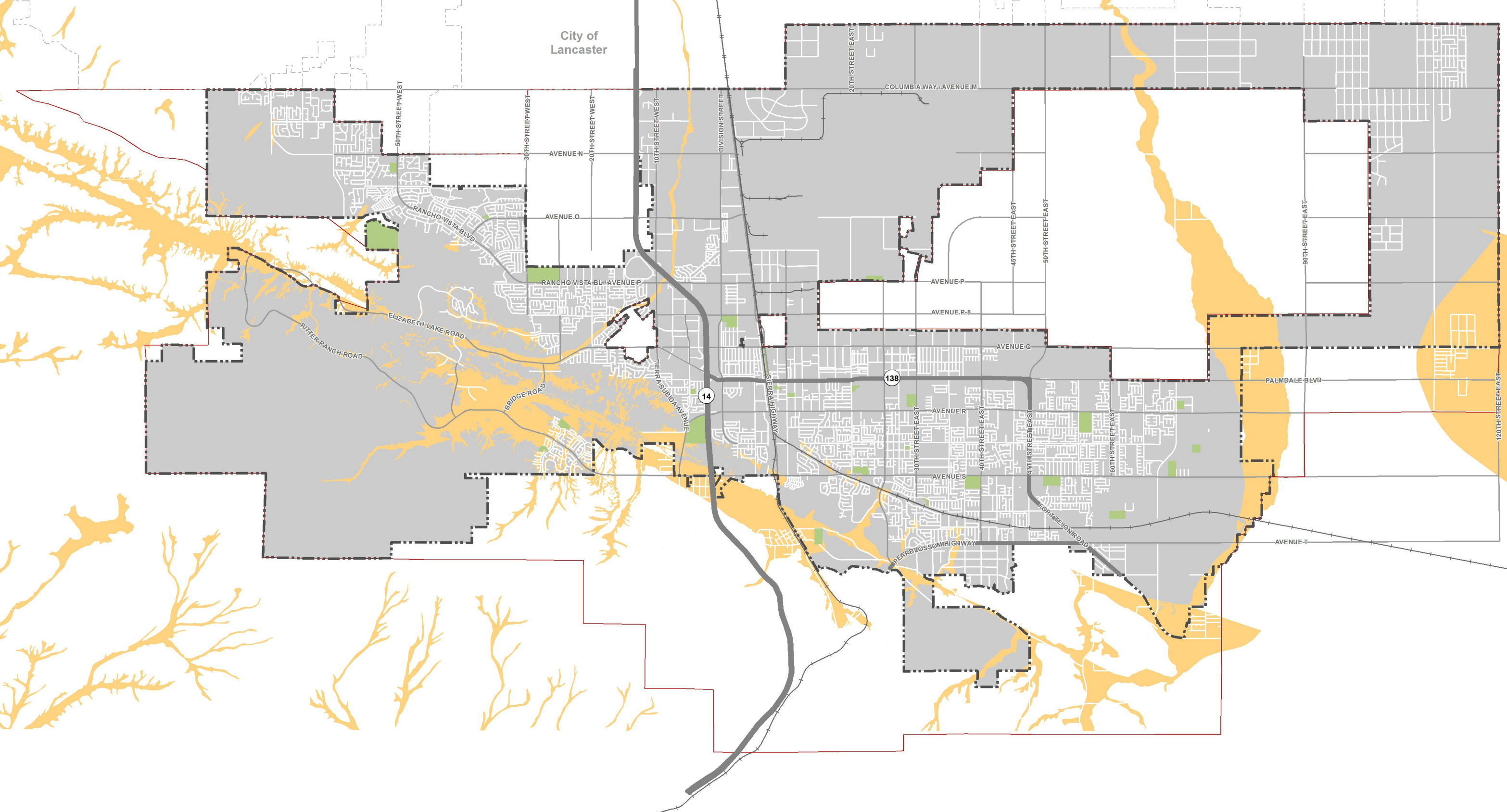






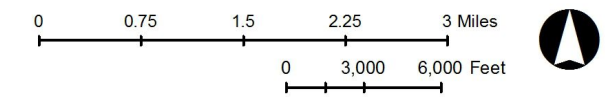


Figure 13.2
Palmdale Liquefaction Risk

-  City Boundary
-  Sphere of Influence
-  Major Arterials
-  Highway
-  Railroad
-  Seismic Hazard Liquefaction Zone



Data Sources: City of Palmdale GIS data;
California Geological Survey, 2005, USGS.

