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RESOLUTION NO. 2012-174

**A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF POMONA,  
ADOPTING THE CITY OF POMONA NATURAL HAZARD MITIGATION  
PLAN UPDATE.**

**WHEREAS**, on November 1, 2004, the City Council adopted the City of Pomona Natural Hazard Mitigation Plan (the "Plan"), which was approved by the Federal Emergency Management Agency (FEMA) on October 3, 2006;

**WHEREAS**, in order for the City to be eligible for project grants under FEMA's hazard mitigation assistance programs, including disaster assistance funding, the City's Plan must be updated every five years; and

**WHEREAS**, the City has updated its Plan, in accordance with FEMA requirements and presented the updated Plan for City Council adoption.

**NOW, THEREFORE, BE IT RESOLVED** by the City Council of the City of Pomona, as follows:

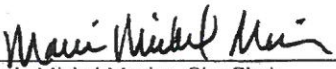
**SECTION 1.** That the City Council hereby approves and adopts the City of Pomona's Natural Hazards Mitigation Plan Update, in substantially the form submitted and attached hereto as Exhibit A.


**SECTION 2.** That the City Council hereby authorizes and directs City staff to forward the City of Pomona Natural Hazards Mitigation Plan Update to FEMA.

**SECTION 3.** That the City Clerk shall attest to the passage of this resolution and it shall be in effect immediately upon its adoption.


**APPROVED AND ADOPTED THIS 19TH DAY OF NOVEMBER, 2012.**

**ATTEST:**

  
Marie Michel Macias, City Clerk

CITY OF POMONA  
  
Elliott Rothman, Mayor

**APPROVED AS TO FORM:**

  
Arnold Alvarez-Glasman, City Attorney

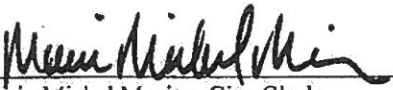
I, MARIE MICHEL MACIAS, City Clerk of the City of Pomona do hereby certify that the foregoing Resolution was adopted at a regular meeting of the City Council held on the 19<sup>th</sup> day of November, 2012 by the following vote:

AYES: COUNCIL MEMBERS: Soto, Rodriguez, Carrizosa, Lantz, Escobar, Rothman

NOES: COUNCIL MEMBERS: None

ABSENT: COUNCIL MEMBERS: Atchley

ABSTAIN: COUNCIL MEMBERS: None

  
Marie Michel Macias, City Clerk

# **NHMP Document Organization**

## **POMONA NATURAL HAZARDS MITIGATION PLAN**

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The *Pomona Natural Hazards Mitigation Plan* (NHMP) establishes the City's strategy to implement improvements and programs to reduce community impacts in the event of natural hazards. Prepared pursuant to the federal Disaster Mitigation Act of 2000, the NHMP comprehensively identifies potential natural hazards, the extent of the risks posed by the hazards, the vulnerabilities of the City to these hazards, and actions the City will take to mitigate or reduce the potential impact of the hazards.

While the frequency of disaster occurrence is low, Pomona is susceptible to major natural hazards with potential for catastrophic consequences. The ensuing devastation could tremendously disrupt daily activities, commerce, and economic development as well as the functions of the City and other public agencies, in addition to causing untold tragedy in life loss and widespread injuries. Earthquakes top the list of natural hazards with potential widespread impacts in Pomona, with wildfire, landslides, flooding, and windstorm following.

The NHMP builds upon preparedness and hazard reduction programs currently employed by the City. There are, however, a variety of risks with potential for considerable community impacts that require commitment of additional City resources and staff. By partnering with emergency response providers and community members in the implementation of the actions outlined in this document, the City can achieve a greater level of resiliency and will avoid major disruptions and upheaval associated with a natural disaster.

## **ORGANIZATION**

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The NHMP is organized into Part I: Mitigation Strategy Plan and Part II: Natural Hazard Risk Assessment. Part I is a comprehensive planning document, complete with an explanation of the NHMP process, risks and vulnerabilities overview, goals and objectives, and mitigation actions. Part II documents in greater depth the analysis of natural hazard extents, potential intensity, occurrences, and risk assessment including estimated financial vulnerabilities for each category of hazard. Appendices A through E provide various materials supporting the discussions and recommendations of Parts I and II.

The structure of the NHMP document is outlined below.

### **Part I: Mitigation Strategy Plan**

- 1: Introduction
- 2: Community Profile
- 3: Risk Assessment
- 4: Goals and Objectives
- 5: Mitigation Action Plan

### **Part II: Natural Hazard and Risk Assessment**

- 6: Earthquake
- 7: Landslide
- 8: Wildfire
- 9: Flooding
- 10: Windstorm

### **Appendices**

- A: Public Participation Process
- B: Master Resource Directory
- C: Economic Analysis Guidelines for Natural Hazard Mitigation Projects
- D: List of Acronyms
- E: Glossary

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**PART I:**  
**MITIGATION STRATEGY PLAN**



# I Introduction

## 1.1 BACKGROUND

The City of Pomona is a desirable place to live with many attractive features: a favorable climate, diverse employment opportunities, historic downtown and neighborhoods, and more affordable housing than many of its neighboring communities. This quality of life attracts many new residents each year, resulting in a growth rate of 61% in the last twenty years, significantly higher than the growth rate of Los Angeles County region as a whole.<sup>1</sup> Along with this growth, however, comes numerous challenges, one of which is how to effectively manage threats to the City in the event of a natural disaster. Southern California is home to a host of potential natural hazards that could cause significant injury, loss of life, and property damage.

### LOCAL HAZARDS

In Pomona, the greatest hazard threats are ground shaking and liquefaction from a major earthquake, although landslide, wildfire, flooding, and wind-storm events also have potential to endanger people and property. As the City continues to grow, the exposure to these hazards increases, and the accompanying potential for negative impacts becomes even greater. Pomona's status as a nearly built-out city with limited natural open spaces affects the types of hazards and potential consequences of concern.

Pomona has been impacted by natural hazards—namely earthquake and flooding—in prior years. One of the most memorable disasters was a train wreck known to have occurred about 1900. The possible cause was a major earthquake registering approximately 6.5 on the Richter scale along the San Jacinto Fault on December 25, 1899. Over one hundred passengers were seriously injured. Because Pomona had no medical facility, injured pas-

sengers were taken into private homes and cared for by Pomona residents. This incident was the catalyst for Pomona to build a hospital, which today is Pomona Valley Hospital Medical Center. The Whittier-Narrows Earthquake of 1987 resulted in damage to many valued historic buildings, and several damaged unreinforced masonry buildings in the downtown area required demolition. Pomona has also had a long history of significant flooding in the eastern portions. Drainage improvements in the 1950s and 1960s and the construction of the San Antonio Dam have alleviated this hazard, although some localized flooding still occasionally occurs during heavy rainstorms.<sup>2</sup>



*Above. The derailment of a train in 1899 in Central Pomona prompted the construction of the City's hospital - Pomona Valley Hospital Medical Center. Traveling at high speeds, the train jumped track, potentially due to track damage caused by a large earthquake that occurred in the region on the same day.*

<sup>1</sup> U.S. Census Bureau: United States Population and Housing Counts, 1980 and 2000.



The City of Pomona has not to date experienced disasters requiring a request for a Presidential Disaster Declaration and associated emergency assistance funds. The fact that a catastrophic situation requiring this request has not occurred to date should not in any way be interpreted as prediction of low hazard risk for the future. An event like the 1994 Northridge Earthquake, with damage totaling nearly 50 billion dollars, could realistically occur in Pomona.

## HAZARD MITIGATION PLANNING

Exact prediction of disasters and the extent of impact on the City is impossible. However, with careful planning and collaboration among public agencies, private sector organizations, and citizens within the community, it is possible to minimize the losses that can result from natural hazard events. Mitigation planning is an effective method of reducing risk from such natural disasters. It is defined as “sustained action taken to reduce or eliminate long-term risk to people and their property from hazards and their effects.”<sup>3</sup> This *Natural Hazards Mitigation Plan* is the culmination of extensive research, analysis, and community outreach undertaken by the City of Pomona to identify potential natural hazard risks and establish appropriate and effective mitigation to reduce the risks.

### 1.2 PURPOSE OF THE NHMP

In response to a series of costly and damaging disasters, Congress passed the Disaster Mitigation Act of 2000 (DMA 2000), which establishes a framework for proactive local planning for natural hazard mitigation. This law requires that every local, county, and state government:

- Conduct an assessment of the natural hazards that pose a threat to the jurisdiction;

- Determine the potential financial impact of these hazards;
- Create a plan to mitigate these hazards; and
- Implement the plan to reduce the impacts of natural disasters.

The preparation and adoption of such a plan is required in order to be eligible for funding from the Federal Emergency Management Agency (FEMA). The *Natural Hazards Mitigation Plan* for Pomona will ensure that the City is in compliance with this law, and will be able to receive funding for mitigation projects and other assistance under DMA 2000.

As the costs of damage from natural disasters continue to increase, the community realizes the importance of identifying effective ways to reduce vulnerability to disasters. Natural Hazard Mitigation Plans assist communities in reducing risk from natural hazards by identifying resources, information, and strategies for risk reduction, while helping to guide and coordinate mitigation activities throughout the City. The NHMP establishes a set of action items to reduce risk from natural hazards through education and outreach programs and to foster the development of partnerships, improvements to maximize emergency service response capabilities, and implementation of preventative activities such as land use programs that restrict and control development in areas subject to damage from natural hazards.

### 1.3 RELATED MITIGATION PLANNING EFFORTS

The Pomona NHMP addresses natural hazards, risks, and mitigation actions for the entire City. However, a variety of agencies and organizations have facilities in the City and take the lead on mitigation planning efforts for their facilities. NHMPs are under preparation by the following for facilities that include Pomona:

<sup>2</sup> Gallivan, Mickey. President, Pomona Historical Society. Written Communication. June 22, 2004.

<sup>3</sup> Federal Emergency Management Agency, website: [www.fema.gov](http://www.fema.gov)

- State of California, for State-owned facilities such as freeways and Lanterman Developmental Center;
- County of Los Angeles, for County-owned facilities such as the courts;
- Pomona Unified School District and Claremont Unified School District, for schools and other facilities and property owned by the districts; and
- Pomona Valley Hospital Medical Center.

Major utility infrastructure in Pomona is owned, operated, and managed by entities other than the City, such as Southern California Edison, Union Pacific Railroad, Southern California Gas Company, and the Los Angeles County Metropolitan Transportation Authority (MTA). Maintenance and emergency preparedness of these types of facilities are not under the City's jurisdiction, although the City has a responsibility to coordinate with these infrastructure providers on emergency preparedness and risk reduction strategies, and advocate safety for Pomona residents, business, and property.

Partners and resources exist at the regional, State and federal levels. Numerous State agencies have a role in natural hazards and natural hazard mitigation. Some of the key agencies include:

- The Governor's Office of Emergency Services (OES) is responsible for disaster mitigation, preparedness, response, recovery, and the administration of federal funds after a major disaster declaration;
- The Southern California Earthquake Center (SCEC), gathers information about earthquakes, integrates this information on earthquake phenomena, and communicates this to end-users and the general public to increase earthquake awareness, reduce economic losses, and save lives;

- The California Division of Forestry (CDF) is responsible for all aspects of wildland fire protection on private, state, and administers forest practices regulations, including landslide mitigation, on non-federal lands;
- The California Division of Mines and Geology (DMG) is responsible for geologic hazard characterization, public education, the development of partnerships aimed at reducing risk, and exceptions (based on science-based refinement of tsunami inundation zone delineation) to state mandated tsunami zone restrictions; and
- The California Division of Water Resources (DWR) plans, designs, constructs, operates, and maintains the State Water Project; regulates dams; provides flood protection and assists in emergency management. It also educates the public and serves local water needs by providing technical assistance.

#### 1.4 RELATED CITY PLANS AND DOCUMENTS

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The NHMP works in conjunction with other City plans and documents, specifically the General Plan, Development Code, and the Multi-Hazard Function Plan. The status of these documents is described below. The planning mechanisms in these documents will be amended to incorporate the NHMP mitigation actions.

##### POMONA GENERAL PLAN

The *Pomona General Plan* establishes a city-wide development plan and policies to help achieve the community's vision and goals for the City. Topics addressed in the *General Plan* include land use, circulation, economic development, urban design, historic and natural resources, open spaces, noise, as well as public safety. The City is currently conducting a comprehensive update of the 2011 *General Plan*, by working with community members and stakeholders in a process of:



- Issue identification;
- Opportunities and challenges documentation in the 2004 *Existing Conditions, Opportunities, and Challenges Report* with in-depth analysis of development, environmental, infrastructure, and economic planning issues;
- Delineation of Focus Areas with potential for redevelopment, reuse, and/or intensification;
- Alternative development concepts for the Focus Areas for formulation of a Preferred Plan; and
- Preparation of the new General Plan and Environmental Impact Report.

Due to overlap in research and recommendations, the NHMP has been prepared in tandem with the General Plan Update process.

### **Zoning Ordinance**

The *Pomona Zoning Ordinance* establishes regulations for development in the City, thereby implementing the General Plan policy framework. The Zoning Ordinance is currently being updated, and will be revised to reflect the directives in the new General Plan.

### **STANDARDIZED EMERGENCY MANAGEMENT SYSTEM PLAN**

The *Standardized Emergency Management System Plan (SEMS)* last updated in 2011—establishes the emergency organization, task assignments, policies and general procedures, and coordination of the various emergency staff and service elements utilizing the Standardized Emergency Management Systems (SEMS). The objective is to incorporate and coordinate all the facilities and personnel of the City into an efficient organization capable of responding to any emergency, as an extension of the California Emergency Plan. In the event of a natural disaster, the City would employ the communication protocols and systems for

emergency response established in the *Standardized Emergency Management System Plan*.

### **1.5 PLANNING PROCESS**

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In preparing the NHMP, the City utilized a step-by-step planning process incorporating thorough research, analysis, and participation by stakeholders and community members. This planning process consisted of six major steps:

- Identification of issues pertaining to natural hazards, community risks and vulnerabilities, preparedness, and awareness;
- Intensive research and mapping of hazards, critical facilities, and vulnerabilities to identify potential risks in Pomona;
- Rating of risks according to potential extent of damage, injury and life loss, and severity of service disruptions impairing community functioning;
- Formulation of mission, goals, and objectives;
- Evaluation of mitigation actions to reduce risks and improve preparedness; and
- Plan preparation.

Community members, stakeholders, and partners in emergency preparedness were involved in each step—providing input and assistance—as described in Chapter 3: Risk Assessment.

### **1.6 PUBLIC PARTICIPATION**

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Emergency preparedness and response in a city like Pomona depends on the coordinated efforts of emergency service providers, infrastructure partners, community leaders, and residents themselves. To be comprehensive, feasible, and effective, mitigation planning for natural hazards must proceed in coordination with these entities. For these reasons, a multi-component public participation program was integrated with the

planning process for the NHMP. The public participation program included:

- Technical Advisory Committee (TAC) comprised of members representing City departments, school district, surrounding cities, utility and emergency service providers, who provided input at each of the planning steps;
- Public workshops
- Public scoping meeting;
- Communications with stakeholders and partners to acquire data and planning information.

Appendix A contains additional documentation of the public participation process.

## **1.7 NHMP IMPLEMENTATION AND MAINTENANCE**

Implementation of the NHMP will involve the coordinated efforts and commitment of City officials, City staff, emergency preparedness partners, and community leaders and residents. The timetable for implementation of the mitigation actions is five years, although a variety of actions will be ongoing once initiated. Other actions may take several years to complete.

## **PLAN ADOPTION**

The NHMP is intended to be adopted by the City Council, following review and comment by the State Hazard Mitigation Officer in the Governor's Office of Emergency Services, FEMA, and the public. Once adopted, the NHMP will be submitted again to the State Hazard Mitigation Officer, who will then submit the plan to FEMA for final review and acceptance. Upon acceptance by FEMA, the City will gain eligibility for Hazard Mitigation Grant Program funds.

## **IMPLEMENTATION STRUCTURE**

The Community Development Department will take the lead in supervising implementation, working closely with the City's Emergency Preparedness Coordinator and the Natural Hazards Action Committee. Each year in an Annual Report, priorities will be established for mitigation implementation, with consideration of cost-effectiveness per FEMA-approved techniques.

The City will update the NHMP every five years—in coordination with the Natural Hazards Action Committee and with public input—by evaluating the effectiveness of mitigation implementation, addressing changes in critical facilities and vulnerabilities, incorporating advancements in emergency response and post-disaster services, and updating hazard and risk assessments as new information becomes available. This includes incorporating new data from federal, State, or regional hazard mapping and delineation efforts.

The NHMP implementation structure is established in Mitigation Action 1.1 in Chapter 5, which should be referred to for more detail.

**Maintenance Of Plan**

The Community Development Director will call an annual meeting that will consist of City departments, the general public and stakeholders to review the Natural Hazard Mitigation Plan and take input for any changes or updates that might be needed to the plan. This meeting will take place during the month of November and will be announced through the normal information channels the City utilizes for meetings of this type.



## 2 Community Profile

This Community Profile provides background information on Pomona's geography, environment, population, and economy. This context description helps to better understand natural hazards and vulnerabilities of the City. The 2004 *Existing Conditions, Opportunities, and Challenges Report* is the source for much of the discussion in this chapter, and should be referred to for greater detail on conditions, trends, and planning issues.

### 2.1 INTRODUCTION

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Located in the highly urbanized Los Angeles metropolitan area, the City of Pomona shares many attributes with its neighbors. This includes a vulnerability to the volatile natural systems and features that distinguish the area. The semi-arid climate that attracts many people to the region also creates the conditions for fast-spreading wildfires. The infrequent but intense winter rain storms can create the potential for flooding, should the flood prevention infrastructure ever fail. The hillsides that frame the Pomona Valley and that are home to well-established neighborhoods are also subject to destructive landslide conditions. And perhaps most dramatically, Pomona is located in one of the most earthquake prone urbanized areas in the United States.

Although situated in a high-risk metropolitan region, Pomona has been fortunate to avoid catastrophic natural disasters since its development from orchards to city. Since urbanization Southern California earthquakes have impacted Pomona, although major damage has been limited. Fire has also impacted Pomona, although wildfires such as the kind seen in the 2009 Southern California fires have not spread into Pomona. Large scale flooding has not been a threat since the channelization of local creeks, and significant landslides have not caused widespread damage. Nevertheless, the

threat of natural disaster is always present. The potential for property loss and personal injury is particularly profound in Pomona due to its nearly built-out status. As the City continues to intensify with infill development, the risks, as well as the opportunity to build in mitigation, increases.

The inevitability of natural hazards, and the growing population and activity within the City, create an urgent need to develop strategies, coordinate resources, and increase public awareness to reduce risk and prevent loss from future natural hazard events. Identifying the risks posed by natural hazards, and developing strategies to reduce the impact of a hazard event, can assist in protecting life and property of citizens and communities. Local residents and businesses can work together with the City to create a *Natural Hazards Mitigation Plan* that addresses the potential impacts of hazard events.

### 2.2 GEOGRAPHY AND THE ENVIRONMENT

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The City of Pomona occupies 22.8 square miles in eastern Los Angeles County. To the west are the cities of the San Gabriel Valley and to the east is the fast-growing San Bernardino-Riverside region, as shown in Figure 2-1: Regional Location. The majority of the City is situated on the low-lying floor of the Pomona Valley and is bisected by major transportation corridors – freeways, rail corridors, and arterial roads. The San Jose and Puente Hills provide distinct edges to the northwest and southern boundaries, respectively, of Pomona see Figure 2-2: Topography.

