CITY OF
WEST HOLLYWOOD

LOCAL HAZARD MITIGATION DRAFT PLAN

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Prepared by:

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City of West Hollywood
California 1984

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Executive Summary

The City of West Hollywood has updated its Local Hazard Mitigation Plan (LHMP) for 2023. Hazard mitigation plans are intended to serve as a guide for communities to reduce adverse impacts from natural and human-caused hazards. While not required under Federal law, preparation, adoption of an LHMP gives communities access to Federal Emergency Management Agency (FEMA) grant programs to help pay for mitigation actions specified in the LHMP.

FEMA requires that LHMPs be updated every five (5) years to remain active and eligible for funding projects. The City has updated its plans consistently with the last update in 2018. This present update of the LHMP has been thoroughly revised from earlier updates, with particular attention given to FEMA's recent guidance (as of April 2023) requiring a focus on climate impacts and equity.

The LHMP consists of the following sections:

- An overview of the purpose of hazard mitigation planning.
- A profile of West Hollywood, including its history, climate, demographics, infrastructure, and disadvantaged/vulnerable communities.
- An examination of twelve hazards chosen in cooperation with the City:
    - Extreme Heat
    - Power Outages
    - Drought
    - Wildfire/Smoke
    - Hazardous Materials
    - Cyberattack
    - Terrorism/Armed Assailant
    - Earthquake
    - Infectious Disease
    - Flood
    - Heavy Rain
    - Severe Wind
- An assessment of West Hollywood's capabilities to mitigate these hazards.
- A list of potential mitigation actions to address these hazards, along with suggested strategies to prioritize mitigation efforts.
- A description of the planning process and how the LHMP will be maintained and updated in the future.

The most recent Local Hazard Mitigation Plan update for the City of West Hollywood was submitted to the West Hollywood City Council on XXXXXXX. The update was concurrently submitted to California Governor's Office of Emergency Services (Cal OES) and the Federal Emergency Management Agency (FEMA) for plan approval.

Copies of City Staff Reports to the West Hollywood City Council and City Council Resolutions in 2004, 2010, 2015, 2018, and 2023 are on file with the West Hollywood City Clerk's Office and available via the West Hollywood Community Safety Department.

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SECTION 1 – INTRODUCTION

Hazard Mitigation

Hazard mitigation is a proactive approach that helps to minimize the impact of natural disasters and other emergencies on individuals, communities, and businesses. It involves identifying and assessing potential hazards, developing strategies and plans to reduce their impact, and implementing measures to protect people and property from harm. This can include measures such as building codes and standards, zoning regulations, evacuation plans, early warning systems, and disaster-resistant infrastructure.

The goal of hazard mitigation is to reduce the frequency and severity of disasters, minimize their impact on communities, and promote resilience and sustainability in the face of future emergencies. By taking a proactive approach to disaster risk reduction, we can help to save lives, reduce the economic impact of disasters, and ensure that communities are better prepared to respond to and recover from emergencies.

Hazard mitigation planning improves a community's ability to effectively respond to natural disasters by establishing plans for maintaining continuity of operations for both government and community entities. The process involves identifying attainable goals to reduce the risk of injury, loss of life, and property damage from hazardous events, and developing strategies and activities to mitigate their effects.

The Hazard Mitigation Plan is designed to be a participatory process that involves government agencies, stakeholders, and the public. The planning process includes scheduled events that encourage participation and ensure that a comprehensive approach is taken to address current and future hazards. By incorporating a systematic and inclusive approach, the Hazard Mitigation Plan helps to reduce the community's vulnerability to disasters and promote resilience.

As the impacts of global climate change have become increasingly apparent, explicitly integrating climate concerns into hazard mitigation planning has become necessary to most fully understanding a jurisdiction’s future risk and designing effective strategies to mitigate that risk. The most recent update of FEMA’s local hazard mitigation planning guidance, effective as of April 2023, includes a deeper focus on climate impacts and adaptation.