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June 2019

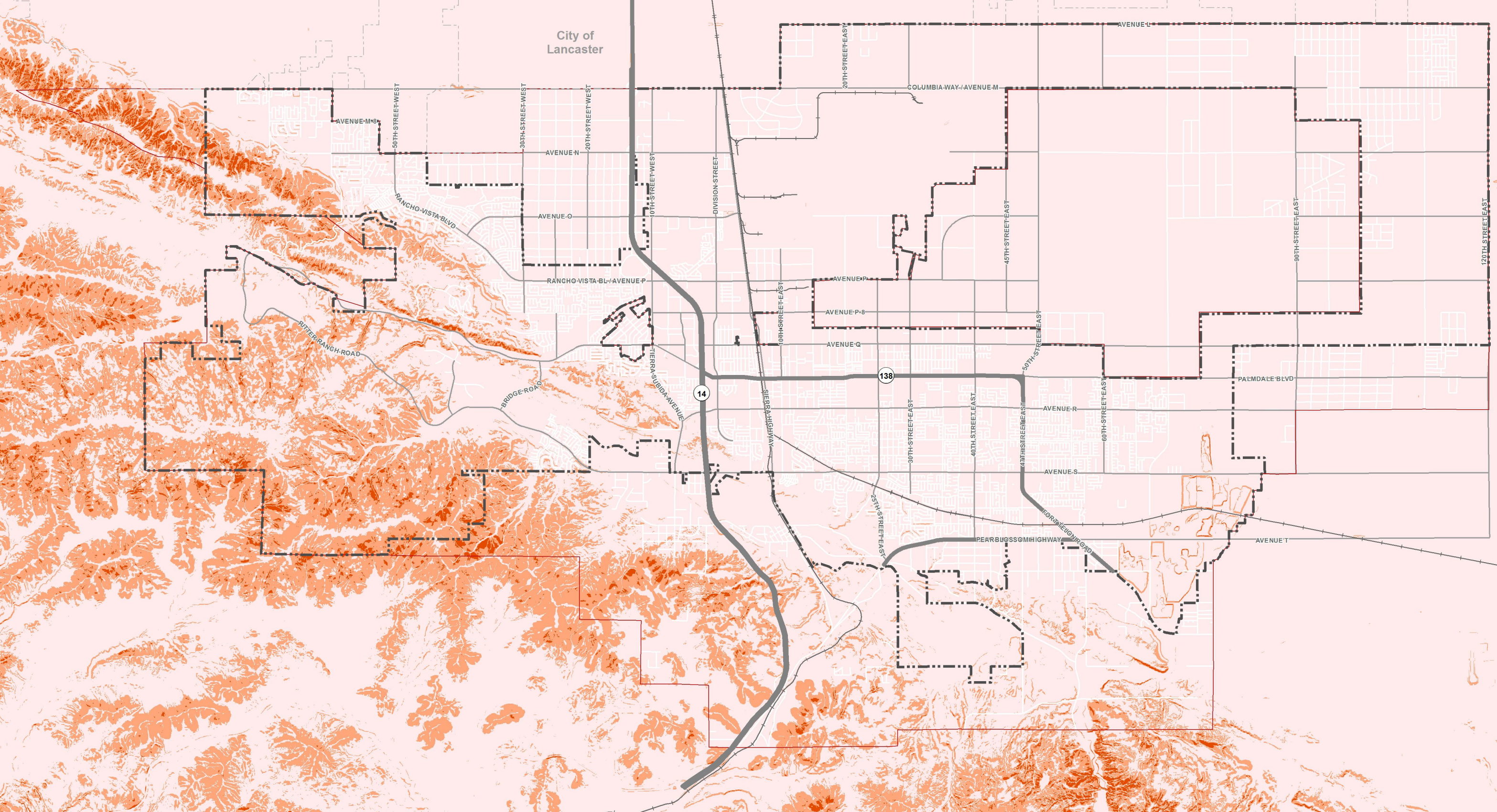









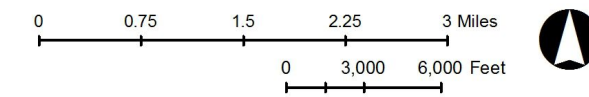


Figure 13.3
Palmdale Slope Map

- | | |
|---|---|
|  City Boundary | Slope (Degrees) |
|  Sphere of Influence |  0-5 |
|  Major Arterials |  5-10 |
|  Highway |  10-25 |
|  Railroad |  >25 |



Data Sources: City of Palmdale GIS data.; USGS, 2019.

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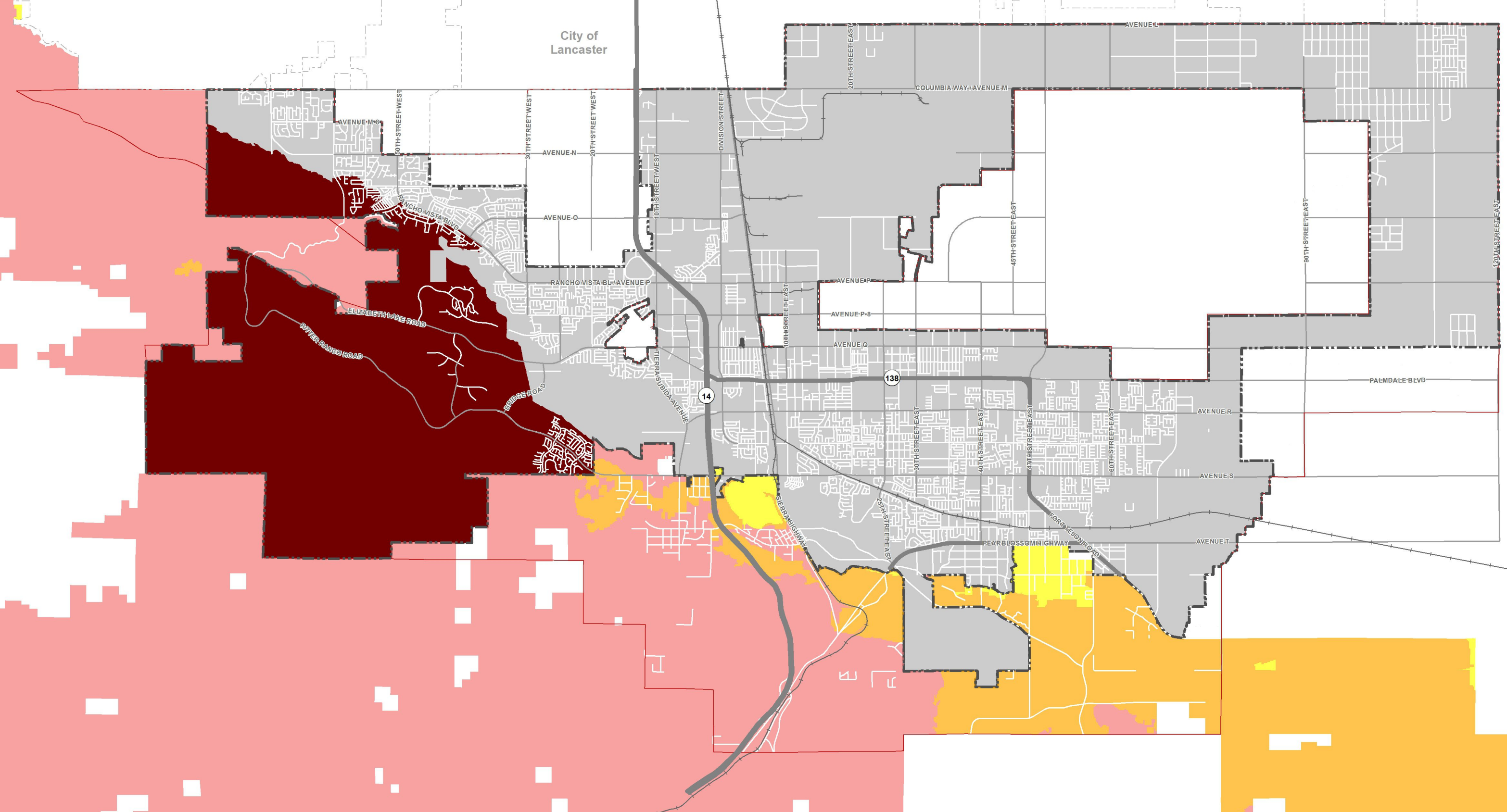