Pomona is located on a gently sloping alluvial fan, which originates at the mouth of the San Antonio Canyon and slopes gradually to the south and southwest. Pomona is mostly characterized by flat topography (average slope in the valley floor area is a little under one percent) and there are only minor topographic variations except for the hillside areas to the northwest and south. Elevations in the City range from 1,100 to 1,300 feet in the San Jose and Puente Hills to 800 to 900 feet on the valley floor.





Figure 2-1  
Regional Location

 City Boundary





In general, the City is primarily urbanized, with limited open space and parks (875 acres, or 7.7% of total), and vacant areas (597 acres, or 5.3% of total). The City has no major water features, such as rivers or lakes, but rather the City form has been defined in the early years by the railroad and later by the freeways. Creeks have been channelized and do not create significant physical boundaries.

### **2.3 HISTORICAL DEVELOPMENT**

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The City of Pomona is one of the most well established cities in the San Gabriel Valley. The City of Pomona was initially plotted out in 1876 as a one square-mile townsite built around the Southern Pacific railroad station and the City itself was later incorporated in 1888, the fifth chartered City in Los Angeles County. Pomona started as a major center for citrus orchards, but also developed a well-defined town area. Residential neighborhoods soon developed, some of which are highly regarded for their exceptional architecture and style. These neighborhoods, along with the unique downtown core, give Pomona a historic character that is a source of community pride and an asset to be protected.

Today, Pomona is the 12<sup>th</sup> most populous city in the greater Los Angeles metropolitan area and the fifth most populous in Los Angeles County. It is a City with a diverse mix of people, neighborhoods, and business opportunities. Pomona has also developed into a very urban place. The City has a well-developed mixed-use downtown that is a center for arts and culture, and the site of substantial redevelopment and infill development.

Large scale industrial districts are in place in both the east and the west of the City, offering substantial opportunities for business and employment growth with direct connections to major transportation corridors (freeways and rail). There are numerous educational opportunities from K-12 education to colleges and universities including DeVry, Western University, and the adjacent Cal Poly Pomona. The expansive Fairplex facilities are home to the Los Angeles County Fair

as well as numerous recreation, convention, and exhibit activities. The City's major transportation arterials are also major commercial corridors. And, of course, the City has a wide range of housing options and diverse neighborhoods, both on the valley floor and in the hillside areas.

### **2.4 CLIMATE**

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One of the City's great assets is its spectacular Southern California climate. Average temperatures range from 41 degrees in the winter months to 89 degrees in the summer months. However, the temperatures can vary over a wide range, particularly when the Santa Ana winds blow from October to March, bringing higher temperatures and very low humidity. Temperatures rarely exceed 100 degrees in the summer months (June-September), nor drop below 30 degrees in the winter months (November-March).

Rainfall in the city averages 19.37 inches of rain per year. However the term "average rainfall" is misleading. Over the recorded history of rainfall in the City of Pomona, amounts have ranged from lows of seven inches in some years to 46 inches of rain in very wet years.

Furthermore, actual rainfall in Southern California tends to fall in large amounts during sporadic and often heavy storms rather than consistently over storms at somewhat regular intervals. Because the metropolitan basin is largely built out, water originating in higher elevation communities can have a sudden impact on adjoining communities that have a lower elevation.

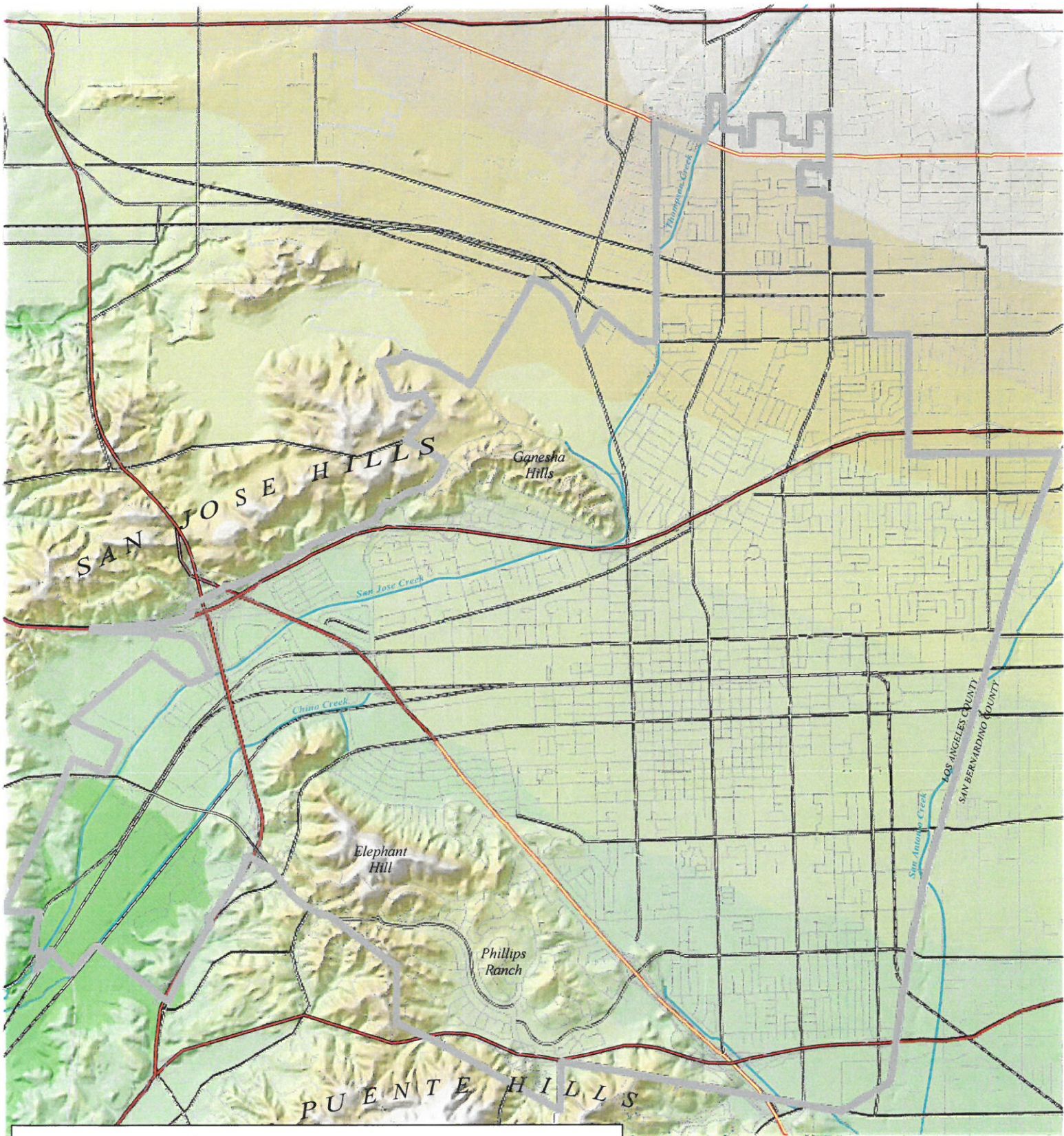
### **2.5 GEOLOGIC CONDITIONS**

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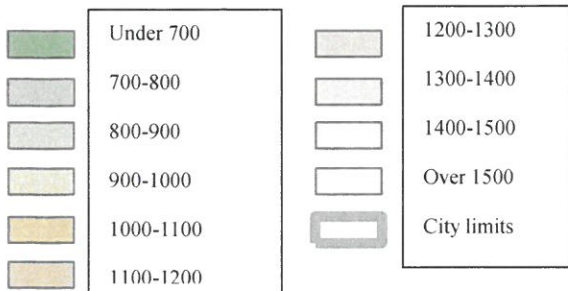
#### **REGIONAL GEOLOGIC SETTING**

The City of Pomona lies within the western portion of the Transverse Ranges geomorphic province, characterized by numerous earthquake faults. The Transverse Ranges consist of a distinct group of east-west trending ranges and valley that truncate the prevailing north-northwest trend of





2-2 Topography





the southern Coast Ranges and Peninsular Ranges. This province encompasses approximately 325 miles, and extends from Point Aguello, located along the western coast of California, eastward to Joshua Tree National Park, where it merges with the Mojave and Colorado Deserts.

Within the Transverse Ranges there are abundant compressional reverse and thrust normal faults, and curvilinear strike-slip faults that generally trend in an east-west direction. The foremost structural feature that has affected the geologic evolution of the province is the San Andreas fault. This fault has a northwest strike, located both to the north and south of the Transverse Ranges, but changes to a west-northwest strike within the Transverse Ranges, thus forming a bend in the fault. Many of these normal faults break the ground surface south of the San Andreas fault along the southern flank of the San Gabriel and Santa Monica Mountains. The thrust faults that break the surface south of the San Andreas fault dip southward and merge with the broad, buried fold and thrust belts that underlie the Los Angeles basin and the southern margin of the Transverse Ranges.

### **LOCAL GEOLOGIC SETTING**

The City is underlain by alluvium within the valley area and underlain by bedrock on the San Jose Hills on the northwest and the Puente Hills on the southwest. The unconsolidated alluvial soils of the San Bernardino Valley came from the transport of soils from the San Gabriel Mountains to the north, as well as soils that washed out of nearby foothills and the San Antonio canyon area. The alluvial soils are underlain by igneous-metamorphic rock, as seen in outcrops in the Puente Hills and San Jose Hills. Soils on the western valley area are made up of unconsolidated coarse sands and gravel near the San Jose Creek, and very fine grain unconsolidated silty sands along the foothills.

The Puente Hills are made up of marine sandstones and siltstones of the Puente formation, with a mixture of volcanic rock and outcrops. The

Ganesh Hills are made of igneous metamorphic outcrops, as found on the San Jose Hills. The rocks are as much as 24,000 feet thick and consist of fine to coarse-grained marine clastic sedimentary rocks of the Cenozoic era (12 million years to 10,000 years ago). These rocks also include volcanic rocks and some non-marine sedimentary rocks.

### **REGIONAL FAULTS**

The major faults that have the potential to affect the greater Los Angeles Basin, and therefore the City of Pomona are the San Andreas Fault Zone, Sierra Madre Fault System, Whittier-Elsinore Fault Zone, Verdugo Fault, Norwalk Fault, Santa Monica Fault, San Fernando Fault Zone, and the Newport-Inglewood Fault Zone. These faults are described in greater detail in Chapter 6: Earthquakes.

### **LOCAL FAULTS**

In addition to the regional faults, there are several local faults located within the city that are considered potentially active. No recent seismic activity has been recorded along these faults in the last 10,000 years. However, a major earthquake occurring along any of these faults would be capable of generating seismic hazards and strong groundshaking effects within the City. These local faults include the Indian Hill, Chino, Central Avenue, and San Jose Faults. These faults are described in greater detail in Chapter 6: Earthquakes.

### **MINERALS AND SOILS**

The characteristics of the minerals and soils present in the City of Pomona indicate the potential types of hazards that may occur. Rock hardness and soil characteristics can determine whether or not an area will be prone to geologic hazards such as earthquake-induced ground shaking, liquefaction and landslides.

Within the Pomona area, various soil associations are identified by the Natural Resources Conservation Service (NRCS), formerly known as

the U.S. Soil Conservation Service. These soil associations consist of one or more soil types that have similar characteristics, and each is named for the predominant soil series it contains. According to the 2004 City Existing Conditions, Opportunities, and Challenges Report, soil series within the City include Tununga-Sobada, Hanford, Cropley, Foster-Grangeville, Chino, Diablo-Altamont, Altamont-Diablo, San Andreas-San Benito, San Benito-Soper, and Yolo. Generally, soils located in the western valley area comprise unconsolidated coarse sands and gravel, with very fine grain unconsolidated silty sands along the foothills.

The City is not located within a Significant Mineral Aggregate Resource Area (SMARA), as designated by the State Department of Conservation, nor is it located in an area with active mineral extraction activities.

## 2.6 POPULATION AND DEMOGRAPHICS

The City of Pomona has a population of about 155,773 people in an area of 22.8 square miles. The population has steadily increased from the late 1800's through 2010, and increased 13.5 percent from 1990 to 2010 according to the 2010 Census. This rate of increase is greater than the rate of increase for Los Angeles County as a whole over the same time period (7.4 percent). Over the same period of time, the number of households grew at a slower rate (3.9 percent), leading to an increasing person per household average (3.79 in 2010, 3.52 in 1990) and denser neighborhoods.

Considering the historic trends, population growth is expected to continue in the City of Pomona. This increase of people creates more community exposure, and changes how agencies prepare for and respond to natural hazards. For example, more people living in crowded neighborhoods can increase the risks associated with hazard events.

Furthermore, the City is experiencing a great deal of in-fill building, which is increasing the

population density and creating greater service loads on the built infrastructure, including roads, water supply, sewer services, and storm drains.

Natural hazards do not discriminate, but the impacts in terms of vulnerability and the ability to recover vary greatly among the population. According to Peggy Stahl of the Federal Emergency Management Agency (FEMA) Preparedness, Training, and Exercise Directorate, 80% of the disaster burden falls on the public, and within that number, a disproportionate burden is placed upon special needs groups: women, children, minorities, and the poor. The ethnic and cultural diversity in Pomona suggests a need to address multi-cultural needs and services as described below.

According the latest census figures, (2010) the demographic make up of the City is as follows:

**Table 2-1: Race and Ethnic Composition of Pomona**

<i>Race</i>	<i>Percent of Total Population</i>
Hispanic	70.5
White	12.0
Black	7.3
Asian	8.5
2 or more races	4.7

*Source: 2010 U.S. Census*

Census data also indicates that the number of Pomona residents in poverty increased dramatically from 1990 to 2010, by 31.7 percent. About 17.2 percent of the population in Pomona was determined to have poverty status in 2010, more than the County at 17.5 percent of the population.

Vulnerable populations, including seniors, disabled citizens, women, and children, as well as those people living in poverty, may be disproportionately impacted by natural hazards. In Pomona, the percentage of the population over 65 has decreased slightly from 7.0 percent in 1990 to 7.6 percent in 2010. However, the percentage of



residents under 18 years of age has decreased from 32.8 percent in 1990 to 29.6 percent in 2010.

Examining the reach of hazard mitigation policies to special needs populations may assist in increasing access to services and programs. FEMA's Office of Equal Rights addresses this need by suggesting that agencies and organizations planning for natural disasters identify special needs populations, make recovery centers more accessible, and review practices and procedures to remedy any discrimination in relief application or assistance.

The cost of natural hazards recovery can place an unequal financial responsibility on the general population when only a small proportion may benefit from governmental funds used to rebuild private structures. Discussions about natural hazards that include local citizen groups, insurance companies, and other public and private sector organizations can help ensure that all members of the population are a part of the decision-making processes.

## 2.7 LAND USE PATTERNS

Pomona is a highly urbanized city with a rich history that is reflected in its current development pattern and diverse mix of land uses, building types and styles, and neighborhoods. The City is almost entirely built-out with only 5.3 percent of land vacant and 7.7 percent of land in parks or open space uses (see Table 2-2). The distribution of existing land uses is shown in Figure 2-3: Existing Land Use.

**Table 2-2: Summary of Major Land Uses**

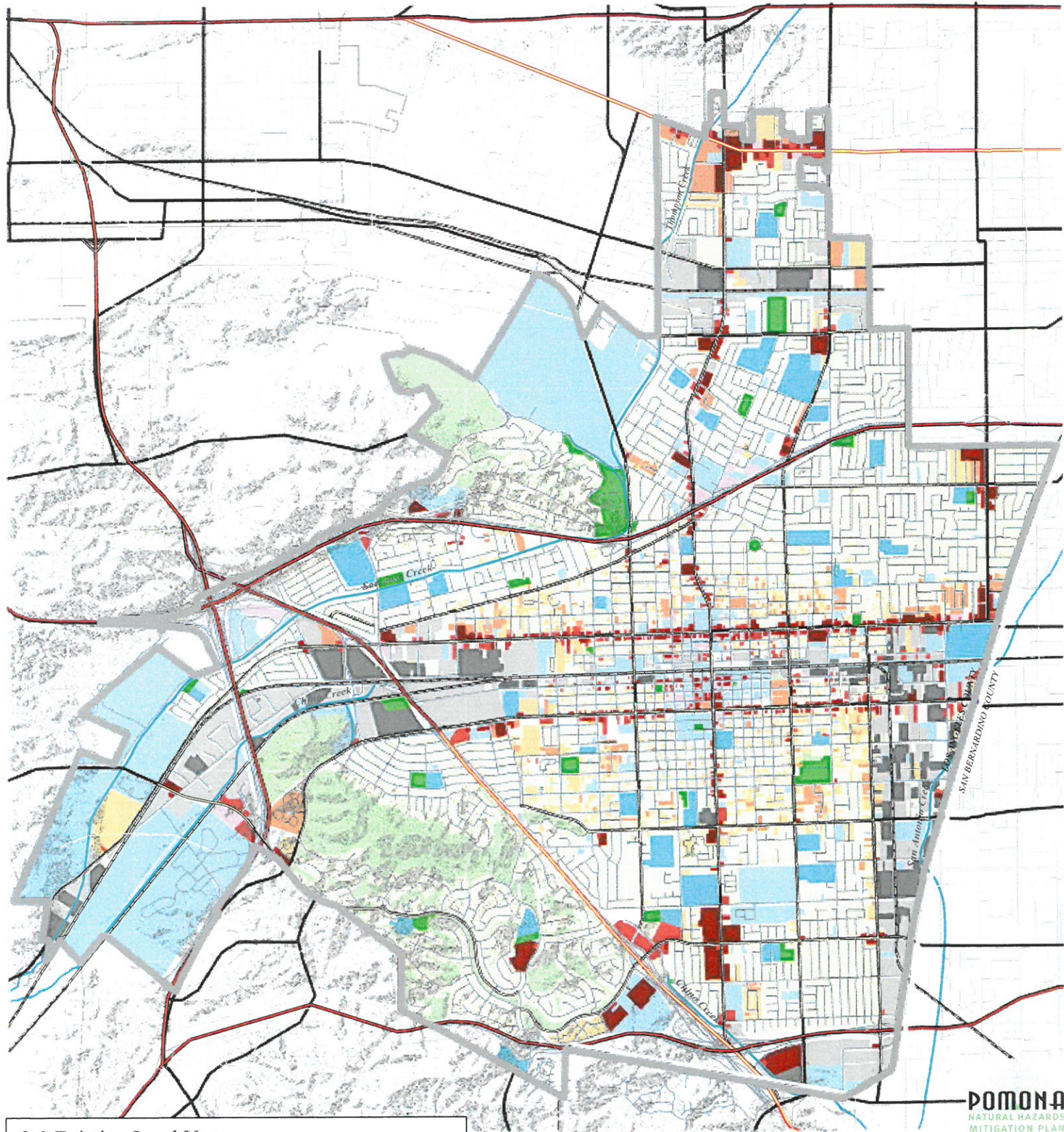
<i>Land Use</i>	<i>Acres</i>	<i>Percent of Total</i>
Low-Density Residential	4,310	38.6%
Medium-Density Residential	591	5.3%
High-Density Residential	294	2.6%
<i>Residential Total</i>	<i>5,195</i>	<i>46.5%</i>
Retail Commercial	355	3.2%
Service Commercial	182	1.6%
<i>Commercial Total</i>	<i>537</i>	<i>4.8%</i>
Office	114	1.0%
Light Industrial	797	7.1%
Heavy Industrial	413	3.6%
<i>Industrial Total</i>	<i>1,210</i>	<i>10.8%</i>
Parks & Open Space	875	7.7%
Public, Civic & Institutional	2,254	20.2%
Schools	396	3.5%
<i>Public Land Total</i>	<i>3,514</i>	<i>31.5%</i>
Vacant Land	597	5.3%
<b>Total</b>	<b>11,165</b>	<b>100%</b>

*Source: LA County Assessor Parcel Data, 2003; City of Pomona GIS, 2003; Dyett & Bhatia, 2004.*

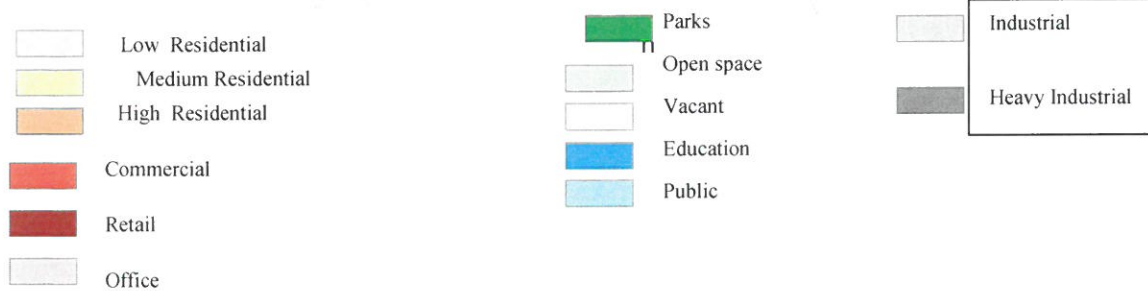
Note: the City boundary for Pomona encompasses 14,703 acres. The remaining 3,538 acres are taken up by streets, drainages, rights-of-way, and similar public lands and easements.