Purpose and Authority

The City of West Hollywood’s 2023 Local Hazard Mitigation Plan (LHMP) outlines the potential natural and human-caused hazards that pose a threat to the citizens, resources, and property in the City. The plan also outlines the city's objectives and commitment to reducing the risks associated with these hazards.

The focus of this LHMP is on the hazards that pose the greatest risk to the city, as determined through a comprehensive hazard risk assessment and input from local officials. Hazards of lesser concern may still be evaluated but may not be fully addressed in this plan update. The updated risk assessment will help the city prioritize and update mitigation actions based on the hazards that pose the greatest risk to lives and property.

The LHMP has been developed in compliance with current federal and state regulations governing local hazard mitigation plans and has been adopted in accordance with standard local procedures. The plan will be monitored regularly and revised as necessary to maintain compliance with the provisions, rules, and legislation outlined in Section 322 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, FEMA's Final Rule published in the Federal Register, the Flood Insurance Reform Act of 2004 and 2012, and the Homeowner Flood Insurance Affordability Act.

The U.S. Congress passed the Disaster Mitigation Act of 2000 (DMA 2000), which amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act and emphasized the need for state and local governments to closely coordinate their mitigation planning activities. The development of a hazard mitigation plan is a specific eligibility requirement for any local government applying for federal mitigation grant funds. These funds include Building Resilient Infrastructures in Communities (BRIC), Hazard Mitigation Grant Program (HMGP) and Flood Mitigation Assistance (FMA), all administered by FEMA.

- Hazard Mitigation Grant Program (HMGP): To qualify for post-disaster mitigation funds, local jurisdictions must have an approved mitigation plan from FEMA. HMGP provides funds to states, territories, Indian tribal governments, local governments, and eligible private non-profit organizations (such as hospitals and special needs populations) following a presidential disaster declaration.
- Flood Mitigation Assistance (FMA): A community must have an approved mitigation plan from FEMA to be eligible for FMA grants to implement flood mitigation, acquisition, or elevation of flood-prone homes. The community must also participate in the National Flood Insurance Program (NFIP) since one of the goals of FMA is to reduce or eliminate NFIP claims.
- Pre-Disaster Mitigation (PDM): PDM aids states, territories, Indian tribal governments, and local governments in implementing a sustained pre-disaster hazard mitigation program. To be eligible for PDM funding, communities must have an approved LHMP from FEMA. Although FEMA has discontinued the PDM program with the introduction of Building Resilient Infrastructure in Communities (BRIC), communities with projects currently funded by PDM through its most recent allocations must still be covered by a FEMA-approved LHMP.

SECTION 2 – COMMUNITY PROFILE

This is an overview of the City of West Hollywood with information about the community's physical setting, history, economy and demographics, current and future land uses, and key infrastructure. The Community Profile establishes the baseline conditions that informs the development of hazard mitigation actions described in Section 5.