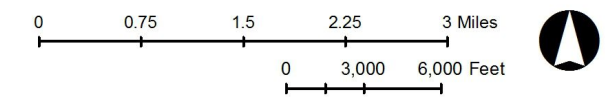


Figure 13.4
Palmdale Fire Hazard Area

-  City Boundary
-  Sphere of Influence
-  Major Arterials
-  Highway
-  Railroad
-  Moderate, State Responsibility Area
-  High, State Responsibility Area
-  Very High, State Responsibility Area
-  Moderate, Local Responsibility Area



Data Sources: City of Palmdale GIS data; CAL FIRE. 2012.

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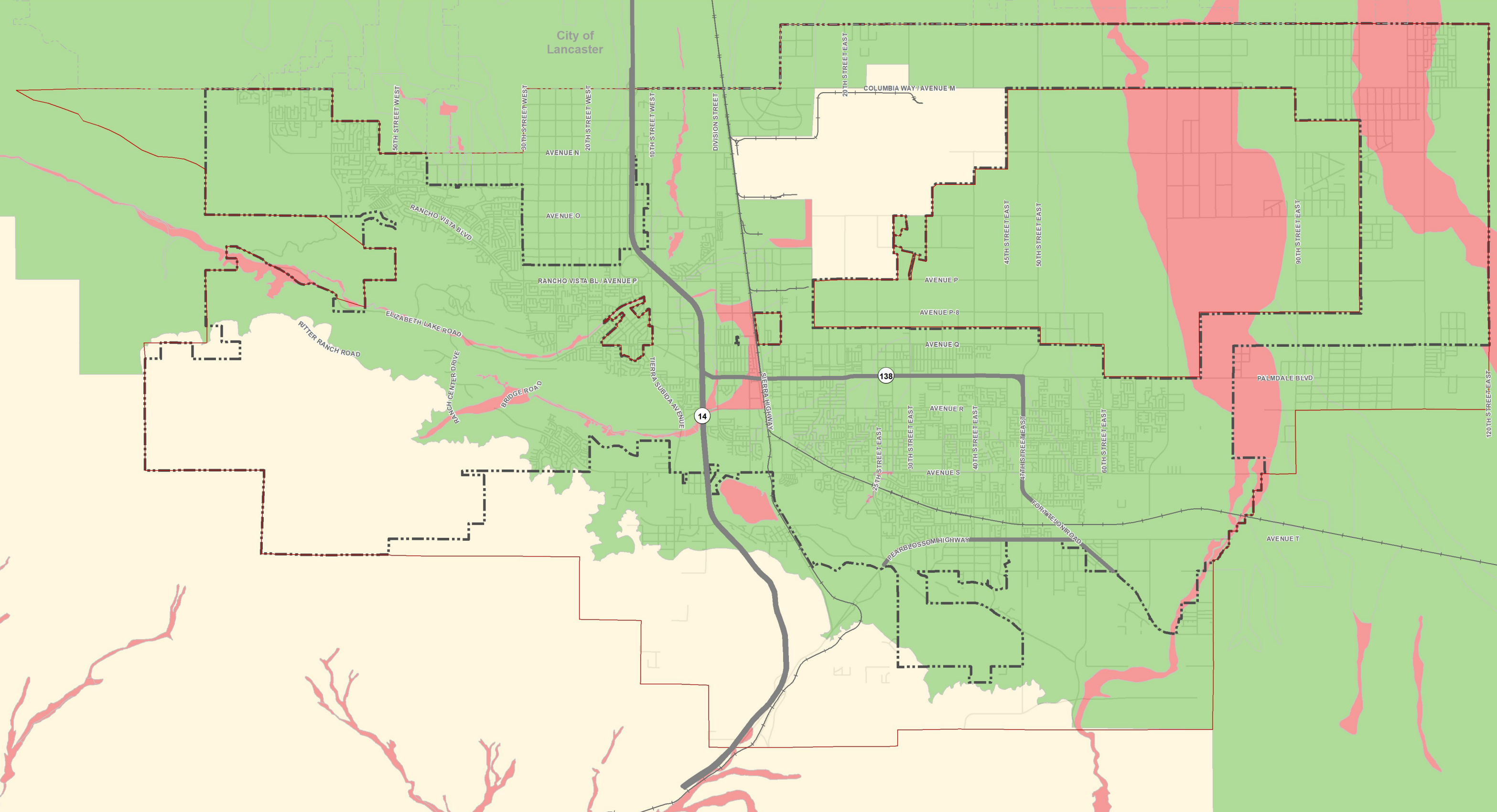
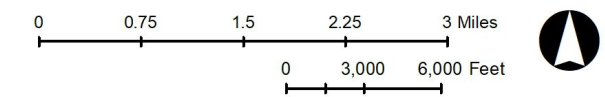


Figure 13.5

Palmdale Flood Hazard Areas

- City Boundary
- Sphere of Influence
- Major Arterials
- Highway
- + Railroad
- Moderate to Low Risk Areas
- High Risk Area
- Undetermined Risk Area



Data Sources: City of Palmdale GIS data; FEMA, 2019.