Overall, the City's development pattern is typical of a city of its age, topography, and western U.S. location. Even in the City Center, topography and lack of physical constraints has allowed for a relatively uniform street grid with residential neighborhoods and commercial corridors radiating outwards from the traditional mixed-use downtown core. Residential neighborhoods located further away from the downtown and along the hillsides to the north and south were built later in the 20<sup>th</sup> century and are more uniformly residential in use. At the western and eastern edges of the City, large industrial areas have developed with access to the railway and major transportation arteries.





2-3 Existing Land Use







## 2.8 HOUSING AND COMMUNITY DEVELOPMENT

In Pomona, the demand for housing outstrips the available supply, and the recent low interest rates have further fueled a pent up demand. This has been a concern in recent years as growth in housing (3.9 percent from 1990 to 2010) has been outpaced by growth in population (13.5 percent). This discrepancy is also reflected in growing household sizes and a decreased vacancy rate. It also contributes to a growing housing affordability problem as the average sales price for new construction homes is between \$350,000 and \$400,000.

Although the cost of housing is increasing and there is a lack of vacant land for new single-family residential homes, the mix of housing types has remained relatively consistent in recent years. Single-family residential is the primary housing type (69.5 percent of the total), with the remainder consisting of multi-family (26.2 percent) and mobile homes or other (4.3 percent).

The majority of homes in the City are owner-occupied (57.4 percent of non-vacant units). The remaining 42.6 percent are renter-occupied. The vacancy rate in 2010 was four percent.

The age of Pomona's housing stock is detailed in Table 2-3. However, what is not as readily apparent in the housing age statistics is the disparity of maintenance in many Pomona neighborhoods. While some of Pomona's older neighborhoods are remarkable for their largely uniformly excellent condition, there are also many areas where careful upkeep is not the norm. The condition of many of the City's older homes requires significant investment in renovation to bring them up to meet contemporary standards. While these older homes can create affordable housing options, the cumulative effect of substandard housing stock on a neighborhood can be a sense of blight and negative effect on community identity, pride, housing value, as well as the city's ability to attract new business

investment. The risk of property damage and injury is heightened in areas of older homes.

To address housing issues, the City's Housing Division provides a number of programs including rental assistance, homebuyer mortgage assistance, housing rehabilitation, and façade improvement programs.

For non-residential uses, the City of Pomona's Business Development Division is a body that helps to promote economic prosperity throughout the City. The Business Development Division's goals are to attract new and highly desirable businesses to the community, assist businesses experiencing growth with their expansion needs, and assist in the efforts to retain existing local businesses requiring access to business resources.

To achieve these goals, the Business unit variety of services and programs, including business assistance, façade improvement programs, and marketing.

Overall, the City's annual average household income (2010) of \$50,473 was about 18.7 percent less than the countywide average. About one-third of Pomona households earned an average annual income of less than \$25,000.

**Table 2-3: Age of Housing Stock**

<i>Year Built</i>	<i>Units</i>	<i>Percent of Total</i>
1990 to 2010	2,401	6.1
1980 to 1989	6,882	17.4
1970 to 1979	5,908	14.9
1960 to 1969	7,320	18.5
1950 to 1959	9,940	25.1
1940 to 1949	3,540	8.9%
1939 or earlier	3,629	9.2
<i>Total Units</i>	<i>39,620</i>	<i>100.0</i>

*Source: L.A. County Assessor Parcel data, 2003.*



## 2.9 EMPLOYMENT AND INDUSTRY

Pomona's job base is undergoing changes initiated by the closure of aerospace and manufacturing facilities in the late 1980s and early 1990s. Although the loss of large employers such as General Dynamics has been a negative impact, Pomona is a resilient city and has seen an decrease in employment of 25.4 percent from 1992 to 2010.

Overall, however, although employment growth has been negative, there have been other impacts from the job base changes. With the loss of major employers, Pomona has seen an increase in the diversity of job types and a shift to a wider range of smaller enterprises. This presents a challenge in coordinating with major employers to ensure the safety and welfare of workers and limit damage to industrial infrastructure. There is also need to increase jobs with greater pay.

## 2.10 GROWTH AND DEVELOPMENT

As discussed in Section 2.1: Introduction, the City of Pomona is located at the boundary of the highly urbanized metropolitan counties of Los Angeles and San Bernardino. It is surrounded and contained by the cities of Claremont, La Verne, San Dimas, Walnut, Diamond Bar, Chino, and Montclair. Within Pomona, all of the large land areas are developed, including most of the more remote hillsides. The remaining undeveloped land is either not suitable for development, or has been set aside to remain as open space.

Although the City is considered built-out, development continues and is expected to continue to meet market demand created by population growth. Because of the lack of available land suitable for development, new development will be primarily infill, reuse, and intensification.

Addressing the challenge of accommodating projected growth within the urban fabric of the City is a major goal of the ongoing *General Plan Update*. As part of this effort, a comprehensive assessment of areas in the City with potential for infill development, redevelopment, land use change, and/or development intensification has been conducted. The results of this assessment have resulted in the formulation of Focus Areas, which are depicted in Figure 2-4.

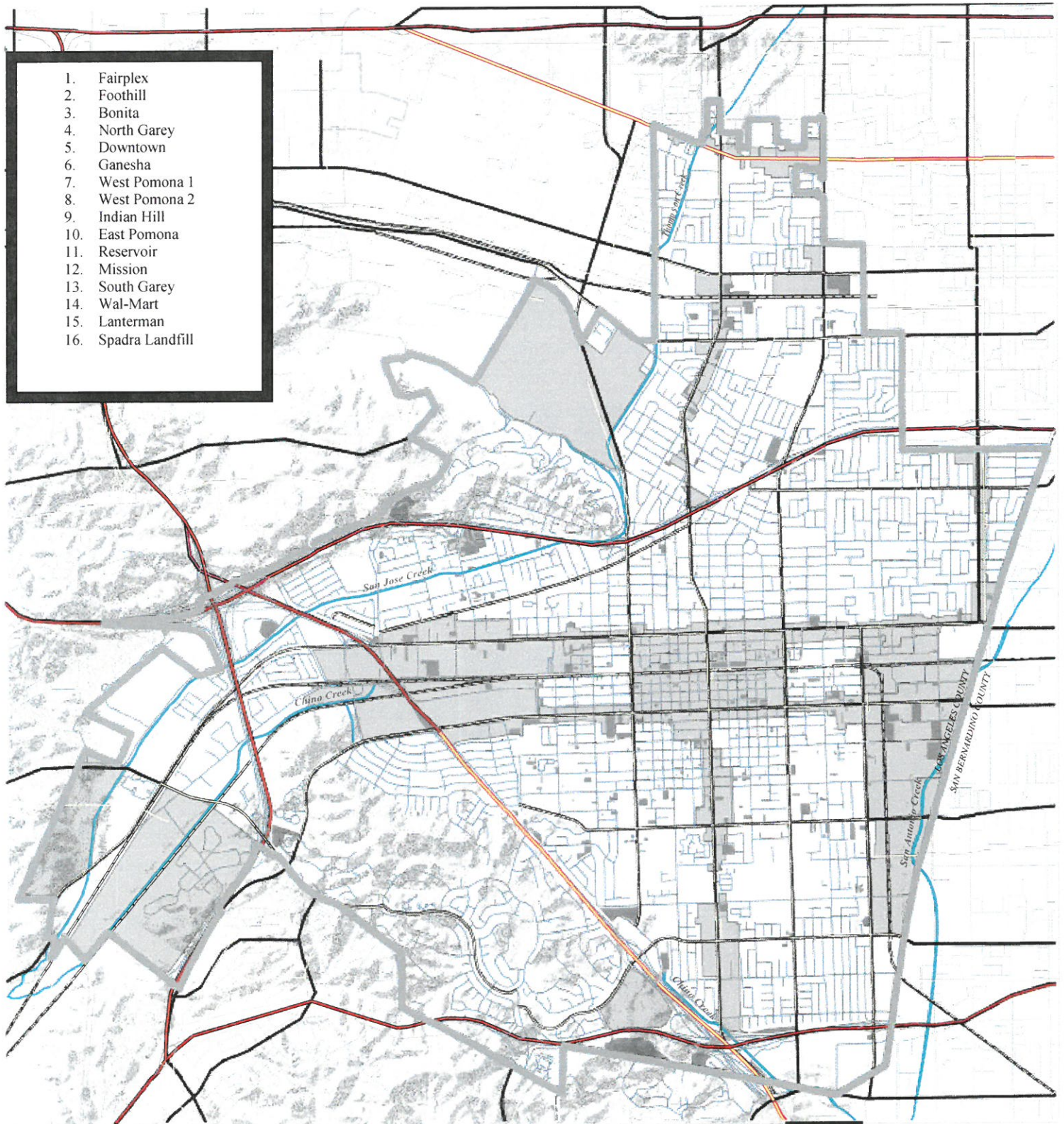
The Focus Areas are those areas that have the highest potential for change over the next 10 to 20 years, provided with the right land use incentives. They may also be areas that serve as important landmarks or focal points within the city and therefore may act as valuable catalysts for further development or economic activity in Pomona. Criteria for identifying the focus areas is summarized below, but not all criteria necessarily apply to all identified focus areas:

- Contains significant vacant or underutilized lands or buildings;
- Contains obsolete or incompatible land uses;
- Is appropriate for further intensification of use;
- Contains uses that are not expected to remain through the life of the plan;
- Contains significant blight;
- Is consistent with redevelopment planning efforts; and
- Can serve as a catalyst for development in surrounding areas or as a model for a particular type of development.

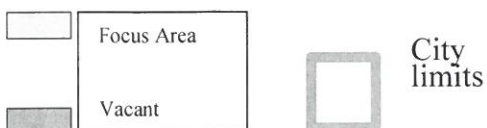
Addressing the natural hazard mitigation issues in an urbanized City like Pomona are different from those encountered in a community with room to expand outward. Due to its built-out status, future growth in Pomona will not stretch into undeveloped areas that could present additional natural hazard risks; rather, development will be integrated into the existing urban fabric, and affected by the same natural hazards that face the



1. Fairplex
2. Foothill
3. Bonita
4. North Garey
5. Downtown
6. Ganesha
7. West Pomona 1
8. West Pomona 2
9. Indian Hill
10. East Pomona
11. Reservoir
12. Mission
13. South Garey
14. Wal-Mart
15. Lanterman
16. Spadra Landfill



2-4 Focus Areas





community in its present state. Challenges involved in mitigating risks associated with infill development primarily include concerns about the increase of risk from increased densities, some in already overcrowded neighborhoods. However, redevelopment also creates the opportunity to upgrade or replace older building stock with new construction that conforms to modern building codes. These include regulations for structural resistance to earthquakes, landslide mitigation efforts, fire-resistant materials, and elevation above flood levels. From a hazard mitigation perspective, through the replacement or renovation of older structures and infrastructure, infill and redevelopment can increase the City's safety significantly.

The primary way to mitigate hazard impacts on future development is to create hazard-resilient development and infrastructure. Policies formulated in this document address this need, and are discussed in detail in Chapter 5: Mitigation Action Plan. Additionally, the update of Pomona's *General Plan* provides the ideal opportunity to incorporate hazard mitigation measures into this long-term, comprehensive planning document.

## 2.11 TRANSPORTATION AND COMMUTING PATTERNS

### TRANSPORTATION INFRASTRUCTURE

Pomona is centrally located within the greater Los Angeles-San Bernardino-Riverside region. As such, the City is traversed by a number of key regional transportation routes, notably the five major freeways and two rail lines that provide passenger and freight access and connect Pomona with the Inland Empire, Los Angeles and Orange County (see Figure 2-5: Transportation Network). In addition, Ontario International Airport, located just ten miles to the east, has established itself as a major gateway to the region, serving approximately six million passengers annually.

The well developed street system in the City provides access to and from the regional facilities

described above and accommodates travel for various modes of transportation (automobiles, trucks, buses, bicycles and walking). The local system combined with superb regional access provides many opportunities for Pomona residents to travel within their city and region, and well beyond. The road system is also complimented with service from three transit agencies (Los Angeles County MTA, Foothill Transit, and OmniTrans) and two lines of the Metrolink commuter rail system.

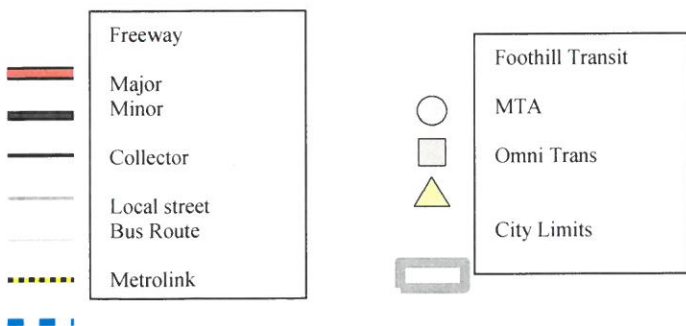
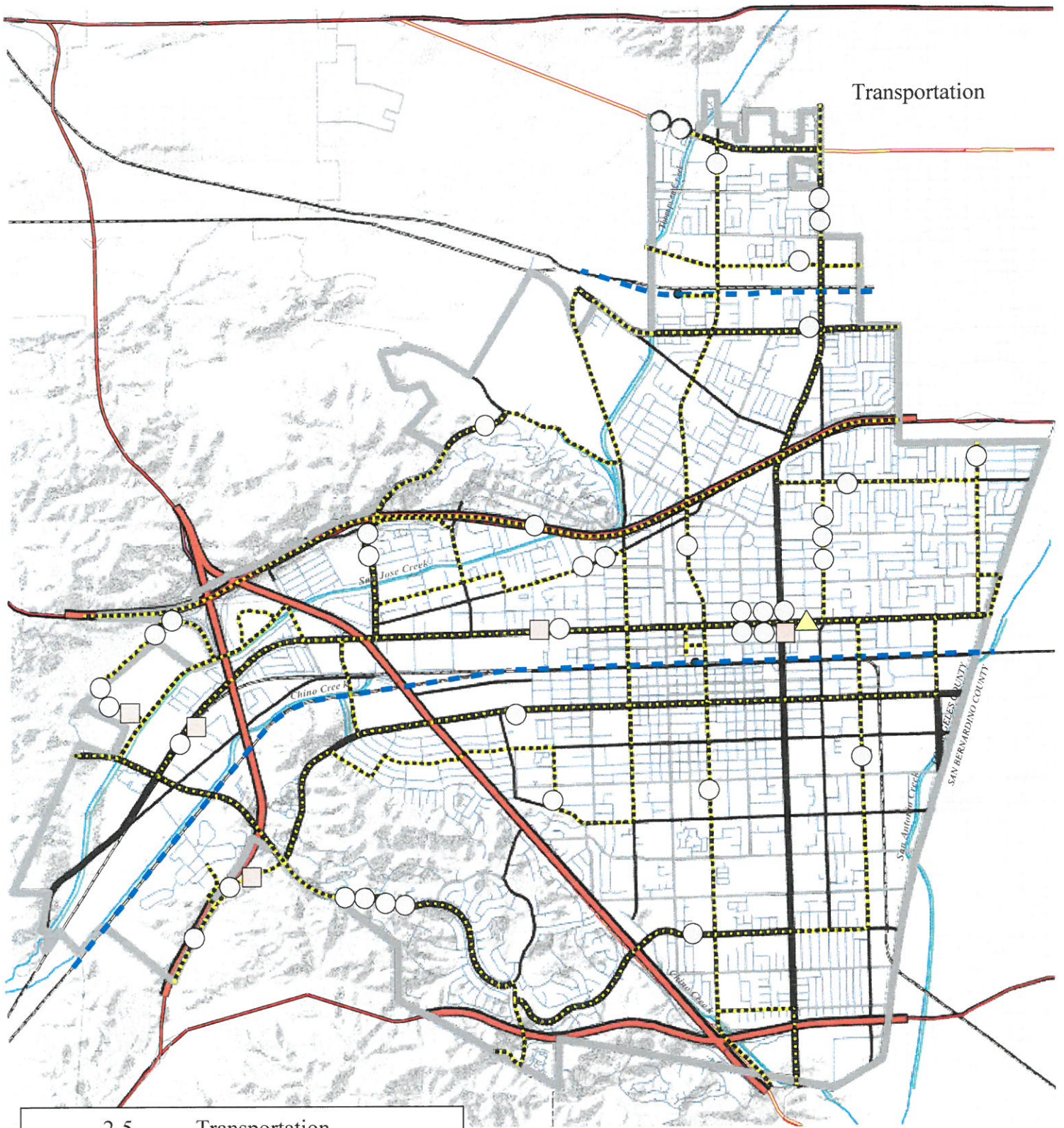
The five major freeways provide east-west and north-south access as follows:

- The San Bernardino Freeway (I-10) and the Pomona Freeway (SR-60) provide east-west access to Pomona from Santa Monica and Los Angeles to the west, and Ontario, San Bernardino and Riverside to the east. The Foothill Freeway (I-210) provides an additional east-west connection to the north of Pomona, extending west to Pasadena and the San Fernando Valley.
- The Corona Expressway (SR-71) and Orange Freeway (SR-57) provide connections with Corona and Orange County.

The City's 296-mile road system includes 28.2 miles of major arterials, 45.8 miles of minor arterials, 36.7 miles of collector roads, and 184.4 miles of local roads. Figure 2-5 shows the local network of arterial collector, and local streets, which is generally organized as a traditional grid.