2.1 Setting and Location

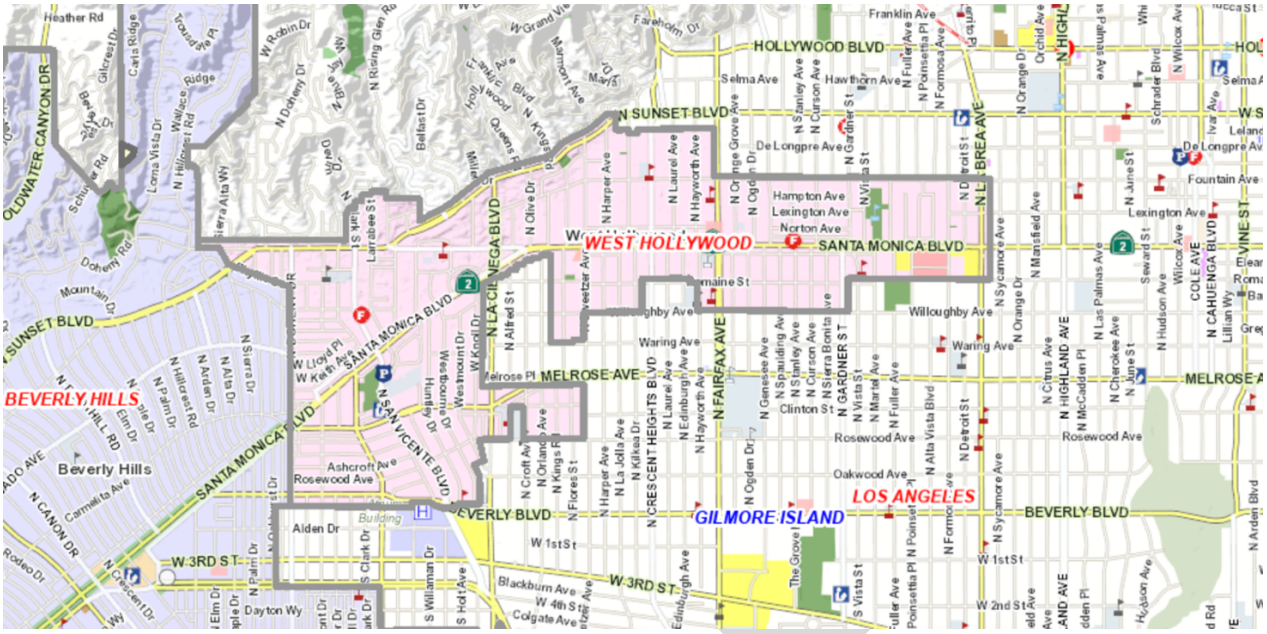
The City of West Hollywood is located in Los Angeles County along the southern edge of the Santa Monica Mountains, about 7 ½ miles northwest of downtown Los Angeles. The City is approximately 3 miles long in a west-east direction and 0.5 to 1.3 miles wide in a north-south direction.

The topography within the City is relatively flat and sloped to the south except at the extreme northern margin of the City, which is at the base of the mountains. The maximum elevation is about 500 feet, and the minimum elevation is about 160 feet. The average downslope gradient from north to south, not including the base of the mountains, is about 6 percent in the northern 1/3 of the City and about 2 percent in the southern 2/3 of the City.

West Hollywood is located largely on alluvial soil derived from the adjacent Santa Monica Mountains. The northernmost portion of the City is underlain by igneous and metamorphosed sedimentary bedrock. The alluvium consists of a mixture of sand, silt, clay, and gravel. The thickness of alluvium ranges from tens of feet in the vicinity of Sunset Boulevard to the north to hundreds of feet along the southern margin of the City.

Prior to development, a marsh existed within the alluvial plain currently incorporated as the City. The withdrawal of groundwater via pumping in the 1920's from the area contributed to the drying of the marsh. However, soft clays and organic-rich sediments were likely deposited along with sand and silt in this area while the marsh was present.

Source: LA County GISNet (2023)



2.2 History

Before European settlers arrived, the region of West Hollywood was inhabited by the Tongva people, who were part of the larger indigenous Native American population in the Los Angeles Basin. The Tongva, also known as the Gabrielino-Tongva tribe, lived in villages throughout the area and had a rich cultural heritage.

In the late 18th century, Spanish colonization of California began. The Spanish explorers, including Gaspar de Portolà and Father Junípero Serra, established missions and settlements throughout the region. The area that would later become West Hollywood was part of the vast land holdings of the Spanish Crown.

With the Mexican War of Independence in 1821, California came under Mexican rule. The area remained largely rural until the mid-19th century when the Mexican government secularized the missions and began granting land to individuals. In 1852, the area encompassing West Hollywood was deeded to Maria Rita Valdez Villa, the widow of Spanish soldier Vicente Ferrer Villa.