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June 2019

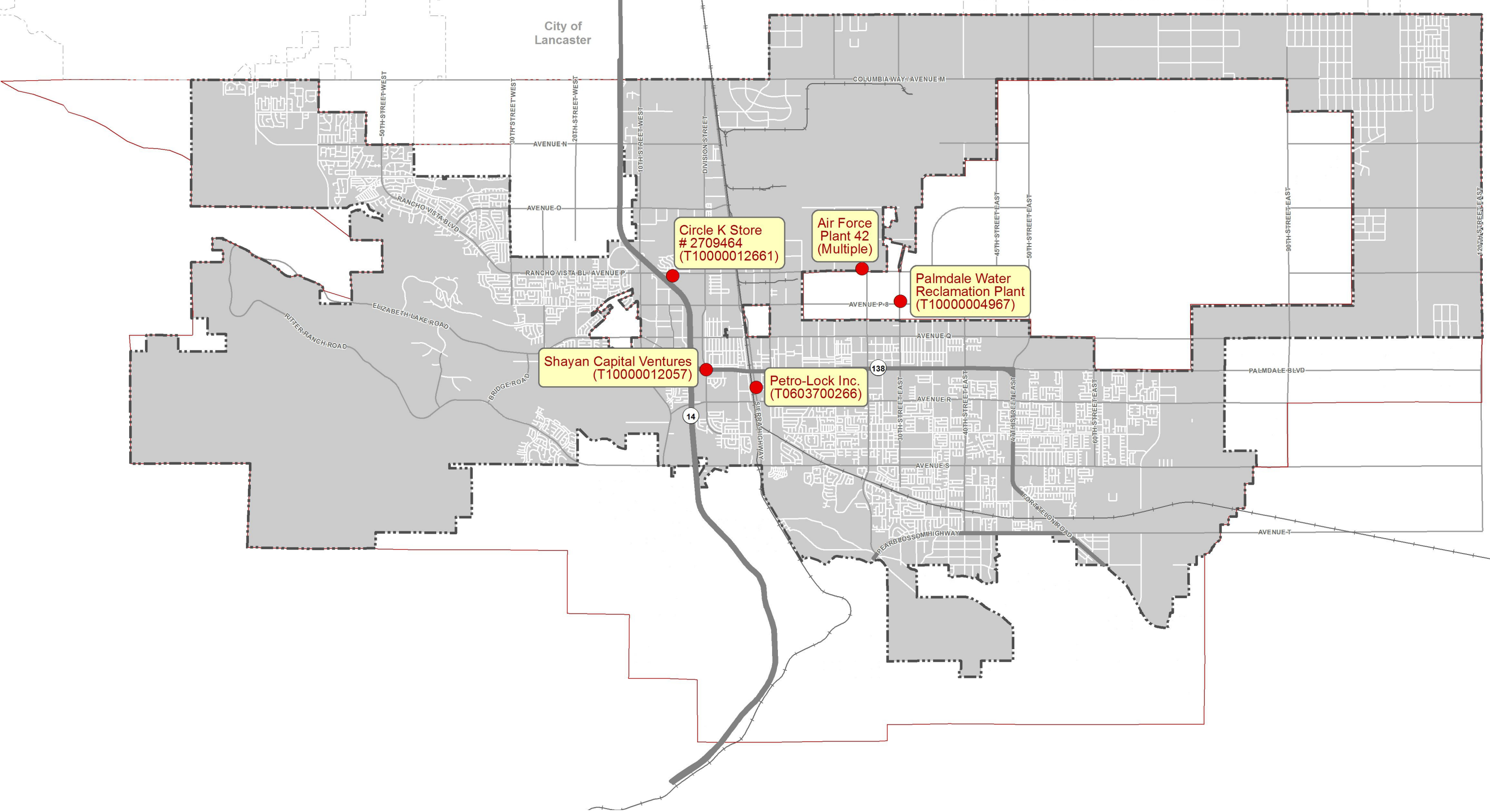
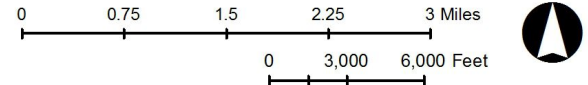


Figure 13.6

Palmdale Hazardous Waste Sites

- City Boundary
- Hazardous Waste Sites
- Sphere of Influence
- Major Arterials
- Highway
- Railroad



Data Sources: City of Palmdale GIS data; California Water Resources Control Board, 2019.

Produced by Rincon Consultants, Inc. June 2019

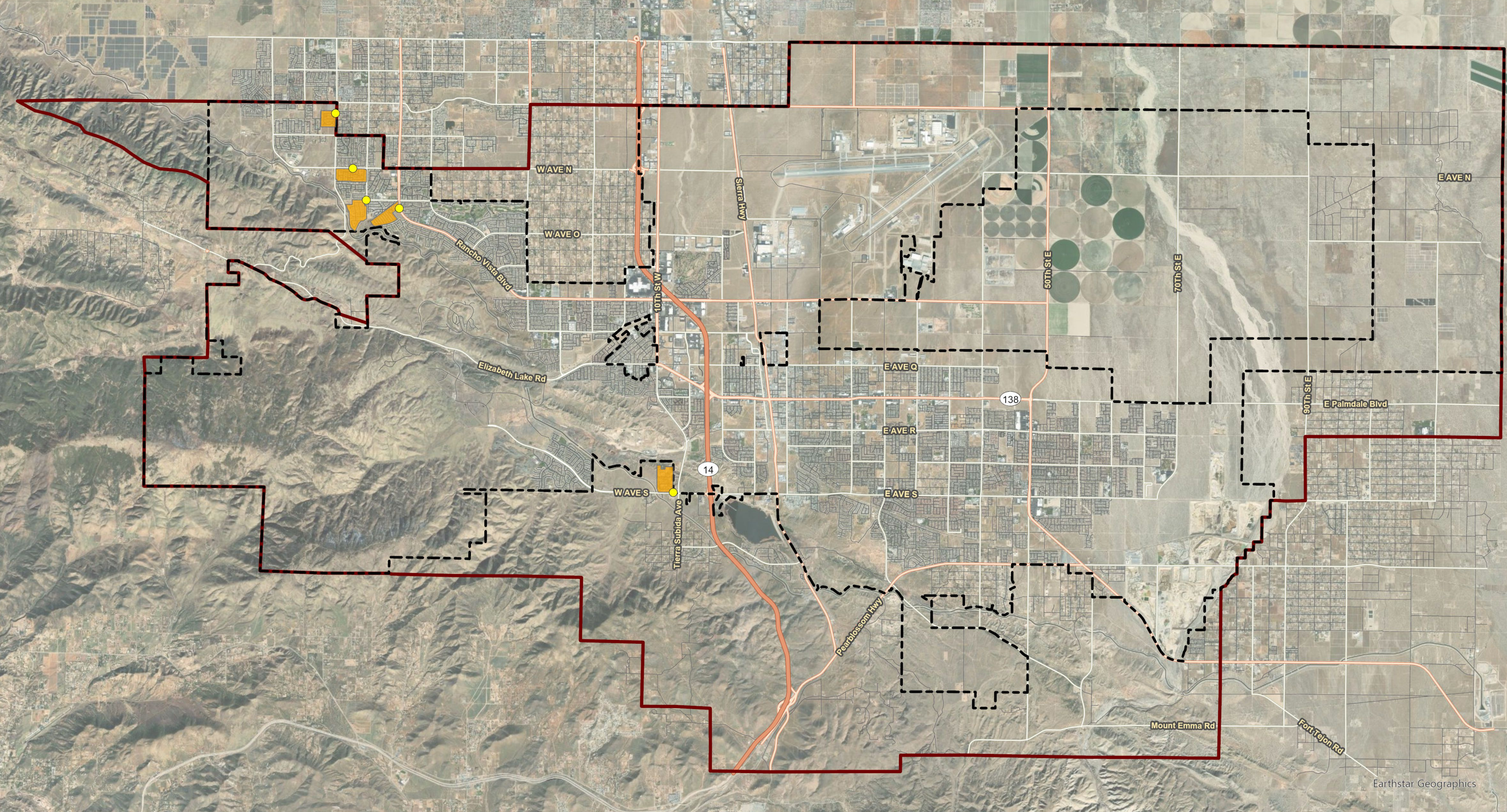
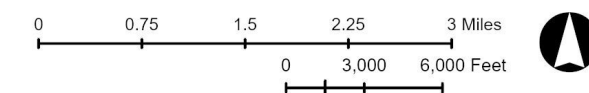