Overall, traffic volumes are quite high in the City. In places, Holt Avenue carries close to 40,000 vehicles per day, while seven other arterials carry in excess of 20,000 vehicles per day. Most other arterials carry between 10,000 and 20,000 vehicles per day, while all collectors for which data is available, carry less than 10,000 vehicles per day. As traffic volumes rise, there is an increased risk that a natural hazard event will disrupt the travel plans of residents across the region, as well as local, regional and national commercial traffic.







In addition to the transportation access for residents, Pomona is well located for goods transportation. In addition to the freeways, two major rail lines traverse the city, including the Alameda Corridor East, which links Pomona to the Ports of Los Angeles and Long Beach, and the rest of U.S. market.

## TRENDS AND ISSUES

Although there are many routes traveling through or near Pomona, population growth in the region, particularly in the fast-growing Inland Empire area, has put a considerable strain on the regional freeways serving the City. As well, transportation patterns have become more complex, as the traditional “suburb to central city” journey to work has been replaced by multi-directional travel patterns due to job growth in dispersed locations.

Overall, vehicle and rail volumes are increasing in the area. Freeway congestion has become an acute problem in the region. In Pomona, there are significant level of service deficiencies along I-10, at the interchange of I-10, SR-57, and SR-71.

Also the amount of rail traffic through Pomona is substantial, roughly 50 to 60 freight trains per day. This number is expected to increase following improvements to the Alameda Corridor, which includes the Union Pacific Railroad, potentially up to 150 trains per day. This is a serious concern for the hazards mitigation planning effort in that only three grade separated crossings are in place for local traffic and emergency vehicles to cross the Alameda Corridor. However, the Alameda Corridor East project does provide for improvements in Pomona including median improvements, traffic signal improvements, construction of new sidewalks and construction for two new grade separations, one at East End Avenue and one at Temple Avenue.

The *Existing Conditions Opportunities and Challenges Report* contains detailed documentation of transportation infrastructure, conditions, and planning issues.

## **3 Risk Assessment**

### **3.1 INTRODUCTION**

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The critical step in hazard mitigation planning is comprehensive risk assessment. This involves first understanding the types of natural hazards that could occur in the City, and then determining the range of risks to the community from each of the hazards. Mitigation is then formulated to avoid or reduce the identified risks, thereby facilitating a safer and more resilient environment for residents and business when implemented. This chapter overviews the risk assessment process, including documentation of the approach employed in the NHMP planning process in Pomona, description of critical facilities and vulnerable populations, and summary of the identified risks.

### **3.2 APPROACH**

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The approach employed for risk assessment for the Pomona NHMP was designed to identify all possible risk scenarios, determine the potential impact to the community associated with each risk, and then accordingly prioritize risks having greater potential impacts to be targeted in the mitigation actions. The steps in this process—conducted in coordination with the Technical Advisory Committee and with input from community members—included:

- Determination of hazard threats in Pomona by way of researching existing data bases and discussions with the TAC, a process that resulted in focusing the Pomona NHMP on earthquake-induced ground shaking, liquefaction, and landslide; wildfire; flooding; and windstorm (see Section 3.2 below and Chapters 6 to 10);
- Hazard identification and profiling, including documentation of the geographic extent, potential intensity, and the probability of occurrence of the natural hazard with potential to

affect Pomona, using the best available data (see Chapters 6 to 10);

- Inventory of critical facilities, defined as services and infrastructure that are essential to emergency response and community function—examples include fire and police services, hospitals, circulation, and water and sewer systems (see Section 3.3);
- Inventory of vulnerable populations, defined as people who are particularly susceptible to impacts of a natural disaster and may have special post-disaster needs—examples include populations in schools, child care facilities, and overcrowded neighborhoods (see Section 3.4);
- Consideration of risk scenarios for critical facilities and vulnerable populations utilizing the hazard information on extent, intensity, and probability;
- Rating risk scenarios according to potential impact on the community, with consideration of geographic extent, potential for disruption of emergency and essential services, duration, and potential for population injuries, fatalities, and/or dislocation (see Chapters 6 to 10); and
- Risk analysis, involving quantification of vulnerabilities in terms of dollar losses, where appropriate data was available (see Chapters 6 to 10).

### **3.3 NATURAL HAZARDS ANALYSIS**

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Pomona is potentially subject to risks associated with earthquakes, landslide, wildfire, flooding, and windstorm. The greatest natural hazard threats with potential for widespread injury, life loss, property damage, and prolonged disruption in Pomona are ground shaking and liquefaction associated with a major earthquake. Pomona is located in a seismically active region of Southern California, with several damaging earthquakes having occurred just in the past twenty years.

Important but potentially less destructive hazard threats—due to more limited geographic extent—include landslide associated with steeper slopes



and wildfire associated with the remaining open spaces. Flooding occurs in some limited areas occasionally disrupting circulation arterials, and there is a risk albeit very low of flooding from dam inundation. Windstorm conditions resulting from strong seasonal Santa Ana winds occur, but the impact to the community is low relative to the potential impacts of other natural hazard events.

Complete natural hazard descriptions—which include hazard identification and profiles, maps, and potential risks—are set out in separate chapters as follows:

- Chapter 6: Earthquake
- Chapter 7: Landslide
- Chapter 8: Wildfire
- Chapter 9: Flooding
- Chapter 10: Windstorm

### 3.4 CRITICAL FACILITIES

In the event of a natural disaster, the primary goals of the City emphasize maintaining services that are key to the functioning of Pomona. By identifying critical facilities that lie within potentially hazardous areas, the City can help to prepare for and minimize debilitating impacts on these services. The following is an overview of the critical facilities in Pomona. With the exception of utilities, which have been omitted for security purposes, the critical facilities are mapped in Figure 3-1.

#### GOVERNMENT EMERGENCY OPERATIONS FACILITIES

Maintaining the continuity of government during a natural disaster is essential in order to respond to emergencies, protect life and property, and recover in the aftermath of an event. The City of Pomona has formulated a comprehensive strategy to ensure proper functioning of the government during a crisis. This strategy is laid out in the City's *SEMS Plan*. As part of this plan, several sites are designated as centers of emergency operation,

communication, and governance during an emergency. Alternates for these facilities are also designated, in the event that the original facility is not operational. As shown in Figure 3-1, the majority of these facilities are centrally located in downtown Pomona, which is the “hub” of government emergency operations. Also located in close proximity, and in some instances serving as government operations facilities, are the headquarters of the Police and Fire Departments that serve the City.

#### EMERGENCY SERVICES

##### Police Services

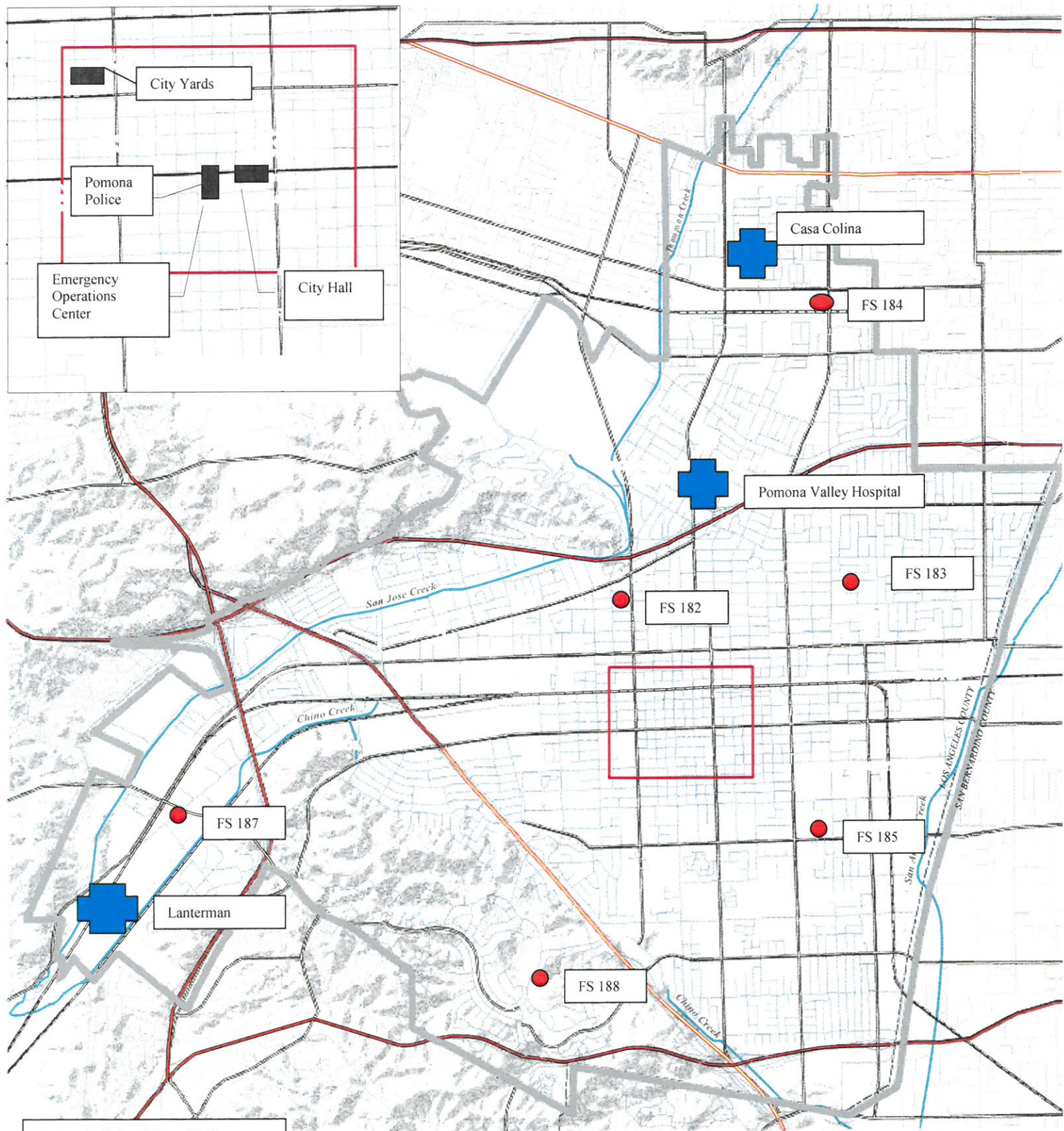
The Pomona Police Department provides local police services for the City of Pomona. The department operates 11 facilities, three of which are first-response facilities. The Police Department also maintains an aero bureau and training facilities. Pomona Police Department headquarters are located at 490 W. Mission Boulevard.

##### Fire Services

The Los Angeles County Fire Department (LACoFD) serves the City of Pomona. Pomona is part of the LACoFD Division VIII, located on the eastern boundary of the Department's jurisdiction. In addition to the City of Pomona, Division VIII includes the neighboring cities of Diamond Bar and Walnut. Eight of 13 fire stations in Division VIII are located in Pomona. If necessary, resources in the City's adjacent jurisdictions provide additional support.

Fire stations are strategically located throughout the City to provide prompt assistance to area residents. Each fire station operates within a specific district that comprises the immediate geographical area around the station. Approximately 83% of the City is located within a one-mile radius of a fire station in Pomona. The division and battalion headquarters in Pomona are located at 590 S. Park Avenue, at Station 181.





### 3-1 Critical Facilities



Hospital



Fire Station



City Limits





## HOSPITALS

There is one major critical health care facility in Pomona, the Pomona Valley Hospital Medical Center. This facility is located at 1798 N. Garey Avenue. In addition to Pomona, it serves Eastern Los Angeles and Western San Bernardino Counties. It contains 436 beds, 30 emergency beds, and offers a complete range of medical facilities including general medical and surgical care, general intensive care, cardiac intensive care, open heart surgery, neurology, pediatrics, and obstetrics. A staff of 630 physicians, 2,300 employees and more than 1,000 volunteers manage over 100,000 inpatient days, 6,000 newborn deliveries, and more than 55,000 ER patient visits.<sup>1</sup>

Three other hospitals serve the City of Pomona: Casa Colina Hospital for Rehabilitative Medicine, American Recovery Center, and Lanterman Developmental Center. However, these facilities provide specialized care to treat specific illnesses, and would not be primary providers of emergency medical aid in the event of a disaster. A further discussion of these hospitals is presented in the following section on vulnerabilities. Other facilities, such as the county-operated Pomona District Health Center and the East Valley Community Health Center, provide important primary care services, but due to their limited size and services are not considered critical or vulnerable facilities for the purposes of this plan. (Lanterman scheduled to close 2014)

## TRANSPORTATION

There are five major freeways serving Pomona that provide primary regional access to and from the City. The I-10 and SR- 60 freeways provide east-west access to Pomona from Santa Monica and Los Angeles to the west, and Ontario, San Bernardino and Riverside to the east. The I-210 freeway provides an additional east-west connection to the

north of Pomona, extending west to Pasadena and the San Fernando Valley. The SR-71 and SR-57 freeways provide connections with Corona and Orange County.

In addition to the five freeways passing through the City, Pomona has an extensive street network. Classified as arterials, collectors, and local roads, Pomona's roads carry many thousands of vehicle and transit trips daily. Pomona's street network is primarily based on a grid, with several major north-south and east-west roadways interlaced with a system of intersecting minor streets.

Three railroads cross Pomona, which generally run east-west. Two railroad lines, located in the center of the City, are operated by Union Pacific Railroad (UPR) and are part of the Alameda Corridor. One of these lines was formerly the Southern Pacific Line (SPL) and is still marked as and commonly referred to under that name. The UPR tracks carry both freight and passenger trains. The northernmost railroad tracks were formerly operated by Atchison Topeka and Santa Fe Railroad (BNSF). They are currently owned by the Los Angeles County Metropolitan Transportation Authority, which operates passenger trains on the line (Metrolink).<sup>2</sup>

The UPR, located roughly between Holt Ave. and Mission Boulevard, bisects the center of the City and could be a significant impediment to north-south transportation if a train derailed within the City. Damage to the UPR tracks would also have far-reaching economic effects; the line is a major regional freight transportation artery. The location in Pomona is one through which all eastbound and westbound rail traffic must pass in Southern California. As part of the Alameda Corridor, the UPR will experience substantial structural improvements and increases of train traffic in the future.

<sup>1</sup> Pomona Valley Hospital Medical Center website. 2002 Annual Report, [http://www.pvhmc.org/Docs/AnReport2002\\_low.pdf](http://www.pvhmc.org/Docs/AnReport2002_low.pdf), accessed 03/01/04; Van Lul, Kenneth. Written communication, June 10, 2004.

<sup>2</sup> City of Pomona. *Materials Recovery Facility Draft Environmental Impact Report*. April 1996.

Each of the highways, freeways, and railroads are considered critical facilities in Pomona. A hazard that rendered these routes impassible would pose a significant challenge to the City in responding to and recovering from the event.

## **UTILITIES**

Pomona is a large city, 23 square miles in size, and it is traversed by hundreds of miles of streets, transmission lines, pipelines, and other facilities that enable proper functioning of the utility systems that serve Pomona. Although each of the parts contribute to the health of these systems, it is impossible to detail every component involved in Pomona's utility networks. This section, therefore, provides a brief description of utility services in the City, then summarizes the few critical facilities that contribute most to proper system functioning.

### **Water**

Potable water is delivered via facilities that consist of reservoirs, booster pumps, transmission and distribution pipelines, pressure reducing valves, service connections, meters, and other facilities. Transmission and distribution pipelines total approximately 400 miles in length.<sup>3</sup>

The City's Water master Plan is currently subject to a comprehensive update. In the update, capacity, maintenance, and projected growth will be addressed. Mitigation measures from the NHMP should be integrated into the update.

### **Sewer**

Wastewater service within Pomona is provided by the City's Utility Service Department, and the Los Angeles County Sanitation District (LACSD) treats wastewater from the City's system. A majority of the City's wastewater is treated and disposed of at the LACSD's Pomona Water Reclamation Plant (PWRP). The plant occupies approximately 14 acres northeast of the intersection of the SR-57 and

SR-60 Freeways. Sewage effluent from the neighboring cities of La Verne and Claremont is also treated at the PWRP. The City may also divert flows to the Water Pollution Control Plant (JWPCP) in the City of Carson.

The City's existing sewer system consists of interceptors and lift stations for the conveyance of wastewater within the City. Specifically, the collection system consists of over 275 miles of pipeline ranging from eight inches to 42-inches in diameter. In addition, there are four sewer lift stations, with facilities for emergency power and odor control, and three onsite stationary backup generators.<sup>4</sup>

The City of Pomona is also currently updating their Sewer System Master Plan, which was last revised in 1990. The Sewer System Master Plan will identify existing deficiencies. This is noteworthy, as it provides a good opportunity to incorporate any needed mitigation measures from the NHMP into the Master Plan update.

### **Solid Waste**

The City of Pomona Utility Services Department provides trash, recycling, and special pickup services for single-family residences, duplexes, triplexes, and some fourplexes. Franchise commercial waste haulers provide trash and recycling service for most fourplexes, all apartments with five or more units, as well as all commercial, governmental, and industrial facilities. Solid waste is transported to transfer stations for sorting and shipping to landfills; no transfer stations serving Pomona are located in the City.

### **Electricity**

Southern California Edison Company is the primary distribution provider for electricity in the

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<sup>3</sup> City of Pomona, *Water System Master Plan*, 1992: pp. 4-6.

<sup>4</sup> City of Pomona, Purchasing Specification No. 1030. 9, Request for Proposals for Water and Sewer System Master Plan, June 10, 2003.



City. The power received by the City's residents is produced at the various generation plants located throughout the region. Upon leaving the plant, electricity is distributed to individual users via local distributing stations, located within and around the City. The four substations and two primary transmission lines in Pomona are considered critical facilities.

### Natural Gas

Currently, Southern California Gas Company maintains transmission and distribution lines throughout the City. Most lines operate at a medium pressure of approximately 30 to 60 pounds per square inch (psi), except for those located in the industrial areas that require higher pressures.

## 3.5 VULNERABLE FACILITIES

Natural hazards will not equally affect all areas and population of Pomona. Identifying the vulnerable populations and facilities in the City will help to avert damage, and prepare the City to provide extra assistance to those who will need it. Facilities with vulnerable populations are described below and depicted geographically in Figure 3-2. Facilities that have particular vulnerabilities to specific hazards are discussed in further detail in the relevant hazard chapters (Chapters 6 to 10).

### SCHOOLS AND DAY CARE CENTERS

Children are the primary vulnerable group in Pomona. Minimizing damage to schools and daycare facilities will help ensure their safety during a natural disaster. Preparing schools for natural hazards not only helps prevent harm from coming to the children of Pomona; the schools can also be used as critical facilities in the event of a natural disaster. During and after times of crisis, schools can be utilized to serve as mass care facilities and important centers of information and communication.

### Public Schools

The Pomona Unified School District (PUSD) operates 44 schools within the City, which are mapped on Figure 3-2. Two of PUSD's schools are located in Diamond Bar and, thus, serves a portion of that City's population. There are currently 29 elementary schools (grades K-6), six middle schools (grades 7-8), 8 high schools (grades 9-12), one continuation high school (grades 9-12), two all-ages alternative schools, and one adult school within the PUSD. Approximately 27,000 students attend PUSD schools, and the district is one of Pomona's largest employers.<sup>5</sup> The PUSD is currently developing its own Natural Hazards Mitigation Plan for school facilities and other properties.