In the late 19th century, the region experienced significant growth and development. In the 1880s, the Los Angeles Pacific Railroad was established, connecting downtown Los Angeles with Santa Monica. This rail line had a stop near the intersection of present-day Santa Monica Boulevard and Crescent Heights Boulevard, which spurred the growth of the area.

Real estate developers, such as Moses H. Sherman and his business partner Eli P. Clark, acquired large tracts of land in the area. They subdivided the land and sold parcels to investors and settlers. The Sherman and Clark development, known as the Sherman and

Clark Line, included portions of what is now West Hollywood. Other developers followed suit, and the area began to attract residents and businesses.

In 1903, the neighboring community of Hollywood incorporated as an independent city. As a result, the unincorporated areas surrounding Hollywood, including the area that would become West Hollywood, were left without local governance. This lack of municipal representation became a concern for the residents, leading to a desire for incorporation.

In the early 20th century, the area witnessed significant growth in the film industry. Many movie studios and production companies were established in and around Hollywood, making it a global hub for the entertainment industry. The proximity of West Hollywood to these developments further fueled the growth and demand for local governance.

On November 29, 1984, after several unsuccessful attempts, the residents of the area voted to incorporate as an independent city, officially establishing the City of West Hollywood. This incorporation provided the community with local government control, enabling it to address its specific needs and interests.

West Hollywood has played a crucial role in advancing LGBTQ+ rights and activism. The City quickly became known as a safe haven for the LGBTQ+ community, offering protections and resources. It became one of the first municipalities in the United States to enact laws prohibiting discrimination based on sexual orientation and gender identity. West Hollywood has continued to support LGBTQ+ initiatives, including the establishment of the LGBTQ+ Commission and various LGBTQ+ community centers.

West Hollywood has a notable population of Russian-speaking immigrants, particularly from countries such as Russia, Ukraine, and other former Soviet nations. This community contributes to the cultural fabric of the city and has established businesses, social organizations, and cultural events that cater to their needs.

West Hollywood's vibrant arts and culture scene have flourished since incorporation. The city is home to a plethora of commercial art galleries, theaters, music venues, and entertainment establishments. The world famous Sunset Strip, a stretch of Sunset Boulevard, is a renowned hotspot for nightlife, hosting numerous music venues, comedy clubs, and restaurants.

West Hollywood administers an Urban Art Program as a mechanism to integrate free and accessible art into the urban fabric of the City. Most new development in the city is required to install an artwork on-site or pay an in-lieu fee to the Public Art and Beautification Fund. The Urban Art Program Guidelines details procedures required to implement and fulfill the requirements of the Urban Art Program. The City of West Hollywood maintains a collection of 18 unique public artworks (as of August 2023) sited in its facilities, parks, parking structures, and traffic medians.

West Hollywood hosts several annual celebrations and events that have gained national and international recognition. One of the most prominent is the City of West Hollywood Halloween Carnaval, which draws hundreds of thousands of visitors each year. It features

extravagant costumes, live performances, and a vibrant display along Santa Monica Boulevard.

Another notable event is the WeHo Pride Parade and Festival, which celebrates LGBTQ+ pride and commemorates the Stonewall Riots. The festival attracts a diverse range of participants and features live music, entertainment, and a parade.

After incorporation, West Hollywood focused on urban development, aiming to create a pedestrian-friendly city with well-designed public spaces. The City implemented strict zoning regulations, promoting mixed-use developments that combine residential, commercial, and entertainment spaces. The Pacific Design Center, a landmark building complex of three buildings – Blue, Green, and Red - known for their original vibrant blue-green glass façade and red glass of aluminum frames with silicone became a symbol of West Hollywood's commitment to innovative design.