Figure 13.7
Single Access Neighborhoods

- | | |
|--------------------------------|-----------------------|
| City Boundary | Road Hierarchy |
| Sphere of Influence | Highway |
| Exit/Entry Point | Arterial Roads |
| Single Exit/Entry Neighborhood | Collector Roads |
| Undetermined Risk Area | Local Road |



Data Sources: City of Palmdale GIS data.

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May 2022

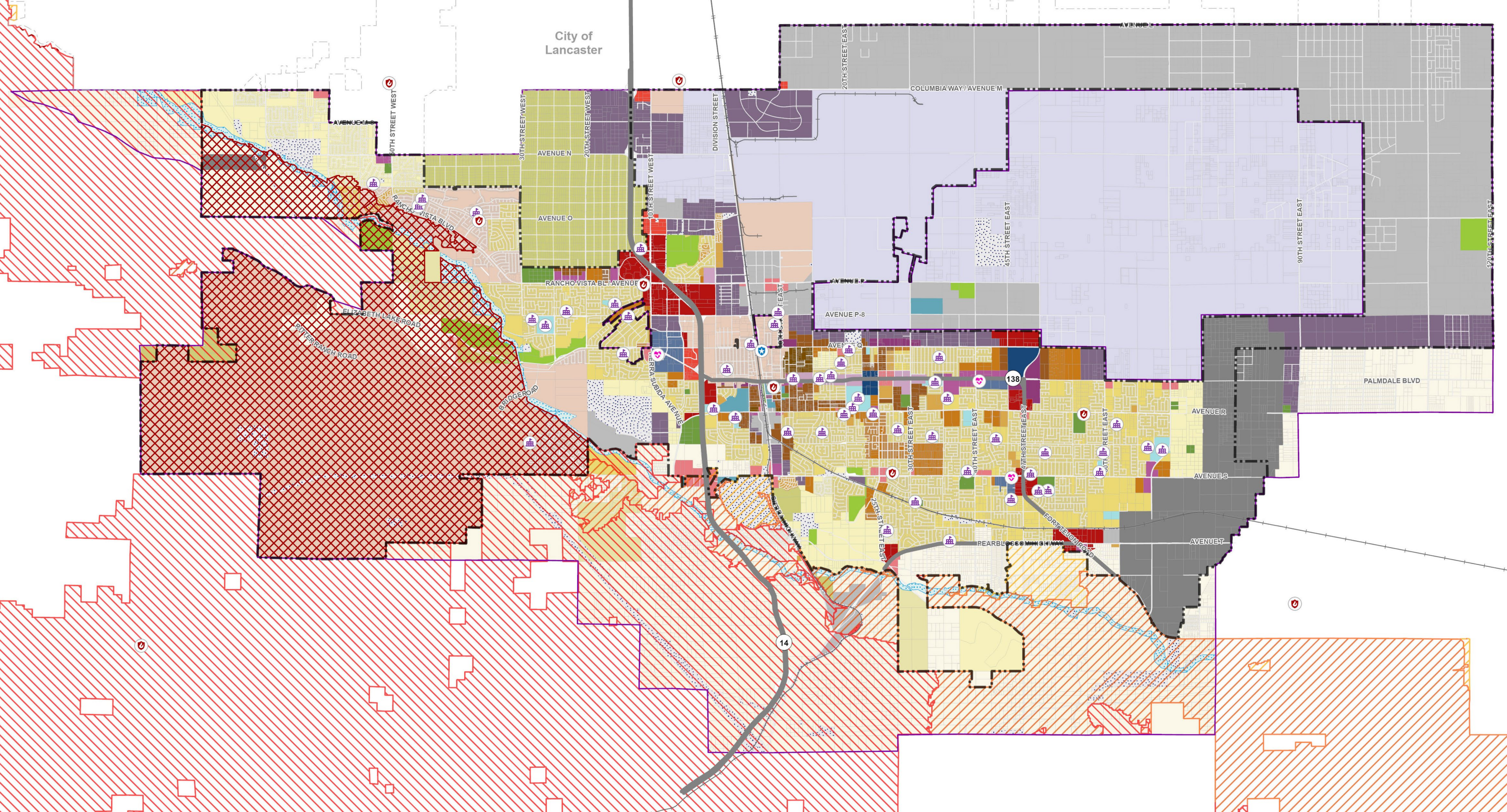
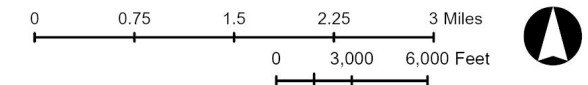


Figure 13.8

Palmdale Fire Hazard Areas Related to General Plan Land Use and Public Facilities