### Private Schools

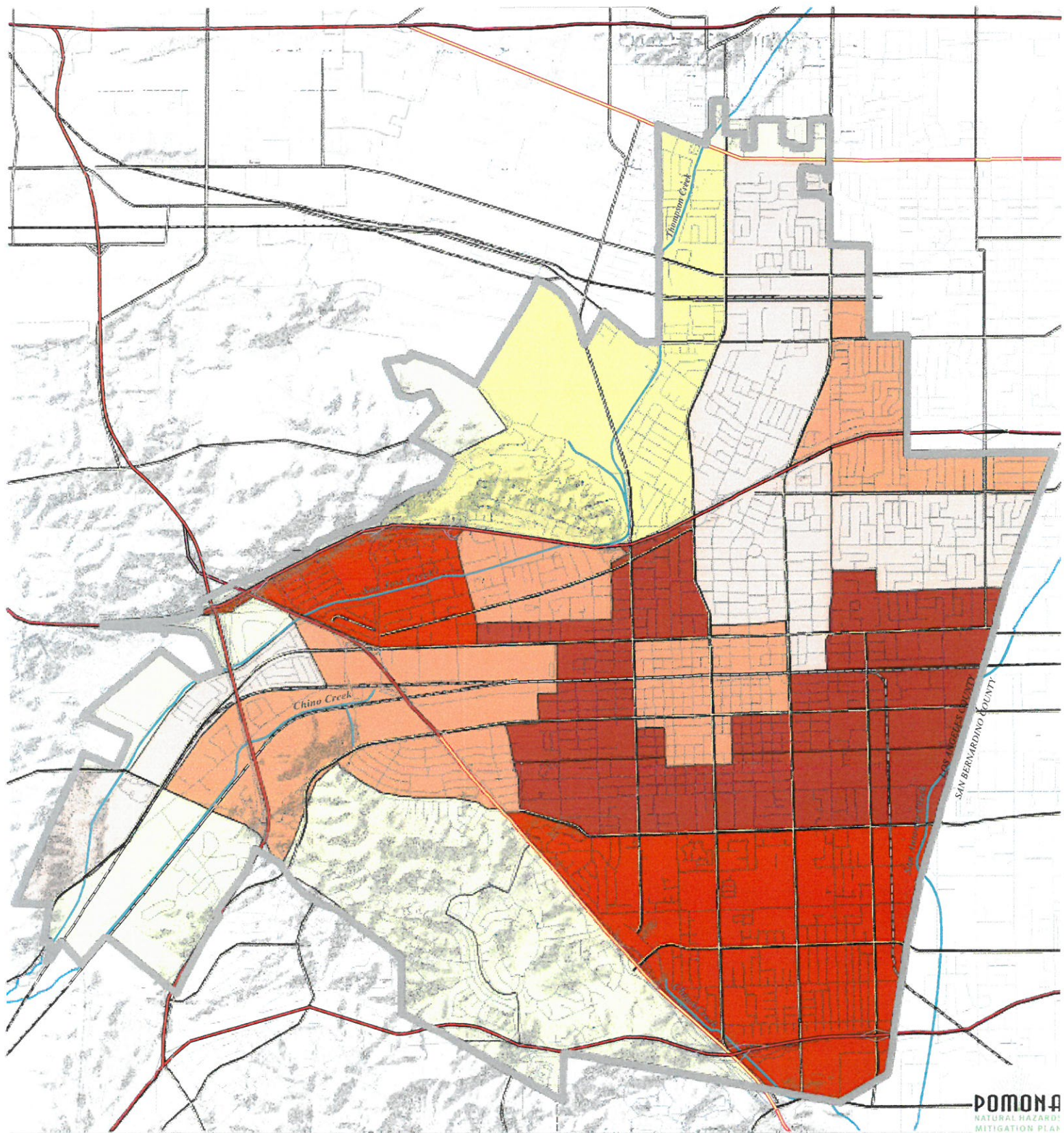
The City of Pomona has 16 private schools, with an enrollment of approximately 1,900 students ranging from kindergarten through grade 13. The largest of these schools includes Mt. Calvary Lutheran School (K-8) and St. Joseph Elementary (K-8). Locations of private schools are depicted in Figure 3-2.

### Childcare Centers

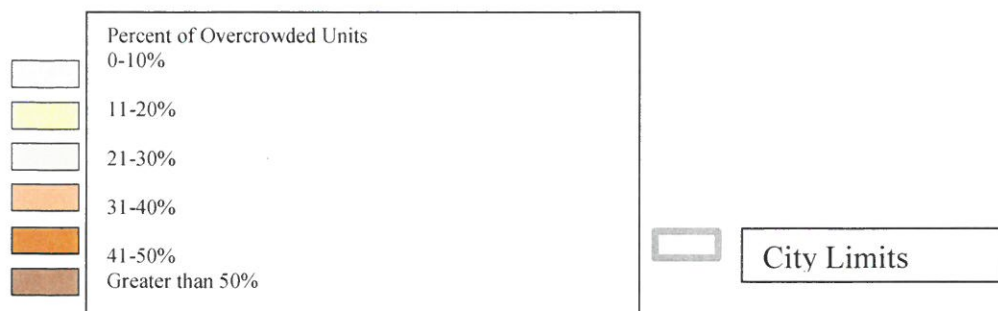
According to the PUSD, which keeps an inventory of all childcare providers in the City, there are currently more than 1,400 licensed providers in Pomona.<sup>6</sup> The majority of these are small, in-home residential childcare services with fewer than 8 children. There are twelve commercial day care providers in Pomona, which are considered greater vulnerabilities due to the larger number of children

<sup>5</sup> Pomona Unified School District, website: [http://www.pusd.org/public\\_index.asp](http://www.pusd.org/public_index.asp), accessed November 20, 2003; Pomona Unified School District, Capital Facilities Department, written communication, March 22, 2004; California Department of Education, Educational Demographics Unit, website: <http://data1.cde.ca.gov>, accessed November 19, 2003.





3-2 Vulnerable Facilities







present at their facilities.<sup>7</sup> The locations of the commercial childcare centers are mapped in Figure 3-2.

### Universities

There are several institutions providing higher education in Pomona. The largest of these is the California State Polytechnic University (Cal Poly Pomona). This University is located adjacent to the City's western border, in unincorporated lands, but owns some land within city limits. Cal Poly Pomona employs more than 2,300 people, and has an approximate enrollment of more than 19,000 graduate and undergraduate students.<sup>8</sup>

Western University of Health Sciences is located in downtown Pomona. Its main campus is at 309 E. 2<sup>nd</sup> Street. The University employs roughly 500 people, and current enrollment is approximately 1,400 students.<sup>9</sup>

DeVry University in Pomona is one of twenty DeVry campuses located throughout the United States. The Pomona facility is located at 901 Corporate Center Drive. The current enrollment at DeVry is approximately 3,000 students.

### RECREATION AND COMMUNITY CENTERS

Approximately 35% of Pomona's population is younger than 18 years of age. There are several recreation and community centers in the City that help to provide services to its young residents.

These facilities also provide important services to seniors as well. Especially during after-school hours, these centers can become crowded with

youth. The City operates community centers at six of its parks, as well as the Pomona Boys and Girls Club. There is also a YMCA in Pomona, which has served the community since 1884. The original YMCA building, completed in 1922, is also listed in the National Register of Historic Places and Pomona's Local Landmark Register. The facility was closed in 2012 and moved east to Holt and Indian Hill Ave.

### SENIOR CARE FACILITIES

In addition to the care available at hospital facilities, ten senior care centers are located in Pomona. The residents of these facilities may require additional medical attention, transportation assistance, emergency housing, or other assistance in the event of a natural disaster. Most senior care facilities in Pomona are located in the north of Holt Avenue, and several are clustered along the Garey Avenue corridor.

### HOSPITALS

Hospital facilities house large numbers of vulnerable patients who may need additional assistance in the event of an emergency. All of the hospitals in Pomona, including PVHMC, are considered assets with vulnerabilities. In addition, there are two other hospitals that serve as specialized treatment centers in Pomona: Casa Colina Hospital for Rehabilitative Medicine and Lanterman Developmental Center. Information on PVHMC is provided in Section 3-3; Critical Facilities, and information about the remaining two hospitals is supplied below.

#### Casa Colina Hospital for Rehabilitative Medicine

Casa Colina Hospital is an acute and sub-acute care hospital providing medical rehabilitation services. The hospital serves children and adults who have been disabled by spinal cord injury, brain injury, stroke, chronic lung disease, back injury, chronic pain, orthopedic conditions, neurological and neuromuscular disorders, developmental disorders, and other illnesses or injuries. The facility is located at 255 East Bonita

<sup>7</sup>

<sup>8</sup> Hurst, Jean. City of Pomona Business License Specialist. Written Communication, June 2004. Accessed November 23, 2003.

<sup>9</sup> California State Polytechnic University, Pomona, website: <http://www.csupomona.edu/>. Accessed February 23, 2004.

<sup>10</sup> Western University of Health Sciences, website: <http://www.westernu.edu>. Accessed November 23, 2003.

DeVry University, Pomona, website: <http://www.pom.dvry.edu/>



Avenue and has 64 beds, a staff of 184 physicians, and 27 full-time staff nurses.

### Lanterman Developmental Center

Lanterman Developmental Center, on Pomona Boulevard in the western corner of the City, is a state-run, live-in facility with services for adults with developmental disabilities. The hospital has 304 patients currently living on-site, and has approximately 7 full-time physicians.<sup>11</sup> There are a total of 995 beds. *As of 12/2014 Lanterman is closed*

### SHELTERS

There are five shelters and transitional living facilities in Pomona identified by the City's department of Community Services. Such group living quarters are considered vulnerabilities because of their concentrations of people with special needs and limited resources. The potential for loss of life is much higher in the event of structural failure/building collapse. In addition, due to the limited financial resources of the inhabitants in these shelters, the residents may require special post-disaster assistance, in particular relocation assistance.

### HAZARDOUS MATERIALS

In the event of a natural hazard, hazardous materials could potentially harm Pomona residents by exposing them to chemicals that may be poisonous, irritating, suffocating, or cause burns. The severity of hazardous materials impacts depends on many factors such as amount of chemical released, location, and rate and direction of dispersion. Identifying vulnerable toxic sites and preventing hazardous materials spills before they occur is fundamental to mitigating the myriad

unpredictable impacts that such spills may have on the community.

Over 200 sites with exposed hazardous materials are located within the City of Pomona. These sites include leaking underground storage tanks (USTs), leaking underground fuel tanks (LUFT), and other hazardous materials sites that are listed by the California Department of Toxic Substances Control (DTSC).<sup>13</sup> In order to most efficiently address the primary hazardous waste vulnerabilities, only the most acutely hazardous materials were mapped in Figure 3-2. There are six locations listed by the Environmental Protection Agency (EPA), under the Superfund Amendments and Reauthorization Act (SARA), Title III. Of the many hazardous materials sites in the City, these represent the greatest threat to human and environmental health in the City if released. The distribution of the sites indicates that hazardous materials are predominantly located along major industrial and commercial corridors in Pomona.

In addition to stationary hazardous materials sites, hazardous material that is en-route to other locations via truck or train may also be present in Pomona at any given time. Restrictions placed on transporters of hazardous materials include the avoidance of heavily populated areas, unless no other satisfactory route exists; limitations on access to bridges and tunnels; and a one-mile wide zone limitation along freeways for access to fuel and services. Railroad regulations stipulate that explosive materials are controlled within the train, but there are no controls regarding train routes. The only restriction is that potential flammable or explosive materials cannot be any closer than six rail cars from the train locomotive. This exposes neighborhoods near railway tracks in Pomona to

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<sup>11</sup> Lanterman Developmental Center, Office of the Director. Personal Communication, November 10, 2003

<sup>12</sup> City of Pomona website: [http://www.ci.pomona.ca.us/city\\_departments/community\\_development/community\\_services\\_listing.php](http://www.ci.pomona.ca.us/city_departments/community_development/community_services_listing.php). Accessed May 10, 2004.

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<sup>13</sup> Department of Toxic Substances Control, website: <http://www.dtsc.ca.gov/HazardousWaste/#Hazardous%20Waste%20Facilities>. Accessed April 10, 2004.

potential hazards due to rail car derailment and hazardous spills.<sup>14</sup>

## UTILITIES

Critical facilities of the utility systems in Pomona are discussed in the previous section, but it is important to note that there are specific vulnerabilities associated with them as well. Undergrounded utilities may be subject to rupture during an earthquake, creating the potential for fire or releasing hazardous chemicals. Additionally, strong winds are capable of downing tree branches that can fall on power lines, and fires can damage aboveground utility lines. Depending on the event, impacts can remain localized or affect the entire City. Specific utility vulnerabilities are discussed further in the relevant hazard chapters, when appropriate (see Chapters 6 to 10).

## VULNERABLE DEVELOPMENT PATTERNS

### Overcrowded Communities

The U.S. Census collects information about the density and level of crowding in housing units. A unit is considered overcrowded if it has more than one occupant per room. The percent of housing units that are overcrowded, per census tract, is displayed in Figure 3-2. Areas with a large percent of overcrowded units may experience greater impact during natural disasters due to their higher population densities. Because overcrowding is closely correlated with lower income levels and housing values, it is reasonable to assume that overcrowded neighborhoods may contain greater numbers of deteriorated buildings prone to damage than in other parts of the City. Emergency responders should be prepared to spend relatively greater amounts of time in the overcrowded neighborhoods when responding to the effects of a major disaster. Furthermore, there may be needs for higher levels of post-disaster assistance, such as short-term housing.

<sup>14</sup> City of Pomona, *Master Environmental Assessment*, April 1994.

## Unreinforced Masonry (URM) Buildings

Unreinforced masonry buildings (URMs) are structures that are particularly vulnerable to damage during an earthquake. These buildings—generally constructed prior to 1933—predate modern earthquake-resistant design standards. URM buildings are made of brick and have not been reinforced with strengthening steel bars in the structure. The walls of these buildings are more likely to disconnect from the foundation and fall during ground shaking, creating debris hazards and sometimes total collapse of the structure.<sup>15</sup> URM buildings in Pomona are depicted on Figure 3-2. Many of these were damaged in the 2008 Chino Earthquake

## Historic Properties

First incorporated in 1888 as the fifth city in Los Angeles County, Pomona has an impressive inventory of historic properties. It includes eight properties listed on the National Register of Historic Places, three properties designated as California Historic Landmarks, and thirteen properties designated locally on Pomona's Landmark Register, as well as three historic districts. There are several additional districts with potential historic significance and more than 500 potential historic properties under consideration for local, state, or national historic designation.

Many of these structures are particularly vulnerable to damage from hazards due to their age, construction methods, and materials. Many historic buildings were heavily damaged in the last major hazard event to affect Pomona, the Whittier Narrows earthquake. The City of Pomona owns three of the most historic properties, which date back to the first modern settlement of the site that

<sup>15</sup> "Unreinforced Masonry Buildings Fact Sheet," Historic Buildings Committee, February 2004.

<sup>16</sup> City of Pomona. *Existing Conditions, Challenges, and Opportunities Report*. May 2004.

<sup>17</sup> Gallivan, Mickey. President, Pomona Historical Society. Written Communication. June 2004.



later became Pomona. These three properties are displayed in Figure 3-2.

### Pre-1976 Structures

Seismic safety standards were first incorporated into Pomona's building code in 1976. Due to the considerable age of the City, however, the majority of the structures were constructed before such standards were in place. The age of City structures, when available, has been mapped in Figure 3-3. The distribution of structures by age clearly displays the evolution of Pomona: the oldest buildings are clustered downtown—including the URM buildings discussed above and mapped in Figure 3-2—and development radiates outward over time from this core. In the vast majority of cases, pre-1976 buildings are not required to conform to seismic safety requirements and have an elevated risk to damage due to earthquake. Older structures are also more prone to wind damage.

### Hazard-Specific Land Uses and Construction

In addition to other types of vulnerable development patterns discussed in this section, there are specific land uses and construction types that are more susceptible to particular natural hazards. For example, soft-story and tilt-up construction tends to be more vulnerable to ground shaking. Development in the wildland-urban interface increases the risk of damage due to wildfire. These types of hazard-specific developments are discussed in further detail in Chapters 6 – 10.

## 3.6 RISK IDENTIFICATION AND VULNERABILITIES SUMMARY

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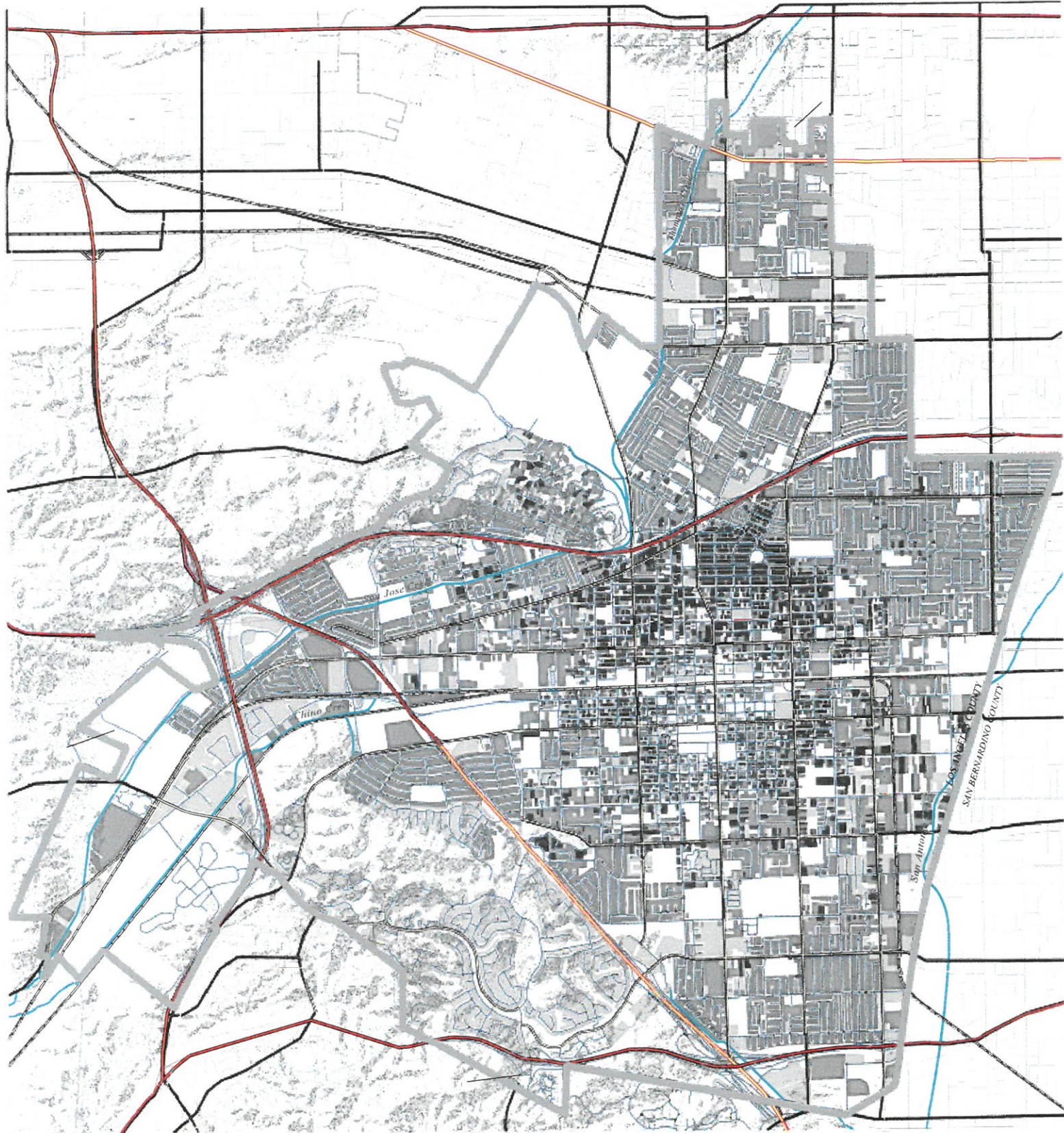
Identified risks and vulnerabilities associated with natural hazards in Pomona are summarized below. Chapters 6 – 10 document the analyses yielding these conclusions.