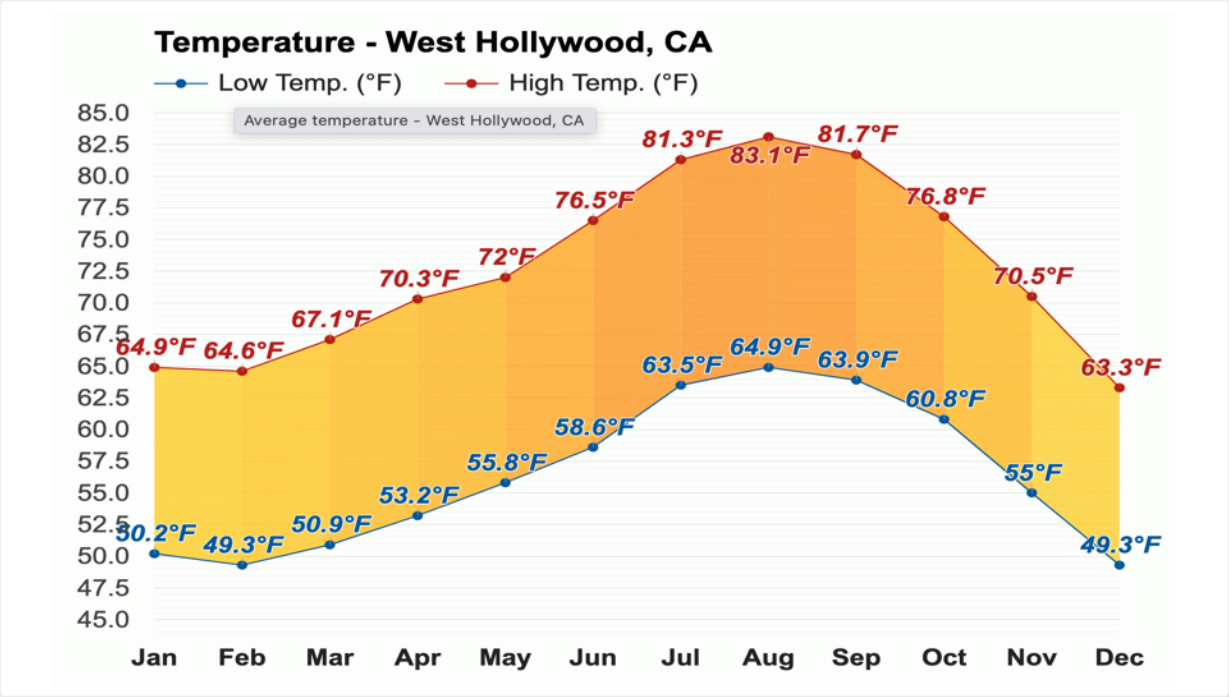
2.3 Climate

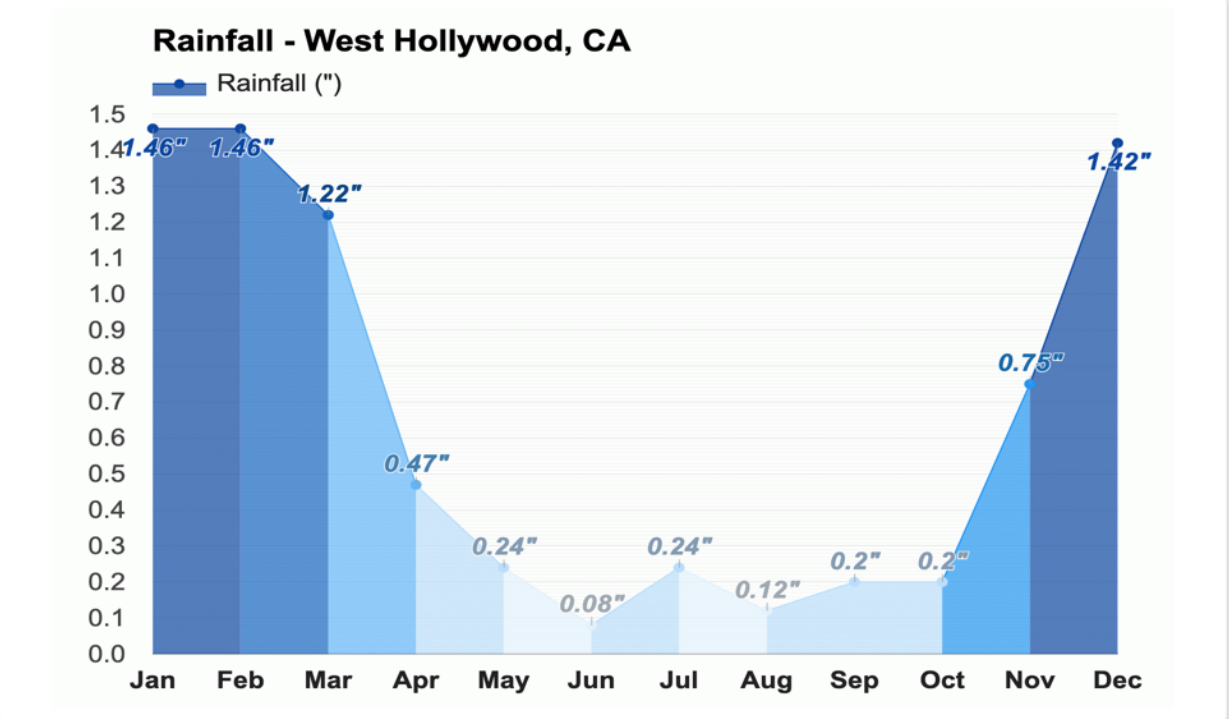
West Hollywood enjoys pleasant and mild temperatures throughout the year. Summers are warm, with average high temperatures ranging from the mid-70s to low 80s Fahrenheit (24-28°C). Heatwaves can occur, pushing temperatures into the 90s Fahrenheit (32-37°C). Winters are mild, with average high temperatures in the mid-60s to low 70s Fahrenheit (17-23°C). Frost and freezing temperatures are rare occurrences.

West Hollywood experiences most of its rainfall during the winter months. The rainy season typically starts in November and lasts through March. However, rainfall amounts are relatively low compared to other parts of the United States. The City receives an average annual precipitation of around 15 inches (380 mm). Showers are generally light to moderate, with occasional heavy downpours during winter storms. Sunshine is abundant in West Hollywood, with the City experiencing approximately 284 sunny days per year.

West Hollywood is also influenced by the Santa Ana winds, which are hot and dry winds that blow from the inland desert regions toward the coast. These winds typically occur in the fall and winter and can lead to warmer temperatures and increased fire risk. The Santa Ana winds are known for their gusty nature and low humidity levels.

West Hollywood is situated a few miles inland from the coast, but it can still experience the effects of the marine layer—a cool, foggy marine air mass that forms along the coast. The marine layer can occasionally drift inland, resulting in overcast mornings or even foggy conditions in West Hollywood. However, it usually burns off by mid-morning, giving way to sunny skies.





Source: https://www.weather-us.com/en/california-usa/west-hollywood-climate

2.4 Climate Change

Like much of Southern California, the Los Angeles area, including West Hollywood, is projected to experience rising temperatures due to climate change. The National Climate Assessment notes that by the mid-century, the average annual temperature in California is expected to increase by 5-8°F (2.8-4.4°C) compared to the historical average. This is likely to result in an increased number of extreme heat events sustained over a longer period of time, which will increase heat stress on outdoor activities as well as increasing strain on the power grid to support air conditioning. A sustained power outage during an extreme heat event could be life-threatening.

The IPCC reports suggest that climate change could bring changes in precipitation patterns to the region. There is a possibility of more intense rainfall events, leading to an increased risk of flash floods in the Los Angeles area. At the same time, longer and more frequent droughts are projected, which could impact water availability, increase wildfire risks, and challenge water resource management.

As a coastal region, the Los Angeles area is vulnerable to sea-level rise. The IPCC reports state that global sea levels are projected to rise, and this could lead to increased coastal erosion and flooding risks. Although West Hollywood itself is inland, neighboring coastal areas, including Santa Monica and Venice Beach, may experience the impacts of sea-level rise, affecting infrastructure, ecosystems, and the economy.