<ul style="list-style-type: none"> City Boundary Sphere of Influence Major Arterials Highway Railroad Water Body/Aqueduct 	<ul style="list-style-type: none"> Equestrian Residential Low Density Residential Single Family Residential 1 Single Family Residential 2 Single Family Residential 3 Residential Neighborhood 1 Residential Neighborhood 2 Residential Neighborhood 3 Residential Neighborhood 4 	<ul style="list-style-type: none"> Mixed Use 1 Mixed Use 2 Mixed Use 3 Employment Flex Neighborhood Commercial Visitor Commercial Regional Commercial Health and Wellness Educational Flex 	<ul style="list-style-type: none"> Industrial Aerospace Industrial Mineral Resource Extraction Specific Plan Open Space Public Facility-Park Public Facility-School Public Facility-Civic Utilities 	<ul style="list-style-type: none"> Moderate, State Responsibility Area High, State Responsibility Area Very High, State Responsibility Area Very High, Local Responsibility Area Sheriff Stations Hospitals Fire Stations Schools
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Data Sources: City of Palmdale GIS data; CAL FIRE. 2012.

Produced by Rincon Consultants, Inc.
October 2022

Desired Outcomes, Indicators, and Targets

The following desired outcomes and metrics were identified to help the City of Palmdale track progress toward maintaining and enhancing safety. This process follows the City of Palmdale's General Plan Vision and Guiding Principles document which was informed by the General Plan Advisory Committee (GPAC), the Planning Commission and City Council

Top Key Outcomes

OUTCOME: Address increased risk related to climate change in accordance with State requirements, particularly along the wildland urban interface at the southwestern and western edge of the City

KPI's:

- Wildfire hazard protection

TARGETS:

- **Reduced human casualties and property damage in a wildfire event**

OUTCOME: Protection of persons and property from criminal activity

KPI's:

- Police service response times and crime rate

TARGETS:

- **Maintain police emergency response time under 6 minutes**
- **Rates of violent and non-violent crime below State averages**

OUTCOME: Ensure that soil and groundwater are not at risk from flooding, water quality, and erosion to ensure that they are suitable to support redevelopment following a large fire

KPI's:

- Presence of soil/groundwater contamination

TARGETS:

- **Clean-up of identified contamination prior to development/redevelopment of individual properties**

OUTCOME: Protection of Palmdale's residents, workers, and visitors from fire hazards

KPI's:

- Fire service response times and fire station proximity to developed areas

TARGETS:

- **Maintain Los Angeles County Fire Protection District's response time goal of 4-6 minutes**
- **Maintain a 2-mile proximity of fire stations to all existing and newly developed areas**

Goals and Policies

The following section includes goals and policies for the Safety Element. Goals and policies are followed by implementation actions. Some safety policies are woven throughout the General Plan, including in the Land Use and Community Design, Conservation, Equitable and Healthy Communities Elements, among others.

SEISMIC SAFETY

Goal SE-1

A city with minimal public health, safety, and welfare impacts resulting from seismic hazards.

SE-1.1 Geologic Review. Review development within or adjacent to geologic hazard zones and provide copies of geotechnical reports and studies to be reviewed by a qualified geologist and implement recommendations to ensure adequate provisions for public safety.

SE-1.2 California Building Code. Require appropriate structural setbacks from active fault rupture traces in accordance with Alquist-Priolo standards and continue to follow California Building Code.

SE-1.3 Utility Lines Design. Design utility lines crossing active fault traces to withstand the expected movement of the earth in these locations. Utility lines as defined here include, but are not to be limited to, electricity, water, internet, natural gas, and sewer.

SE-1.4 Essential Service Buildings Location. As feasible, ensure that essential services buildings are not located in geologic hazard zones.

SE-1.5 Local Hazard Mitigation Plan. Implement the policies and mitigation strategies outlined within the Palmdale Local Hazard Mitigation Plan.



WILDFIRE AND FIRE

Goal SE-2

Minimize public health, safety, and welfare impacts resulting from wildfire hazards.

SE-2.1 Critical Facilities. Prohibit new public or critical facilities in Very High Fire Hazard Severity Zones, except when other options do not exist.

SE-2.2 Redevelopment Compliance. After a large fire, ensure that re-development located in the in the High and Very High Fire Hazard Severity Zones complies with fire safety requirements for construction, accounting for any increased risk related to climate change.

SE-2.3 Wildland Development. Require that developments located in VHFSZ incorporate and enforce standards for construction, including a fuel modification program (i.e., brush clearance, planting of fire-retardant vegetation) to reduce the threat of wildfires, accounting for any increased risk related to climate change.

SE-2.4 Landscaped Buffer Zones. Provide fire-resistant landscaped buffer zones between high-risk fire hazard areas and urban development with fire clearance located on private land and maintained by the property owner(s).

SE-2.5 Maintain Firesafe Zones. Require property owners to clear brush and high fuel vegetation and maintain firesafe zones (a minimum distance of 30 feet from the structure or to the property line, whichever is closer) to reduce the risk of fires. For structures located within a Very High Fire Hazard Severity Zone, the required brush clearance distance is 200 feet from structures to the property line.

SE-2.6 Soils and Waterways. Evaluate soils and waterways for risks from flooding, water quality, and erosion to ensure that they are suitable to support redevelopment following a large fire.

SE-2.7 Emergency Access Routes for Wildfire Hazard Zones. Require all new development in or near designated wildfire hazard zones to identify multiple evacuation/emergency access routes and file with City.

SE-2.8 Los Angeles County Fire Department Coordination. Continue to coordinate with the Los Angeles County Fire Department to provide emergency evacuation support and address fire hazards.

SE-2.9 Development Requirements. As part of the city's development review process, require that all new buildings and facilities comply with Los Angeles County, state, and federal regulatory standards such as the California Building and Fire Codes as well as other applicable fire safety standards and work with the Fire Department to ensure the provision of adequate fire stations, personnel, and equipment to meet the City's needs over time.

SE-2.10 Water system requirements. Require all new development to be served by a water system that meets applicable fire flow requirements.

SE-2.11 Non-conforming Development. Require existing non-conforming development to comply with contemporary fire safe standards during a permit or entitlement process, in terms of road standards and vegetative hazard, and meet or exceed SRA Fire Safe Regulations.