## EARTHQUAKE

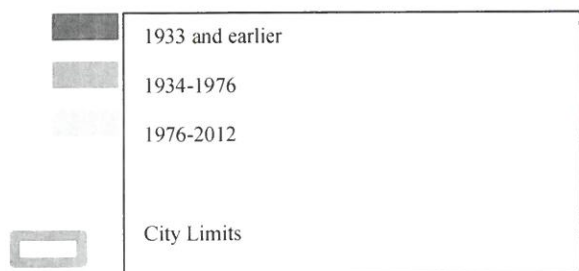
The following risks and vulnerabilities associated with ground shaking, liquefaction, and earthquake-induced landslides have been prioritized for mitigation actions:

- Many of the buildings in Pomona were constructed before seismic safety standards were implemented in 1976; this includes a majority of the facilities that house emergency services and government operations.
- There are 94 unreinforced masonry buildings, which are well-known for their poor ability to withstand earthquakes. They are especially prone to collapse and pose substantial risks to life and property .
- Pomona has an impressive inventory of historic properties, which are a unique source of civic pride. They are also more prone to sustain damage and collapse during an earthquake.
- Much of the utility infrastructure in Pomona is aging and will need maintenance or replacement. Critical components of the utility systems, such as water reservoirs, have partial seismic safety features in place but completion of retrofit programs has been deferred.
- Targetted transportation corridors have been identified as crucial and vulnerable lifelines, essential for emergency vehicle traffic. Collapse of underpasses or train derailment would impair proper provision of emergency services in the aftermath of an earthquake.
- Particular neighborhoods in Pomona have an elevated vulnerability to earthquake hazards due to the age of the structures, or due to a high percentage of overcrowding. Often these characteristics coincide; damage in these neighborhoods is expected to be relatively greater than the rest of the City, and will require concomitant emergency response.





### 3-3 Age of Structures





## LANDSLIDE

The following risks and vulnerabilities associated with landslides have been prioritized for mitigation.

- Residential developments in the hills of Pomona are at risk to landslide. Not only are they built on areas that are historically prone to landslides due to topography and soil conditions, but road development, grading, excavation and other forms of development.

4 homes were lost in a 2006 landslide in South Pomona

## WILDFIRE

The following risks and vulnerabilities associated with wildfire have been prioritized for mitigation.

- Development in

the urban/wildland interface is especially vulnerable to wildfire damage. Communities such as Phillips Ranch and Ganesha Hills were built in these areas and require more stringent wildfire mitigation measures. Aging infrastructure in the City is vulnerable to damage from earthquake, which could affect the City's water supply in the event of a wildfire.

## FLOODING

The following risks and vulnerabilities

A small number of locations in Associated with flooding have been prioritized for mitigation. Pomona are prone to flooding due to storm drain

deficiencies. The flooding that occurs seasonally at the railroad underpasses is of particular concern, as it has the potential to block routes that are considered key transportation lifelines. The City could be

subject to flooding in the event of dam failure. However, due to the distance of the City from the reservoirs, the minimal amount of water that is stored at the relevant impoundments, and the very low probability of occurrence, this risk is not considered to have significant potential for widespread community impacts.

## WINDSTORM

The following risks and vulnerabilities associated with windstorm have been prioritized for mitigation

Santa Ana winds occur October and March, can damage or dislodge roofs, and topple trees and power lines. These wind storms can affect the entire city but potential damage is not widespread and there are no high risks to critical facilities or city infrastructure.

A windstorm in 2011 affected communities west of Pomona . Power was out for over a week due to tree damage

### 3.7

## POTENTIAL FINANCIAL LOSSES

## POTENTIAL DAMAGE ESTIMATES

A comprehensive assessment of the potential risks faced by a community involves understanding financial vulnerabilities in addition to prospects for injury, life loss, and property damage. Estimates of financial costs help to underscore the cost effectiveness of emergency preparedness and hazard mitigation actions and improvements. In addition, cost estimates calculated for separate hazard scenarios—earthquake, flooding, landslide, etc.—provide a quantitative tool for comparing hazard effects and prioritizing mitigation.

For each hazard where data were available, cost estimates of potential damage have been calculated. The primary tool available to estimate the potential losses of natural hazards is the GIS-based software HAZUS. A HAZUS scenario was constructed to estimate losses due to earthquake damage in the City; total potential losses exceeded 750 million dollars. While these estimates are highly hypothetical, they nevertheless provide a sense of the magnitude of potential financial impacts. At this time, HAZUS scenarios for other natural hazards are not available. In order to provide a baseline for the potential damage estimates of the other natural hazards, the number and value of structures within the scope of each of the hazards is provided whenever possible.

## **COST-EFFECTIVENESS ANALYSIS FOR MITIGATION**

Cost effectiveness analysis is an important tool that the City will use to help prioritize mitigation actions. This process will assist in identifying those actions that maximize risk reduction with efficient expenditure of public funds. Appendix C contains the guidelines for cost effectiveness analysis that the City will follow.

## **Mitigation Strategy**

City of Pomona will be utilizing various City Codes, State Building Codes, State Fire Codes and zoning to promote the best practices in mitigation for the community. The City has already seen that these strategies have had a dramatic reduction in the risk of flooding and wildfire to the community. The City has also seen that a review of building codes after an event and implementing new policies and codes has also reduced the risk to the community for landslides. Utilizing available grants and programs the City hopes to further reduce the risk from earthquakes. Recent interest in improving the downtown area has had a significant impact in reducing and mitigating hazardous in older historical buildings that populate the downtown area. The restored Mayflower Hotel is an excellent example of using codes to mitigate hazards in cost effective way.



## 4 Goals and Objectives

### 4.1 INTRODUCTION

---

One of the steps in preparing the *Natural Hazards Mitigation Plan* pursuant to the Disaster Management Act of 2000 is consideration of the City's mission in hazard planning and related goals and objectives. The mission establishes the overarching guiding principle, whereas goals are broad statements of intent and objectives provide direction on actions to achieve the goal. The mission, goals, and objectives were based on the hazard and risk analysis along with input from the Technical Advisory Committee (TAC) and community members.

### 4.2 MISSION STATEMENT

---

The City of Pomona's mission for the NHMP is to:

*Establish a comprehensive strategy of programs, development regulations, and cost-effective improvement projects to protect citizens, critical facilities, infrastructure, private property, and the environment from natural hazards.*

The goals and objectives specified below together serve as the framework for formulating the NHMP mitigation strategy, thereby linking the mission statement to the action plan.

### 4.3 GOALS AND OBJECTIVES FRAMEWORK

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#### PROTECT LIFE AND PROPERTY

*Goal 1.1:* Reduce the potential for life loss, injury, and economic damage to Pomona residents and businesses.

- *Objective 1.1.1:* Increase the resilience of institutions, services, and lifeline systems that are essential to Pomona's functioning.
- *Objective 1.1.2:* Increase the ability of the City government to serve the community during

and after hazard events through response, recovery and rebuilding.

- *Objective 1.1.3:* Recognize the potential for greater impacts to vulnerable populations and overcrowded neighborhoods in emergency response and mitigation planning.
- *Objective 1.1.4:* Continue to utilize the emergency management system to provide early warning of and response to all life-threatening hazards that can be predicted, such as earthquakes, floods, landslides, severe storms, wildfires, and hazardous materials incidents.

*Goal 1.2:* Protect Pomona's unique character and values from being compromised by hazard events.

- *Objective 1.2.1:* Encourage and support the long-term protection of historic and architecturally significant structures to preserve neighborhood and community character.
- *Objective 1.2.2:* Implement mitigation that effectively addresses the hazard potential while preserving unique historical values.
- *Objective 1.2.3:* Support the long-term protection of Pomona's neighborhoods by reducing the potential impact to structures from hazard events.

*Goal 1.3:* Minimize losses to existing property and reduce potential for damage to future development.

- *Objective 1.3.1:* Coordinate land use plans and regulations to direct development away, or buffer development from, area and site-specific natural hazards.
- *Objective 1.3.2:* Continue maintenance programs, such as site inspection and trash/debris removal, to reduce the potential for wildfire and other problems.
- *Objective 1.3.3:* Encourage insurance coverage for earthquake events.

- *Objective 1.3.4:* Ensure that new buildings and substantial improvements to existing buildings are governed by and incorporate all appropriate building codes and construction measures to protect them against failure of damage.
- *Objective 1.3.5:* Implement a program to mitigate the hazards posed by older unreinforced masonry buildings largely clustered in the downtown area.
- *Objective 1.3.6:* Avoid localized hazards and associated risks to property and people by implementing appropriate improvements, such as construction of stormwater drainage improvements for localized flooding and slope stabilization measures for localized landslide conditions.
- *Objective 1.3.7:* Avoid localized flooding problems by construction of appropriate stormwater drainage improvements.

## **PUBLIC AWARENESS**

*Goal 2.1:* Develop and implement education and outreach programs to increase public awareness of the risks associated with natural hazards.

- *Objective 2.1.1:* Prioritize community education and outreach in natural hazard mitigation planning.
- *Objective 2.1.2:* Develop targeted education and outreach programs to segments of the community that are most at-risk to hazards events.
- *Objective 2.1.3:* Encourage the distribution of information to residents, businesses, and public employees on safety and health precautions to take in advance of and during a disaster.
- *Objective 2.1.4:* Utilize local organizations and community partners in preparedness training and post-disaster assistance.
- *Objective 2.1.5:* Advise and assist residents and businesses in taking appropriate mitigation steps to protect their properties.

- *Objective 2.1.6:* Aid both the private and public sectors in understanding the risks they may be exposed to and finding mitigation strategies to reduce those risks.

## **NATURAL SYSTEMS**

*Goal 3.1:* Balance natural resource management, and land use planning with natural hazard mitigation to protect life, property, and the environment.

- *Objective 3.1.1:* Preserve, rehabilitate, and enhance natural systems to serve natural hazard mitigation functions where possible, recognizing the built-out character of the City.
- *Objective 3.1.2:* Minimize potential negative environmental impacts from mitigation efforts.

## **PARTNERSHIPS AND IMPLEMENTATION**

*Goal 4.1:* Encourage and support leadership within Pomona to promote and implement local hazard mitigation activities.

- *Objective 4.1.1:* Strengthen communication and coordination with public agencies, citizens, non-profit organizations, business, and industry to ensure support for implementation.
- *Objective 4.1.2:* Provide information on tools, partnership opportunities, and funding resources to assist in implementing mitigation activities.
- *Objective 4.1.3:* Continue developing and strengthening inter-jurisdictional coordination and cooperation in the area of emergency services and post-disaster response programs.
- *Objective 4.1.4:* Maintain partnerships with facilities and institutions with populations that are particularly vulnerable to risks associated with natural hazards, including emergency planning and post-disaster contingency plans.



- *Objective 4.1.5:* Coordinate with utility and transportation providers to establish and maintain early warning systems.
- *Objective 4.1.6:* Periodically review and update the Natural Hazards Mitigation Plan, taking into consideration new hazard information, changes in vulnerabilities and critical facilities, and advancements in emergency response and post-disaster services.

## **EMERGENCY SERVICES**

*Goal 5.1:* Ensure continued operations when the City is impacted by natural hazard events.

- *Objective 5.1.1:* Prioritize funding and implementation schedules for improvements needed to ensure continuous and extensive emergency response capabilities.
- *Objective 5.1.2:* Strengthen emergency operations by increasing collaboration and coordination among public agencies, non-profit organizations, business, and industry.
- *Objective 5.1.3:* Coordinate and integrate natural hazard mitigation activities, where appropriate, with emergency operations plans and procedures.
- *Objective 5.1.4:* Continue providing emergency services with training and equipment to address all identified hazards.
- *Objective 5.1.5:* Distribute resources for emergency response around the City to ensure accessibility.
- *Objective 5.1.6:* Conduct periodic emergency preparedness drills involving City staff and emergency services, other emergency service providers, critical facilities, utility operators, community partners, and institutions with vulnerable populations.

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## 5 Mitigation Action Plan

### 5.1 INTRODUCTION

Risks associated with natural hazards in Pomona are reduced through a variety of programs implemented by the federal and State governments and local agencies and government, including the City of Pomona. This chapter sets forth the mitigation action plan that the City is committed to implementing to reduce the potential for risks in the event of earthquake, wildfire, flooding, or windstorm, and to maximize the effectiveness of the emergency response system to avoid injury, life loss, and property damage.

The mitigation actions represent the culmination of the research, mapping, analysis, and community outreach conducted for the NHMP. More specifically, the mitigation considers:

- Risks associated with critical facilities and community vulnerabilities that have been rated as having medium and high community impact potential;
- NHMP mission, goals and objectives;
- Input from City staff and stakeholders and additional research conducted by the project team.

In the process of formulating the mitigation action plan, the Technical Advisory Committee reviewed a series of draft mitigation measures and provided feedback on cost-effectiveness, political will, technical feasibility, and environmental soundness. During this process the TAC helped to identify additional mitigation as well as improve the feasibility and effectiveness of the proposed mitigation given Pomona's unique needs.

For each mitigation action, the following are documented:

- Natural hazards addressed;
- Goals and objectives implemented—it should be noted that many of the mitigation actions are designed to achieve multiple goals and objectives;
- Lead Department; and
- Implementation Schedule, whereby “Short-term” denotes anticipated implementation within two years of NHMP adoption, “Mid-term” denotes anticipated implementation within five years of NHMP adoptions; and “On-going” denotes continuous implementation from year to year. Mitigation actions currently underway are noted as appropriate. Due to significant budget restrictions, the City will continue to seek assistance through federal, State, and regional funding programs.

### 5.2 MITIGATION ACTION ITEMS

#### NHMP IMPLEMENTATION STRUCTURE

*Mitigation Action 1.1:* Coordinator and Action Committee

Designate a Hazard Mitigation Coordinator and a Natural Hazards Action Committee to steer NHMP implementation. The Coordinator will be responsible for:

- Overseeing implementation of the NHMP.
- Preparing an Annual Report to the City Council—in coordination with the Natural Hazards Action Committee—that details mitigation action items to implement in the upcoming year, including cost estimates, cost/benefit or cost-effectiveness analyses (see Appendix C), and recommendations for items to include in the City's Capital Improvement Program.

In this 2012 update the City reaffirmed that there were no changes in priorities from the previous plan. The Great Recession may have slowed the progress, but the City is committed in completing the mitigation activities.

- Updating the NHMP every five years—in coordination with the Natural Hazards Action Committee— by evaluating the cost-effectiveness of mitigation implementation (see Appendix C), addressing changes in critical facilities and vulnerabilities, incorporating advancements in emergency response and post-disaster services, and updating hazard and risk assessments as new information becomes available. This includes incorporating new data from federal, State, or regional hazard mapping and delineation efforts.
- Establishing and maintaining the roster for the Action Committee, calling meetings, and preparing agendas and necessary information materials for meetings.

The Natural Hazards Action Committee will be comprised of representatives of City departments involved in NHMP implementation; representatives of critical and vulnerable facilities; community stakeholders involved in emergency preparedness and response; and representatives of the CERT and CAEP programs (see Mitigation Actions 4.2 and 4.3). In addition to the roles in the Annual Report and NHMP Five-year Updates noted above, the Action Committee will provide input on community education efforts.

Lead Department: Community Development

Implementation Schedule: On-going

Hazards Addressed: All

Goals and Objectives Implemented: All

#### *Mitigation Action 1.2: Implementation Options for Hazard Mitigation*

Secure necessary funding for implementation of hazard mitigation actions as follows:

- Allocate City resources and assistance for hazard mitigation projects, using available City resources efficiently and with consideration of cost-effectiveness analysis;

- Identify and seek grant programs and foundations that may support mitigation activities; and
- Partner with other government agencies, special districts, utility providers, and organizations involved in hazard mitigation and emergency preparedness and response to pursue grants and special funding programs.

In addition, utilize incentive programs for local community members and businesses to pursue hazard mitigation projects.

Lead Department: Community Development, Public Works, or Utility Services, depending on the project

Implementation Schedule: On-going

Hazards Addressed: All

Goals and Objectives Implemented: All

### **READY CRITICAL FACILITIES AND EMERGENCY SERVICES**

#### *Mitigation Action 2.1: Integrity of Emergency Operation Center System*

Maintain the system of the Emergency Operation Center (Central Fire Station) with alternative back-up facilities to be activated in the event the central facility is impaired. Because emergency service response times will decrease if back-up locations must be activated, maximize resiliency of the Central Emergency Operations Facility. This likely involves structural improvements needed to withstand ground shaking.

The existing Emergency Operation Center's location in the basement of the Central Fire Station is undesirable. Access, structural, and capacity limitations could significantly impair coordination activities necessary to save lives and property in the event of a major disaster such as an earthquake. Relocate the Emergency Operations Center to a more appropriate facility, and prioritize integration of the Emergency Operations Center in the planned police headquarters facility. Evaluate the



structural soundness of the City Council Chambers as a potential location for the Emergency Operations Center, and prioritize any upgrades necessary to use the facility in an emergency situation.

Lead Departments: Human Resources

Implementation Schedule: 2015 on schedule

Hazards Addressed: All

Goals and Objectives Implemented:

*Goal 1.1:* Reduce the potential for life loss, injury, and economic damage to Pomona residents and businesses by maximizing emergency preparedness capabilities (Objectives 1.1.1, 1.1.2, 1.1.4).

*Goal 5.1:* Ensure continued operations when the City is impacted by natural hazard events (Objectives 5.1.1, 5.1.3, 5.1.4).

*Mitigation Action 2.2:* Back-up Emergency Operations Center

Because the Emergency Operations Center and back-up locations are all clustered in the City center, activating the emergency response system could be impeded if the City center experienced extensive damage during a major earthquake. To ensure response capabilities, designate and equip a back-up facility outside of the City center, preferably south of the I-10 freeway and outside of liquefaction zones. This facility should meet all current seismic safety standards.

Lead Department: Human Resources

Implementation Schedule: on schedule for 2016

Hazards Addressed: All

Goals and Objectives Implemented:

*Goal 1.1:* Reduce the potential for life loss, injury, and economic damage to Pomona residents and businesses by maximizing emer-

gency preparedness capabilities (Objectives 1.1.1, 1.1.2, 1.1.4).

*Goal 5.1:* Ensure continued operations when the City is impacted by natural hazard events (Objectives 5.1.1, 5.1.3, 5.1.4, 5.1.5).

*Mitigation Action 2.3:* Reinforcement of Other City Facilities

Conduct a structural assessment of City-owned properties constructed prior to the 1976 Building Code—which contain the latest seismic safety structural requirements—to identify buildings needing seismic safety improvements. This assessment should include City Hall, the Pomona Library, fire and police facilities, and community/recreation centers (particularly the Ganesha Hills Center). Prioritize improvements according to 1) minimizing injury and life loss, 2) ensuring emergency services and response, 3) ensuring distribution of hazard-resistant emergency facilities across the City to maximize emergency response and accessibility. Also consider cost-effectiveness in the prioritization ranking.