SE-2.12 Fire Protection Plans. Require fire protection plans for all new development in the VHFSZ.

SE-2.13 Long-term Maintenance. Continue annual brush inspections and enforce clearance requirements on public and private property within the Very High Fire Hazard Severity Zone (VHFHSZ), as dictated by CAL FIRE, in accordance with the Board of Forestry and Fire Protection Fire Safe Regulations, California Building Standards Code, and Palmdale Municipal Code related to ongoing maintenance of vegetation clearance on public and private roads, roadside fuel reduction plan, and defensible space clearances (including fuel breaks).

SE-2.14 Water Evaluation. Evaluate the location and capacity of the City's water supply availability to suppress wildfire as part of the City's Local Hazard Mitigation Plan Updates.

HAZARDOUS MATERIALS

Goal SE-3

Minimize risks associated with the transport, storage, use, and disposal of hazardous materials.

SE-3.1 Hazardous Materials. Coordinate with the Los Angeles County Fire Department to maintain a list of hazardous waste generators that could affect City residents.

SE-3.2 Remediate Contaminated Sites. Continue to support and encourage state and county efforts to identify and remediate contaminated sites.

SE-3.3 Soil and Groundwater Cleanup. Require clean-up of soil and/or groundwater containing hazardous materials exceeding regulatory action levels to the satisfaction of the agency having jurisdiction prior to granting permits for new development.

SE-3.4 Hazardous Materials Transport. Require transport of hazardous materials along designated routes that minimize risks to the public and sensitive environmental areas and cooperate with regional agencies in developing and maintaining such routes.

SE-3.5 Review Development Near Hazardous Materials. Review proposed development in proximity to any existing or proposed facility that uses, stores, or transports large amounts of hazardous materials to ensure adequate mitigation of impacts related to hazardous materials (e.g., appropriate site design, setbacks, and buffering).

SE-3.6 Hazardous Waste Facility Compliance. Require all proposed hazardous waste facilities to comply with the City's hazardous waste management plan and the Hazardous and Waste Facilities Section of the Palmdale Municipal Code.

FLOODING

Goal SE-4

Minimize impacts to public safety and/or property as a result of flooding.

SE-4.1 Floodplain Management Ordinance. Require development in designated flood hazard areas to meet standards outlined in the City's Floodplain Management Ordinance and related criteria in the City's Engineering Design Standards.

SE-4.2 Drainage Management Plan. Implement the City's drainage management plan through the capital improvement program and development review process.

SE-4.3 National Pollutant Discharge Elimination System and Low Impact Development. Ensure that new development meets National Pollutant Discharge Elimination System (NPDES) and associated Low Impact Development (LID) standards that limit peak runoff to pre-development rates.

SE-4.4 Recharge Areas. As appropriate, use open space and recreational areas to serve as floodplains that reduce downstream flooding and aid in groundwater recharge.

SE-4.5 Floodplains Value. Preserve and restore the natural and beneficial values served by floodplains to the extent feasible, consistent with public health, safety, and welfare.

SE-4.6 Localized Flooding. Address localized flooding east of SR-14, particularly near Amargosa Creek, Anaverde Creek, Little Rock Wash, and Big Rock Wash.

INFRASTRUCTURE SAFETY

Goal SE-5

Minimize damage from catastrophic failure of infrastructure.

SE-5.1 Evaluate inundation hazards. As appropriate, evaluate inundation hazards related to the potential rupture of the following when reviewing development proposals: California Aqueduct, Palmdale Dam, Littlerock Dams and/or proposed basins.

SE-5.2 Buffers for gas lines. Require buffers for development in areas near high-pressure natural gas lines and that ensure such development is provided with alternative access/evacuation routes.

AIRCRAFT SAFETY

Goal SE-6

Minimize impacts to public safety and property resulting from aircraft accidents.

SE-6.1 Consistent development with Department of Defense. Require all development to be consistent with Department of Defense regulations as outlined in the Air Force Plant 42 Air Installation Compatibility Use Zone (AICUZ) Report and comply with applicable FAA regulations that affect development in the Accident Potential Zones.

SE-6.2 Linear corridor in Accident Potential Zones. Through the design review process, ensure that new buildings are located in a manner that will promote clear linear corridors through the developed area in any Accident Potential Zones.

SE-6.3 Evaluate incompatible land uses near the airport. Review and evaluate currently existing incompatible development within the low altitude overflight areas and determine the potential for redevelopment to convert those land uses to airport compatible uses.

EMERGENCY PREPAREDNESS

Goal SE-7

Ensure safe evacuation of residents in the event of an emergency requiring evacuation.

SE-7.1 Maintain Emergency Evacuation Map. Maintain and, as necessary, update a map of designated emergency evacuation routes for various types of disasters (e.g., earthquake, wildfire, hazardous material release, dam failure) and disaster scenarios.

SE-7.2 Evacuation Route Information. Make information regarding emergency evacuation routes readily available to all city residents.

SE-7.3 Review Development Consistency. Review all new development for consistency with applicable evacuation plans and ensure access to at least two evacuation routes.

SE-7.4 Emergency Evacuation Evaluation. Continue to evaluate evacuation route capacity, safety, and viability under a range of emergency scenarios.

SE-7.5 Evacuation in VHFSZ and HFSZ. Require developers proposing development on properties within VHFSZ and HFSZ areas to evaluate and provide adequate evacuation routes.

SE-7.6 Assess Emergency Service Needs. Continue to assess current and projected emergency service needs, and goals or standards for emergency services training for City staff and volunteers as part of the City's Emergency Operation Plan Updates.

Goal SE-8

Improve disaster preparedness in the event of an emergency.

SE-8.1 Emergency Operations Plan. Maintain and, as necessary, update the City's Emergency Operations Plan.

SE-8.2 Annual Maintenance Review. Periodically, but not less than annually, review emergency service equipment and shelters to ensure that they are adequate to meet the needs of changing land uses and development types.

SE-8.3 Disaster Preparedness Training. Require City staff to undergo regular disaster preparedness training annually at minimum.

SE-8.4 Legible Signs. Require all residences and businesses to maintain visible and clearly legible signs and/or street numbers to shorten the response times of emergency personnel.

SE-8.5 Emergency Water. Promote the use of emergency water supplies or water filtration systems at point-of-delivery to ensure provision of acceptable water quality in emergency situations.

Goal SE-9

Improve public safety.

SE-9.1 Palmdale Municipal Code. Ensure safe and sanitary living and working conditions throughout the City and coordinate with other agencies, including but not limited to Los Angeles County Department of Health, Los Angeles County Fire Department, and Los Angeles County Sheriff's Department to maintain the goals, standards, resources, and training for enforcement and emergency services.

SE-9.2 Public Education. Continue and, as appropriate, update public education programs regarding response to hazards such as earthquakes, floods, hazardous material spills, and wildfire for residents, businesses, and schools.

Goal SE-10

Reduce crime activity.

SE-10.1 Crime Rate. Track the rates of crime in the community on an ongoing basis and reallocate resources as necessary to address crime-related issues of concern.

SE-10.5 Watch Group Education. Encourage the formation and continued education of neighborhood and business watch groups to assist in crime prevention and detection.

SE-10.2 Crime Statistics. Make up-to-date crime statistics readily available to the community via the City's website or other media.

SE-10.6 Crime Prevention Efforts. Coordinate with local partners to encourage community-based crime prevention efforts.

SE-10.3 Maximize Safety and Security. Through the development review process, ensure that sites are designed in order to maximize safety and security, considering such factors as visibility, lighting, emergency access, legibility of street numbers, and fencing.

SE-10.7 Safe Environment Programs. Promote after school, volunteer, and Business and Neighborhood Watch programs, and other innovative programs to help maintain a safe environment.

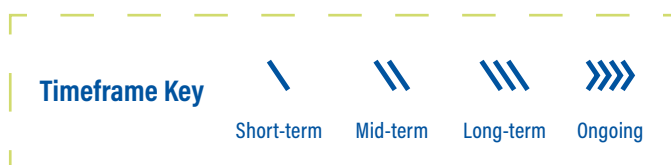
SE-10.4 Adequate Lighting. Require all commercial and industrial developments to provide adequate lighting for buildings and parking areas as well as sufficient visibility for patrol vehicles to assist in law enforcement surveillance.

SE-10.8 Law Enforcement and Youth Interaction. Expand opportunities for positive law enforcement and youth interaction.

Implementation Actions

The table below identifies programs, planning efforts, coordination efforts, and other actions that will help implement the General Plan Safety Element goals and policies. Programs are consistent with this chapter’s goals and policies.

The table provides a description of each Implementation Action and lists the correlating policies. Each action also identifies a timeframe for implementation with Short-term representing a 1–3-year timeframe, Medium-term is 4-7 years, Long-term is 8+ years and Ongoing represents an action that the City should continue. Additionally, the table includes the City department that should function as the lead for implementing the actions.



Correlating Goals	Action	Timeframe	Responsible Department
SE-1	LHMP: Implement the 2021 Palmdale Local Hazard Mitigation Plan	Mid-term	Public Works
SE-1	Seismic Standards: Update existing and future standards of the Palmdale Municipal Code to meet seismic safety standards established by the California Building Code and Alquist-Priolo Earthquake Fault Zoning Act in order to protect residents of Palmdale	Ongoing	Economic and Community Development
SE-2, SE-5, SE-7	Fire Hazard Pre-Plans: Develop evacuation strategies and other preemptive measures	Short-term	Public Works, Economic and Community Development, Neighborhood Services, LA County Sheriff’s Department, Los Angeles County Fire Department
SE-2	Wildland Interface Fire Standards: Require that developments located in VHFSZ incorporate and enforce standards for construction, including a fuel modification program (i.e., brush clearance, planting of fire-retardant vegetation).	Short-term	Public Works, Economic and Community Development, Neighborhood Services, LA County Sheriff’s Department, Los Angeles County Fire Department
SE-3	Hazard and emergency safety information: Provide hazard and emergency safety information to the public, including evacuation routes and fire protection resources via the City’s website and social media platforms	Ongoing	Public Works, Economic and Community Development, and Neighborhood Services

Correlating Goals	Action	Timeframe	Responsible Department
SE-2, SE-5, SE-8	Stakeholder Meetings: Meet with key stakeholders to ensure evacuation resources and emergency protocols are sufficient		Economic and Community Development and Neighborhood Services
SE-2, SE-3, SE-5, SE-8	Roadway Assessment: Assess existing roadways along evacuation routes and emergency access routes to determine the adequacy of existing infrastructure		Public Works, and Los Angeles County Fire Department
SE-2, SE-3	Critical Facilities Relocation Plan: Identify critical facilities in hazard zones and prepare a plan for relocation of these facilities		Economic and Community Development and Public Works
SE-1, SE 2, SE-3, SE-9	Municipal Code Updates: Update the Municipal Code to include a requirement for the use of fire-safe landscaping in VHFHSZ's and a requirement for property owners to clear brush and high fuel vegetation in VHFHSZ's		Economic and Community Development, Neighborhood Services, and Public Works
SE-4	Drainage Master Plan: Update the City's Drainage Master Plan		Public Works
SE-4, SE-5	Update flood hazard data: Biannually review flood hazard maps and other relevant floodplain data and revise local maps and information as new data becomes available		Economic and Community Development, Neighborhood Services, and Public Works
SE-1, SE-8	Review Climate Change Trends: Annually assess novel state and national trends related to climate change to inform City procedure and future policy development		Public Works
SE-2, SE-3	Critical Facilities Evaluation: Perform an evaluation of existing critical facilities to identify necessary updates and improvements.		Public Works
SE-8	Review of the City's Emergency Operation Plan: Perform a comprehensive review of the City's Emergency Operation Plan to determine the need for an update.		City Manager's Office, Neighborhood Services, and Public Works
SE-1, SE-3, SE-5, SE-8, SE-9, SE-7, SE-10	Publish safety information: Publish mapped evacuation routes, crime statistics, and other pertinent safety information on the City webpage and social media		Neighborhood Services, Communications, and Public Works
SE-9 and SE-10	Training and Education Program: Annually implement an education and training program regarding how to increase public safety in response to natural hazards and crime.		Communications, Neighborhood Services, and Public Works