Lead Department: Community Development

Implementation Schedule: ongoing

Hazards Addressed: Earthquake, Wildfire

Goals and Objectives Implemented:

*Goal 1.1:* Reduce the potential for life loss, injury, and economic damage to Pomona residents and businesses by maximizing emergency preparedness capabilities (Objectives 1.1.1, 1.1.2, 1.1.3).

*Goal 5.1:* Ensure continued operations when impacted by natural hazard events (Objective 5.1.1).

*Mitigation Action 2.4:* Establish “Life-line” Circulation System

North-south circulation in Pomona could be significantly diminished in the event a long freight train is stranded on the Southern Pacific Railroad

due to an earthquake or other hazard event. North-south circulation could also be impaired by significant flooding in the railroad underpasses at White, Towne, and Garey Avenues or the associated bridge collapses due to an earthquake. These scenarios are of particular concern given the location of the City's only hospital north of these potential obstructions and the majority of City population to the south, and require the following actions:

- In the update of the General Plan Circulation Element and the next update of the *SEMS Plan*, establish "Life-line" circulation system whereby special protocols are enacted to manage traffic flows on White, Towne, and Garey Avenues to ensure adequate north-south access for emergency vehicles. Establish alternative Life-line streets in the event these streets are obstructed;
- Continue prioritizing maintenance of the pumps in the underpasses;
- As prescribed in Mitigation Action 3.1, coordinate with the Union Pacific Railroad to advocate the importance of maintaining the structural integrity of the underpass structures; and
- Conduct engineering evaluations of the City's under/overpasses for structural soundness. Request any evaluations that have been performed by the Union Pacific Railroad.

Three projects are underway that will contribute significantly to the Life-line circulation system:

- Railroad underpasses at East End Avenue and Reservoir Streets are currently under construction, and should serve to enhance north-south circulation in Pomona. Consider these improvements in planning for the Life-line system.
- The Transit Management Action Center (TMAC), to be installed at the Fairplex or the TransCenter in downtown, will provide city-wide traffic monitoring capabilities that can be

used for traffic management in the aftermath of a disaster.

- The Intelligent Railroad Integrated System (IRIS), funded with federal grants, includes sixteen message signs distributed around the City. Life-line circulation planning and the *SEMS Plan* should consider the location of the message signs and establish protocol directives for use of the signs for traffic management and other community communications after a major hazard event.

Lead Department: Community Development, Public Works

Implementation Schedule: program canceled by railroad

Hazards Addressed: All

Goals and Objectives Implemented:

*Goal 1.1:* Reduce the potential for life loss, injury, and economic damage to Pomona residents and businesses by maximizing emergency preparedness capabilities (Objectives 1.1.1, 1.1.2, 1.1.4).

*Goal 5.1:* Ensure continued operations when the City is impacted by natural hazard events (Objective 5.1.3).

*Mitigation Action 2.5:* Water Reservoir Seismic Retrofit Completion

Complete the program to retrofit the City's reservoirs to withstand strong ground shaking during earthquake events. While six of the City's 22 reservoirs have been improved, a number remain vulnerable and need seismic safety valves. Reservoir damage could result in widespread water service disruptions and diminished fire fighting capabilities.

Lead Department: Utility Services

Implementation Schedule: Ongoing as funding permits

Hazards Addressed: Earthquake, Wildfire



Goals and Objectives Implemented:

*Goal 1.1:* Reduce the potential for life loss, injury, and economic damage to Pomona residents and businesses by maximizing emergency preparedness capabilities (Objective 1.1.1).

*Goal 5.1:* Ensure continued operations when the City is impacted by natural hazard events (Objective 5.1.1).

*Mitigation Action 2.6:* Aging Water and Sewer Infrastructure Replacement

As an older City with the development in the City center dating back to the late 1800s—including the system of water wells and pipelines—portions of the City's water and sewer infrastructure are in need of extensive maintenance and/or replacement. Older infrastructure is more prone to damage and service disruptions during earthquake, with potential ramifications for public safety and fire fighting capabilities. Continue to fund and prioritize water and sewer infrastructure improvements to reduce the potential for these hazard-related risks. Use the Sewer and Water Master Plans currently under preparation as the basis for the improvement schedule.

Lead Department: Utility Services

Implementation Schedule: On-going

Hazards Addressed: Earthquake, Wildfire

Goals and Objectives Implemented:

*Goal 1.1:* Reduce the potential for life loss, injury, and economic damage to Pomona residents and businesses by maximizing emergency preparedness capabilities (Objective 1.1.1).

*Goal 5.1:* Ensure continued operations when the City is impacted by natural hazard events (Objective 5.1.1).

*Mitigation Action 2.7:* Localized Flood Control Improvements

While the City has an effective flood control system, several localized areas continue to be subject to storm-related flooding. These include underpasses at the intersections of Garey, Towne, and White Avenues and the Union Pacific Railroad tracks; East End Avenue, between Mission Boulevard and Grand Avenue; Ninth Street, between the Union Pacific Railroad tracks and East End Avenue; and cul-de-sacs bounded by SR-60, County Road, Garey Boulevard, and Reservoir Street. In addition, five claims for National Flood Insurance Program assistance were filed between 1978 to 2003, indicating the need for improvements.

Conduct a study of these localized flooding hazards and identify needed improvements. Determine priority for implementation in part with cost-effectiveness analysis. Once the improvements are identified, consider options for requiring construction of the improvements as part of development projects if appropriate and feasible.

Lead Department: Public Works

Implementation Schedule: on-going

Hazards Addressed: Flooding

Goals and Objectives Implemented:

*Goal 1.1:* Reduce the potential for life loss, injury, and economic damage to Pomona residents and businesses by maximizing emergency preparedness capabilities (Objective 1.1.1).

*Goal 5.1:* Ensure continued operations when the City is impacted by natural hazard events (Objective 5.1.1).

*Mitigation Action 2.8:* Back-up Medical Services

Establish communication with Pomona Valley Hospital Medical Center regarding established agreements for back-up services and participation

# City of Pomona, California

## Flood Plain Management

### ARTICLE XI. - FLOOD PLAIN MANAGEMENT

#### DIVISION 1. - STATUTORY AUTHORIZATION AND PURPOSE

Sec. 18-600. - Statutory authorization.

Sec. 18-601. - Statement of purpose.

Secs. 18-602—18-609. - Reserved.

#### DIVISION 2. - DEFINITIONS

Sec. 18-610. - Definitions.

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#### DIVISION 3. - GENERAL PROVISIONS

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#### DIVISION 4. - ADMINISTRATION

Sec. 18-630. - Establishment of development permit.

Sec. 18-631. - Designation of the flood plain administrator.

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#### DIVISION 5. - PROVISIONS FOR FLOOD HAZARD REDUCTION

Sec. 18-640. - Standards of construction.

Sec. 18-641. - Standards for subdivisions or other proposed new development.

Sec. 18-642. - Standards for utilities.

Secs. 18-643—18-699. - Reserved.

### ARTICLE XI. - FLOOD PLAIN MANAGEMENT



#### DIVISION 1. - STATUTORY AUTHORIZATION AND PURPOSE



##### Sec. 18-600. - Statutory authorization.



The legislature of the State of California has in Government Code §§ 65302, 65560, and 65800 conferred upon local governments the authority to adopt regulations designed to promote the public health, safety, and general welfare of its citizenry. Therefore, the City Council of the City of Pomona does hereby adopt the following flood plain management regulations.

*(Ord. No. 4066, § 1, 7-19-2006)*

##### Sec. 18-601. - Statement of purpose.



It is the purpose of this article to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

- (1) Protect human life and health;

- (2) Minimize expenditure of public money for costly flood control projects;
- (3) Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- (4) Minimize prolonged business interruptions;
- (5) Minimize damage to public facilities and utilities such as water and gas mains; electric, telephone and sewer lines; and streets and bridges located in areas of special flood hazard;
- (6) Help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future blighted areas caused by flood damage;
- (7) Ensure that potential buyers are notified that property is in an area of special flood hazard; and
- (8) Ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

(Ord. No. 4066, § 1, 7-19-2006)

**Secs. 18-602—18-609. - Reserved.**



**DIVISION 2. - DEFINITIONS**



**Sec. 18-610. - Definitions.**



Unless specifically defined below, words or phrases used in this article shall be interpreted so as to give them the meaning they have in common usage and to give this article its most reasonable application:

*Area of special flood hazard* means the land in the flood plain within a community subject to a one percent or greater chance of flooding in any given year.

*Base flood* means a flood which has a one percent chance of being equaled or exceeded in any given year (also called the "100-year flood"). Base flood is the term used throughout this article.

*Building.* See "structure."



*Development* means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.

*Flood or flooding* means:

- (1) A general and temporary condition of partial or complete inundation of normally dry land areas from: the overflow of inland or tidal waters; the unusual and rapid accumulation or runoff of surface waters from any source; or mudslides (i.e., mudflows) which are proximately caused by flooding as defined herein and are akin to a river of liquid and flowing mud on the surfaces of normally dry land areas, as when earth is carried by a current of water and deposited along the path of the current.
- (2) The collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusual and unforeseeable event which results in flooding as defined in this definition.

*Floodplain or flood-prone area* means any land area susceptible to being inundated by water from any source. See "flooding."

*Floodplain administrator* is the individual appointed to administer and enforce the flood plain management regulations.

*Floodplain management* means the operation of an overall program of corrective and preventive measures for reducing flood damage and preserving and enhancing, where possible, natural resources in the floodplain, including but not limited to emergency preparedness plans, flood control works, floodplain management regulations, and open space plans.

*Floodplain management regulations* means this article and other zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as grading and erosion control) and other application of police power which control development in flood-prone areas. This term describes federal, state or local regulations in any combination thereof which provide standards for preventing and reducing flood loss and damage.

*Governing body* is the local governing unit, i.e. county or municipality that is empowered to adopt and implement regulations to provide for the public health, safety and general welfare of its citizenry.

*Historic structure*: means any structure that is

- (1) Listed individually in the National Register of Historic Places (a listing maintained by the department of interior) or preliminarily determined by the secretary of the interior as meeting the requirements for individual listing on the National Register;

- (2) Certified or preliminarily determined by the secretary of the interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the secretary to qualify as a registered historic district;
- (3) Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the secretary of interior; or
- (4) Individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either by an approved state program as determined by the secretary of the interior or directly by the secretary of the interior in states with approved programs.

*Manufactured home* means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term "manufactured home" does not include a "recreational vehicle."

*Manufactured home park or subdivision* means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

*New construction*, for floodplain management purposes, means structures for which the "start of construction" commenced on or after the effective date of floodplain management regulations adopted by this community, and includes any subsequent improvements to such structures.

*One-hundred-year flood or 100-year flood.* See "base flood."

*Recreational vehicle:* means a vehicle which is

- (1) Built on a single chassis;
- (2) Four hundred square feet or less when measured at the largest horizontal projection;
- (3) Designed to be self-propelled or permanently towable by a light-duty truck; and
- (4) Designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

*Start of construction* includes substantial improvement and other proposed new development and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement was within 180 days from the date of the permit. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading, and filling; nor does it



include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

*Structure* means a walled and roofed building that is principally above ground; this includes a gas or liquid storage tank or a manufactured home.

*Substantial damage* means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

*Substantial improvement* means any reconstruction, rehabilitation, addition, or other proposed new development of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. This term includes structures which have incurred "substantial damage", regardless of the actual repair work performed. The term does not, however, include either:

- (1) Any project for improvement of a structure to correct existing violations or state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions, or
- (2) Any alteration of a "historic structure," provided that the alteration will not preclude the structure's continued designation as a "historic structure."

(Ord. No. 4066, § 1, 7-19-2006)

#### **Secs. 18-611—18-619. - Reserved.**



#### **DIVISION 3. - GENERAL PROVISIONS**



#### **Sec. 18-620. - Lands to which this article applies.**



This article shall apply to all areas identified as flood-prone within the jurisdiction of the City of Pomona.

*(Ord. No. 4066, § 1, 7-19-2006)*

**Sec. 18-621. - Basis for establishing flood-prone areas.**



The floodplain administrator shall obtain, review, and reasonably utilize any base flood data available from other federal or state agencies or other source to identify flood-prone areas within the jurisdiction of Pomona. This data will be on file at the Public Works Department, City Hall, 505 S. Garey Avenue, Pomona, California.

*(Ord. No. 4066, § 1, 7-19-2006)*

**Sec. 18-622. - Compliance.**



No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the term of this ordinance and other applicable regulations. Violation of the requirements (including violations of conditions and safeguards established in connection with conditions) shall constitute a misdemeanor. Nothing herein shall prevent the city council from taking such lawful action as is necessary to prevent or remedy any violation.

*(Ord. No. 4066, § 1, 7-19-2006)*

**Sec. 18-623. - Abrogation and greater restrictions.**



This article is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this article and another ordinance, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

*(Ord. No. 4066, § 1, 7-19-2006)*

**Sec. 18-624. - Interpretation.**





In the interpretation and application of this ordinance, all provisions shall be:

- (1) Considered as minimum requirements;
- (2) Liberally construed in favor of the governing body; and
- (3) Deemed neither to limit nor repeal any other powers granted under state statutes.

(Ord. No. 4066, § 1, 7-19-2006)

**Sec. 18-625. - Warning and disclaimer of liability.**



The degree of flood protection required by this article is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This article does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This article shall not create liability on the part of City Council of the City of Pomona, any department, agency, officer or employee thereof; the State of California; or the Federal Insurance Administration, Federal Emergency Management Agency, for any flood damages that result from reliance on this article or any administrative decision lawfully made hereunder.

(Ord. No. 4066, § 1, 7-19-2006)

**Sec. 18-626. - Severability.**



This ordinance and the various parts thereof are hereby declared to be severable. Should any section of this ordinance be declared by the courts to be unconstitutional or invalid, such decision shall not affect the validity of the ordinance as a whole, or any portion thereof other than the section so declared to be unconstitutional or invalid.

**Secs. 18-627—18-629. - Reserved.**



**DIVISION 4. - ADMINISTRATION**



**Sec. 18-630. - Establishment of development permit.**



A development permit shall be obtained for all proposed construction or other development in the community, including the placement of manufactured homes, so that it may be determined whether such construction or other development is within flood-prone areas.

*(Ord. No. 4066, § 1, 7-19-2006)*

**Sec. 18-631. - Designation of the flood plain administrator.**



The public works director is hereby appointed to administer, implement, and enforce this article by granting or denying development permits in accord with its provisions.

*(Ord. No. 4066, § 1, 7-19-2006)*

**Sec. 18-632. - Duties and responsibilities of the floodplain administrator.**



The duties and responsibilities of the floodplain administrator shall include, but not be limited to the following:

- (1) *Permit review.* Review all development permit applications to determine:
  - a. Permit requirements of this article have been satisfied;
  - b. All other required state and federal permits have been obtained; and
  - c. The site is reasonably safe from flooding.
- (2) *Review and use of any other base flood data.* The floodplain administrator shall obtain, review, and reasonably utilize any base flood data available from other federal or state agency or other source.

*(Ord. No. 4066, § 1, 7-19-2006)*

**Secs. 18-633—18-639. - Reserved.**





## **DIVISION 5. - PROVISIONS FOR FLOOD HAZARD REDUCTION**



### **Sec. 18-640. - Standards of construction.**



If a proposed building site is in a flood-prone area, all new construction and substantial improvements, including manufactured homes, shall:

- (1) Be designed (or modified) and adequately anchored to prevent flotation, collapse, or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.
- (2) Be constructed:
  - a. With materials and utility equipment resistant to flood damage;
  - b. Using methods and practices that minimize flood damage;
  - c. With electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities that are designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

*(Ord. No. 4066, § 1, 7-19-2006)*

### **Sec. 18-641. - Standards for subdivisions or other proposed new development.**



If a subdivision proposal or other proposed new development, including manufactured home parks or subdivisions, is in a flood-prone area, any such proposals shall be reviewed to assure that:

- (1) All such proposals are consistent with the need to minimize flood damage within the flood-prone area;
- (2) All public utilities and facilities such as sewer, gas, electrical, and water systems are located and constructed to minimize or eliminate flood damage; and
- (3) Adequate drainage is provided to reduce exposure to flood hazards.

*(Ord. No. 4066, § 1, 7-19-2006)*

**Sec. 18-642. - Standards for utilities.**



- (a) All new and replacement water supply and sanitary sewage systems shall be designed to minimize or eliminate:
  - (1) Infiltration of flood waters into the systems, and
  - (2) Discharge from the systems into flood waters.
- (b) On-site waste disposal systems shall be located to avoid impairment to them, or contamination from them during flooding.

*(Ord. No. 4066, § 1, 7-19-2006)*

**Secs. 18-643—18-699. - Reserved.**





in the regional Medical Alert Center. Identify the emergency medical facilities in the surrounding areas that would provide care in the event of service limitations at Pomona Valley Hospital Medical Center, due to patient overload, facility damage, or access problems from failure of major arterials. Integrate this information into the *SEMS Plan*.

Lead Department: **County Health took this on**

Implementation Schedule: On-going

Hazards Addressed: All

Goals and Objectives Implemented:

*Goal 1.1:* Reduce the potential for life loss, injury, and economic damage to Pomona residents and businesses by maximizing emergency preparedness capabilities (Objectives 1.1.1, 1.1.2, 1.1.3).

*Goal 4.1:* Encourage and support leadership within Pomona to promote and implement local hazard mitigation activities (4.1.3, 4.1.4).

*Goal 5.1:* Ensure continued operations when the City is impacted by natural hazard events (Objective 5.1.2, 5.1.3, 5.1.4).

## **COORDINATION AND COMMUNICATION WITH OTHER UTILITY PROVIDERS AND RAILROADS**

*Mitigation Action 3.1:* Early Warning Systems and Local Consideration

Review the disaster preparation, response, and early warning programs of relevant jurisdictions, agencies, utilities, and private companies (including railroads) to ensure that the needs of Pomona are addressed in planning and infrastructure improvement initiatives. Of particular import in Pomona due to the age of many neighborhoods is coordinating with utility providers to determine that infrastructure is maintained in condition that can resist hazard events. Advocate making the City a primary

recipient of any early hazard warning, and establish communication protocols.

Lead Department: Police

Implementation Schedule: Ongoing

Hazards Addressed: All

Goals and Objectives Implemented:

*Goal 1.1:* Reduce the potential for life loss, injury, and economic damage to Pomona residents and businesses by maximizing emergency preparedness capabilities (Objectives 1.1.1, 1.1.2, 1.1.4).

*Goal 4.1:* Encourage and support leadership within Pomona to promote and implement local hazard mitigation activities (Objectives 4.1.1, 4.1.3, 4.1.5).

## **COMMUNITY PREPAREDNESS AND EDUCATION**

*Mitigation Action 4.1:* Emergency Preparedness Campaigns

Continue implementing customized campaigns to educate residents and businesses about appropriate emergency preparedness measures and what to do in the event of a disaster, using the following means of communication:

- Incorporation of special publications and inserts in the City's newsletter and other mailings such as utility bills;
- Traveling booths to set up in shopping centers, community centers, popular athletic fields, schools, and other activity centers;
- Information posted on website;
- Media releases;
- Reports to City Council and City Commissions;

- Presentations to community organizations, and dissemination of literature through organizations' membership networks—Pomona's strong community networks are one of the best mechanisms for reaching residents and small business owners;
- Events such as the Police Department Open House, Child Safety Fair, and National Night Out; and
- Coordination with Pomona Unified School District to distribute information to families with children and to conduct preparedness activities.

When designing and developing campaigns, give special attention to language, demographic, and cultural characteristics of the Pomona population to maximize effectiveness. Target vulnerable populations such as the elderly, poor, disabled, and non-English speakers.

Given the age of many Pomona homes and commercial structures, there should be frequent emphasis on insurance coverage and techniques to secure buildings to avoid seismically induced damage, including information on available assistance programs. Information should be periodically distributed about non-structural improvements to mitigate hazard risks, such as securing bookcases, filing cabinets, light fixtures, and similar objects that can cause injuries and block exits.

Lead Department: Police

Implementation Schedule: On-going

Hazards Addressed: All

Goals and Objectives Implemented:

*Goal 2.1:* Develop and implement education and outreach programs to increase public awareness of the risks associated with natural hazards (Objectives 2.1.1 – 2.1.6).

*Goal 4.1:* Encourage and support leadership within Pomona to promote and implement local hazard mitigation activities (Objectives 4.1.1, 4.1.2, 4.1.4).

*Mitigation Action 4.2:* Community Emergency Volunteers

Through organizations like Community Emergency Response Team program (CERT), build and train teams of community residents, business owners, leaders, and stakeholders to assist with emergency response and first aid. Make use of existing community networks to enlist participants, and include the team in the City's emergency response system and communications network established in the *SEMS Plan*. Use the CERT structure to disseminate hazard mitigation information to residents and businesses.

Lead Department: Fire Department  
took this on

Implementation Schedule: on going

Hazards Addressed: All

Goals and Objectives Implemented:

*Goal 1.1:* Reduce the potential for life loss, injury, and economic damage to Pomona residents and businesses by maximizing emergency preparedness capabilities (Objectives 1.1.2, 1.1.3).

*Goal 2.1:* Develop and implement education and outreach programs to increase public awareness of the risks associated with natural hazards (Objectives 2.1.1 – 2.1.6).

*Goal 4.1:* Encourage and support leadership within Pomona to promote and implement local hazard mitigation activities (Objectives 4.1.1, 4.1.4).

*Goal 5.1:* Ensure continued operations when the City is impacted by natural hazard events (Objectives 5.1.4, 5.1.6)



*Mitigation Action 4.3: Hazard Mitigation Partners*

Through the Communication Action for Emergency Preparedness Program (CAEP), organize partners in community response and recovery, such as utility providers, the railroad operators, Pomona Valley Hospital Medical Center, the Red Cross, and faith-based institutions. Use the CAEP platform to coordinate and prioritize hazard mitigation efforts. Include the CAEP organization in the City's emergency response system and communications network established in the *SEMS Plan*.

Lead Department: Human Resources

Implementation Schedule: should restart in fall of 2015

Hazards Addressed: All

Goals and Objectives Implemented:

*Goal 1.1:* Reduce the potential for life loss, injury, and economic damage to Pomona residents and businesses by maximizing emergency preparedness capabilities (Objectives 1.1.1 – 1.1.4).

*Goal 2.1:* Develop and implement education and outreach programs to increase public awareness of the risks associated with natural hazards (Objectives 2.1.1 – 2.1.6).

*Goal 4.1:* Encourage and support leadership within Pomona to promote and implement local hazard mitigation activities (Objectives 4.1.1 – 4.1.5).

*Goal 5.1:* Ensure continued operations when the City is impacted by natural hazard events (Objectives 5.1.2, 5.1.6)

**RESILIENT HOUSING, NEIGHBORHOODS AND COMMERCIAL DISTRICTS***Mitigation Action 5.1: Unreinforced Masonry Buildings*

Continue requiring improvements to meet seismic safety standards for unreinforced masonry buildings when a change in use is proposed. Revise the development code to include incentives to increase the number of retrofit projects, such as relief from selected non-conforming use provisions, to offset the costs of retrofits.

Lead Department: Community Development

Implementation Schedule: ongoing

Hazards Addressed: Earthquake

Goals and Objectives Implemented:

*Goal 1.2:* Protect Pomona's unique character and values from being compromised by hazard events (Objectives 1.2.1, 1.2.2, 1.2.3).

*Goal 1.3:* Minimize losses to existing property and reduce potential for damage to future development (Objectives 1.3.4, 1.3.5).

*Mitigation Action 5.2: Vulnerable Building Reinforcement*

As shown in Figure 3-3, much of the City was developed prior to current seismic standards. Older homes and buildings may require structural intervention to avoid significant damage in the event of a major earthquake. In addition, the clusters of mobile homes in the City may need reinforcements such as foundation strappings. Structural interventions are often straightforward and cost-effective, such as bolting structures to foundations. Through the community education campaigns, educate property owners about areas with structures potentially needing reinforcement, and provide technical assistance to property owners with vulnerable buildings to implement retrofit standards.

This action will be most effective when City building inspection staff are directed to prioritize identification and reinforcement of vulnerable buildings, are appropriately trained to detect vulnerable buildings and make reasonable, cost-efficient recommendations, and are consulted during formulation of community education campaigns.

The City currently offers a program for substantial rehabilitation of residential properties for low and moderate income households, funded with tax increment income from the redevelopment project areas. Expand the improvements eligible for funding to include seismic safety and windstorm structural reinforcements. Pursue grant funds for improvements benefiting special need population.

Lead Department: Community Development,

Implementation Schedule: ongoing

Hazards Addressed: Earthquake, Windstorm

Goals and Objectives Implemented:

*Goal 1.3:* Minimize losses to existing property and reduce potential for damage to future development (Objectives 1.3.3, 1.3.4).

*Goal 2.1:* Develop and implement education and outreach programs to increase public awareness of the risks associated with natural hazards (Objectives 2.1.5, 2.1.6).

#### *Mitigation Action 5.3: Valuing Heritage*

Many of Pomona's designated historic buildings, as well as homes within the designated historic districts, do not meet seismic safety codes. Pomona's historic resources contribute greatly to local environment and culture, and are tremendously valued by the community. Prioritize retrofitting historic structures and avoid demolition for the purpose of public safety. Provide technical assistance to property owners, and explore opportunities for federal and state

grants for structural improvements to make buildings safer in lieu of demolition.

Lead Department: Community Development,

Priority: On-going

Hazards Addressed: Earthquake

Goals and Objectives Implemented:

*Goal 1.2:* Protect Pomona's unique character and values from being compromised by hazard events (Objectives 1.2.1, 1.2.2, 1.2.3).

#### *Mitigation Action 5.4: Reduced Wildfire Threat*

Continue existing programs to reduce risk of property damage and injury from wildfire, including:

- Citywide prohibition of new wood and wood shake roofing materials, and requirement of fire-resistant materials for re-roofing projects;
- Requirement of tile roofs in Phillips Ranch;
- Development of fire-resistant landscape program in coordination with Ganesha Hills homeowners; and
- County Fire Department weed abatement and brush clearance program.

Further measures to reduce the risks of wildfire include:

- Exploring options for further decreasing fire hazards through requirements established by ordinance in Ganesha Hills; and
- Limiting any increases in residential densities in wildfire hazard areas through appropriate land use policy applications in the General Plan Update.

Lead Department: Community Development, Fire



Implementation Schedule: Ongoing

Hazards Addressed: Wildfire

Goals and Objectives Implemented:

*Goal 1.3:* Minimize losses to existing property and reduce potential for damage to future development (Objective 1.3.1).

*Goal 3.1:* Balance natural resource management, and land use planning with natural hazard mitigation to protect life, property, and the environment (Objectives 3.1.1, 3.1.2).

*Mitigation Action 5.5:* Expanded Code Enforcement in Overcrowded Neighborhoods

In Pomona's overcrowded neighborhoods (see Figure 3-2):

- Step up code enforcement efforts, with particular emphasis on remediation of illegally inhabited building spaces that increase risks of injury or life loss in the event of a major earthquake.
- Significantly increase fees for code violations pertinent to public health and safety, so that the fees serve as a deterrent; and
- Continue enforcing stiff fines imposed on homeowners and contractors implementing structural modifications without appropriate permits.

Lead Department: Community Development

Implementation Schedule:  
implemented

Hazards Addressed: Earthquakes

Goals and Objectives Implemented:

*Goal 1.1:* Reduce the potential for life loss, injury, and economic damage to Pomona residents and businesses by maximizing

emergency preparedness capabilities (Objective 1.1.3).

*Goal 1.3:* Minimize losses to existing property and reduce potential for damage to future development (Objective 1.3.4).

*Mitigation Action 5.6:* Landslide Prevention

Prioritize routine maintenance and repairs of water, sewer, and irrigation lines in and around landslide prone areas (see Figure 7-1), to avoid long-term leaks that saturate and de-stabilize earth materials to point of dangerous and destructive landslides.

Lead Department: Utility Services, Parks and Recreation, Public Works

Implementation Schedule: On-going

Hazards Addressed: Landslide

Goals and Objectives Implemented:

*Goal 3.1:* Balance natural resource management, and land use planning with natural hazard mitigation to protect life, property, and the environment (Objectives 3.1.1, 3.1.2).

*Mitigation Action 5.7:* Landslide Prevention Development Standards

Revise the City Grading Ordinance and development standards for hillside properties implemented through the "H" Overlay Zone to include best management practices for landslide prevention. Review the extent of property subject to the "H" overlay to ensure that all landslide potential areas are included, and also continue applying the standards to all property meeting the requirements of "Hillside Area" as defined in Development Code Section 58010.

Lead Department: Community Development

Implementation Schedule:  
implemented

Hazards Addressed: Landslide

Goals and Objectives Implemented:

*Goal 1.2:* Protect Pomona's unique character and values from being compromised by hazard events (Objective 1.2.3).

*Goal 3.1:* Balance natural resource management, and land use planning with natural hazard mitigation to protect life, property, and the environment (Objectives 3.1.1, 3.1.2).

*Mitigation Action 5.8:* Stabilizing Ganesha Park Slopes

Develop and implement a program to stabilize the Ganesha Park slopes, in order to avoid landslides such as the 2003 event. Review the cost-effectiveness of the alternative strategies—including construction of a retaining wall—that were studied in the 2003 follow-up report commissioned by the City. Continue efforts to implement the recommendations of this report, and evaluate the application of these measures to other areas in Ganesha Park that are subject to similar conditions. Prioritize this mitigation action to avoid landslide recurrence and potential life loss, injury, and facility damage in this highly popular and treasured recreation center.

Lead Department: Parks and Recreation

Implementation Schedule: ongoing

Hazards Addressed: Landslide

Goals and Objectives Implemented:

*Goal 1.1:* Reduce the potential for life loss, injury, and economic damage to Pomona residents and businesses (Objective 1.1.3).

*Goal 1.3:* Minimize losses to existing property and reduce potential for damage to future development (Objective 1.3.6).

## **RISK REDUCTION FOR COMMUNITY VULNERABILITIES**

*Mitigation Action 6.1:* Accelerated Emergency Response for Vulnerable Populations

Many of the mitigation actions established in the NHMP will act to reduce risks associated with the vulnerable populations in the City, including people in child care and senior care facilities, hospitals, public and private schools, and overcrowded neighborhoods, as well as people with disabilities. However, focused response efforts may be needed in the event of a disaster to ensure the safety of vulnerable populations. As part of the plan to step up emergency response efforts for vulnerable facilities:

- Maintain updated inventory and map of vulnerable facilities in the *SEMS Plan* to help identify facilities that may need special response service, and integrate vulnerable facilities into the communication protocol;
- Request representatives from vulnerable facilities to participate in emergency preparedness drills; and
- Request representatives from vulnerable facilities to participate in the CAEP and CERT program described in Mitigation Action 4.2 and 4.3.

Lead Department: Police

Implementation Schedule: on-going

Hazards Addressed: All

Goals and Objectives Implemented:

*Goal 1.1:* Reduce the potential for life loss, injury, and economic damage to Pomona residents and businesses by maximizing emergency preparedness capabilities (Objectives 1.1.1, 1.1.3).

*Goal 2.1:* Develop and implement education and outreach programs to increase public



awareness of the risks associated with natural hazards (Objective 2.1.2).

*Goal 4.1:* Encourage and support leadership within Pomona to promote and implement local hazard mitigation activities (Objective 4.1.4).

*Goal 5.1:* Ensure continued operations when the City is impacted by natural hazard events (Objective 5.1.6).

## DEVELOPMENT PLANNING AND REGULATORY FRAMEWORK

### *Mitigation Action 7.1:* General Plan and Development Code Update

In the *General Plan Update* and associated *Development Code* amendments, integrate the hazards and risk assessment and mitigation in the new policy framework, with special attention to avoidance of new risks from proposed development, protection of environmental resources, appropriate level of public services and facilities, and circulation system effectiveness. Establish development policies that encourage and support redevelopment of aging building stock, consistent with community vision and goals.

Lead Department: Community Development

Implementation Schedule: ongoing

Hazards Addressed: All

Goals and Objectives Implemented:

*Goal 1.1:* Reduce the potential for life loss, injury, and economic damage to Pomona residents and businesses by maximizing emergency preparedness capabilities (Objectives 1.1.2, 1.1.3).

*Goal 1.2:* Protect Pomona's unique character and values from being compromised by hazard events (Objectives 1.2.1, 1.2.2, 1.2.3).

*Goal 1.3:* Minimize losses to existing property and reduce potential for damage to future development (Objectives 1.3.1, 1.3.4, 1.3.5, 1.3.6).

*Goal 3.1:* Balance natural resource management and land use planning with natural hazard mitigation to protect life, property, and the environment (Objectives 3.1.1, 3.1.2).

### *Mitigation Action 7.2:* Development Project Review for Natural Hazards Risks

When reviewing proposals for new development and infrastructure improvement projects, identify any natural hazards that have the potential to impact the property. If current building and development codes do not adequately address identified natural hazard impacts associated with a specific project, require additional mitigation to be incorporated into the project. Include this requirement in all project review procedures.

Lead Department: Community Development

Implementation Schedule: ongoing

Hazards Addressed: All

Goals and Objectives Implemented:

*Goal 1.1:* Reduce the potential for life loss, injury, and economic damage to Pomona residents and businesses by maximizing emergency preparedness capabilities (Objectives 1.1.1).

*Goal 1.2:* Protect Pomona's unique character and values from being compromised by hazard events (Objectives 1.2.2, 1.2.3).

*Goal 1.3:* Minimize losses to existing property and reduce potential for damage to future development (Objectives 1.3.1, 1.3.4, 1.3.6).

*Goal 3.1:* Balance natural resource management and land use planning with

natural hazard mitigation to protect life, property, and the environment (Objectives 3.1.1, 3.1.2).

## **CITY SEMS PLANNING AND TRAINING**

### *Mitigation Action 8.1: Pomona SEMS Plan*

Continue to implement the Pomona *SEMS Plan*, which functions as the City's manual for communications protocol in the event of a disaster. Update as needed for consistency with the *State SEMS Plan*, evolving inter-agency communication protocols, and the NHMP.

Lead Department: Human Resources

Implementation Schedule: ongoing

Hazards Addressed: All

Goals and Objectives Implemented:

*Goal 1.1:* Reduce the potential for life loss, injury, and economic damage to Pomona residents and businesses by maximizing emergency preparedness capabilities (Objectives 1.1.2, 1.1.3, 1.1.4).

*Goal 2.1:* Develop and implement education and outreach programs to increase public awareness of the risks associated with natural hazards (Objectives 2.1.1, 2.1.2, 2.1.3, 2.1.4).

*Goal 4.1:* Encourage and support leadership within Pomona to promote and implement local hazard mitigation activities (Objectives 4.1.1, 4.1.3, 4.1.4, 4.1.5).

*Goal 5.1:* Ensure continued operations when the City is impacted by natural hazard events (Objectives 5.1.2, 5.1.3).

### *Mitigation Action 8.2: Emergency Preparedness Drills*

Pursuant to the City's *SEMS Plan*, conduct emergency preparedness and response drills for mock major earthquake events, the natural hazard

with the greatest potential for injury, loss life, property damage, and service interruptions. Drills should test disaster response systems and communication protocols, and include activation of the TMAC and IRIS systems (see Mitigation Action 2.3). When preparing the drills, consider the wide range of potential risks associated with critical facilities and vulnerabilities, such as interrupted service at Pomona Valley Hospital Medical Center, street blockages from paused trains, major power service disruption, etc. Include representatives of City officials and staff, utility providers and the railroad operators, as well as trained community emergency response volunteers and emergency response stakeholders, and representatives of vulnerable facilities.

After the drill, analyze the strengths and weaknesses of the response effort and identify facility and infrastructure deficiencies contributing to response concerns. Use this information to inform priorities established in the NHMP Annual Report (see Mitigation Measure 1.1).

Lead Department: Human Resources

Implementation Schedule: On-going, on annual basis

Hazards Addressed: All

Goals and Objectives Implemented:

*Goal 1.1:* *Goal 1.1:* Reduce the potential for life loss, injury, and economic damage to Pomona residents and businesses by maximizing emergency preparedness capabilities (Objectives 1.1.1, 1.1.2, 1.1.3, 1.1.4).

*Goal 2.1:* Develop and implement education and outreach programs to increase public awareness of the risks associated with natural hazards (Objectives 2.1.1, 2.1.2, 2.1.3, 2.1.4).

*Goal 4.1:* Encourage and support leadership within Pomona to promote and implement



local hazard mitigation activities (Objectives 4.1.1, 4.1.3, 4.1.4, 4.1.5).

*Goal 4.1:* Encourage and support leadership within Pomona to promote and implement local hazard mitigation activities (Objectives 5.1.2, 5.1.3, 5.1.4, 5.1.6).

#### *Mitigation Action 8.3: Decentralized Emergency Supplies and Equipment*

Distribute stores of emergency supplies and equipment in at least two locations at disparate points in the City, to avoid access issues in the event of road closures or facility damage.

After the drill, analyze the strengths and weaknesses of the response effort and identify facility and infrastructure deficiencies contributing to response concerns. Use this information to inform priorities established in the NHMP Annual Report (see Mitigation Measure 1.1).

Lead Department: Human Resources

Implementation Schedule: ongoing

Hazards Addressed: All

Goals and Objectives Implemented:

*Goal 1.1:* Reduce the potential for life loss, injury, and economic damage to Pomona residents and businesses by maximizing emergency preparedness capabilities (Objectives 1.1.1, 1.1.2).

*Goal 5.1:* Ensure continued operations when the City is impacted by natural hazard events (Objective 5.1.5).

#### *Mitigation Action 8.4: City Hall Life Safety Planning*

Immediately following a disaster, community members will rely on City staff for assistance and direction. Part of the City's plan for maximizing emergency services must include taking care of staff's emergency needs so that they can function and serve the community. Without the ready

services of City staff, the likelihood of hazard impacts to the community could increase.

Update City Hall life safety preparedness plan, conduct employee training, ensure that each department has complete first-aid kit, and hold emergency evacuation drills at City Hall on an annual basis. In addition, help staff establish reserve of personal emergency supplies, by buying kits at discounted prices and selling at-cost to staff or designating a team captain in each department to help individuals bring in appropriate kit.

Lead Department: Human Resource

Implementation Schedule: ongoing

Hazards Addressed: All

Goals and Objectives Implemented:

*Goal 1.1:* Reduce the potential for life loss, injury, and economic damage to Pomona residents and businesses by maximizing emergency preparedness capabilities (Objectives 1.1.1, 1.1.2).

*Goal 5.1:* Ensure continued operations when the City is impacted by natural hazard events (Objectives 5.1.4, 5.1.6).