The National Climate Assessment highlights that climate change can contribute to longer fire seasons and more frequent and intense wildfires in California. This poses risks to nearby areas such as the Santa Monica Mountains and can result in impacts like degraded air quality, property damage, and threats to public safety.

Climate change can affect water resources in the Los Angeles area. Reduced snowpack in the nearby Sierra Nevada mountains, combined with increased evaporation rates, can impact the availability of water supply, as California relies on snowmelt for its water sources. This may lead to increased competition for water resources and potential challenges for water management.

2.5 Demographics

As of the 2022 United States Census 1-year estimate, the population of West Hollywood, California was estimated to be 34,514. The racial and ethnic makeup of the City was predominantly white. 27.2% of the population speaks a language other than English at home.

Unless otherwise specified, all tables in Section 2 use data from the U.S. Census Bureau's 2020 Census and the American Community Survey's 1-Year Estimates.

Population and Racial/Ethnic Composition

Population Data	Estimate
Total population (estimate as of July 1, 2022)	34,514
SEX	
Male	55.6%
Female	44.4%
AGE	
Under 18 years	3.8%
65 years and over	15.1%
RACE AND HISPANIC ORIGIN	
Two or more races	9.6%
One race	90.4%
White	75.9%
Black or African American	4.1%
American Indian and Alaska Native	0.3%
Asian	5.5%
Native Hawaiian and Other Pacific Islander	0.1%
Hispanic or Latino (of any race)	13.4%

Education

Label	Estimate
High school graduate or higher; percentage of persons age 25+, 2017-2021	96.7%
Bachelor's degree or higher; percentage of persons age 25+, 2017-2021	61.1%

Income

According to data from the U.S. Census Bureau, the estimated median household income in 2021 was $78,719. Per capita income in West Hollywood as of 2021 was estimated to be $72,926.

2.6 Housing and Development

The development of West Hollywood reflects its transition from a workers' village for the railroad lines at the turn of the 20th century to the increasingly dense urban town of today. Characterized by the adjacency of residential districts to main regional thoroughfares such as Sunset Boulevard and La Brea Avenue, the City's commercial buildings are frequently adjacent to residential neighbors. Development is comprised of various building

types, including low-rise commercial structures and multifamily structures (generally 1-2 stories) and some 7-8 story apartments dating from the 1920-30s, of wood-frame and/or masonry construction. All masonry buildings have undergone a systematic retrofitting program to bring them into compliance with recent building codes.

Only a few residential buildings remain from the original turn-of-the-century community. Most of the City's single-family homes and duplexes are small and date from the 1920s. Development in the 1950s notably changed the scale of some sections of West Hollywood, placing larger apartment buildings in existing neighborhoods and office towers along the Sunset Strip.

Approximately 66% of the City's property is residential, 23% is commercial, 6% is public/quasi-public, 5% vacant or surface parking lot, and less than 1% industrial. Business types include restaurants, clubs, fast food, retail, service and repair, hotels, and various small shops. The City of West Hollywood is nearly "built out". Any development involves demolishing or renovating existing structures to build new facilities. Future development is limited to existing parcels.

West Hollywood's overall density of 18,998 persons per square mile is almost twice as much as any other local city and one of the densest in all of California. Its residential character is a blend of architectural richness and historic landmarks co-existing with the City's eclectic businesses.

West Hollywood remains committed to providing market-rate and affordable housing for residents who face displacement due to rising housing costs. The West Hollywood Community Housing Corporation develops, owns, and operates more than 400 affordable housing units in the City financed, in part, by the City's Housing Trust Fund. The West Hollywood Inclusionary Housing Program requires new residential developments to reserve a specific percentage of housing units for low and moderate-income persons. In future development, mitigation measures are planned for and are in collaboration with the City's General Plan, building and safety codes, state-mandated programs, and traffic circulation requirements.

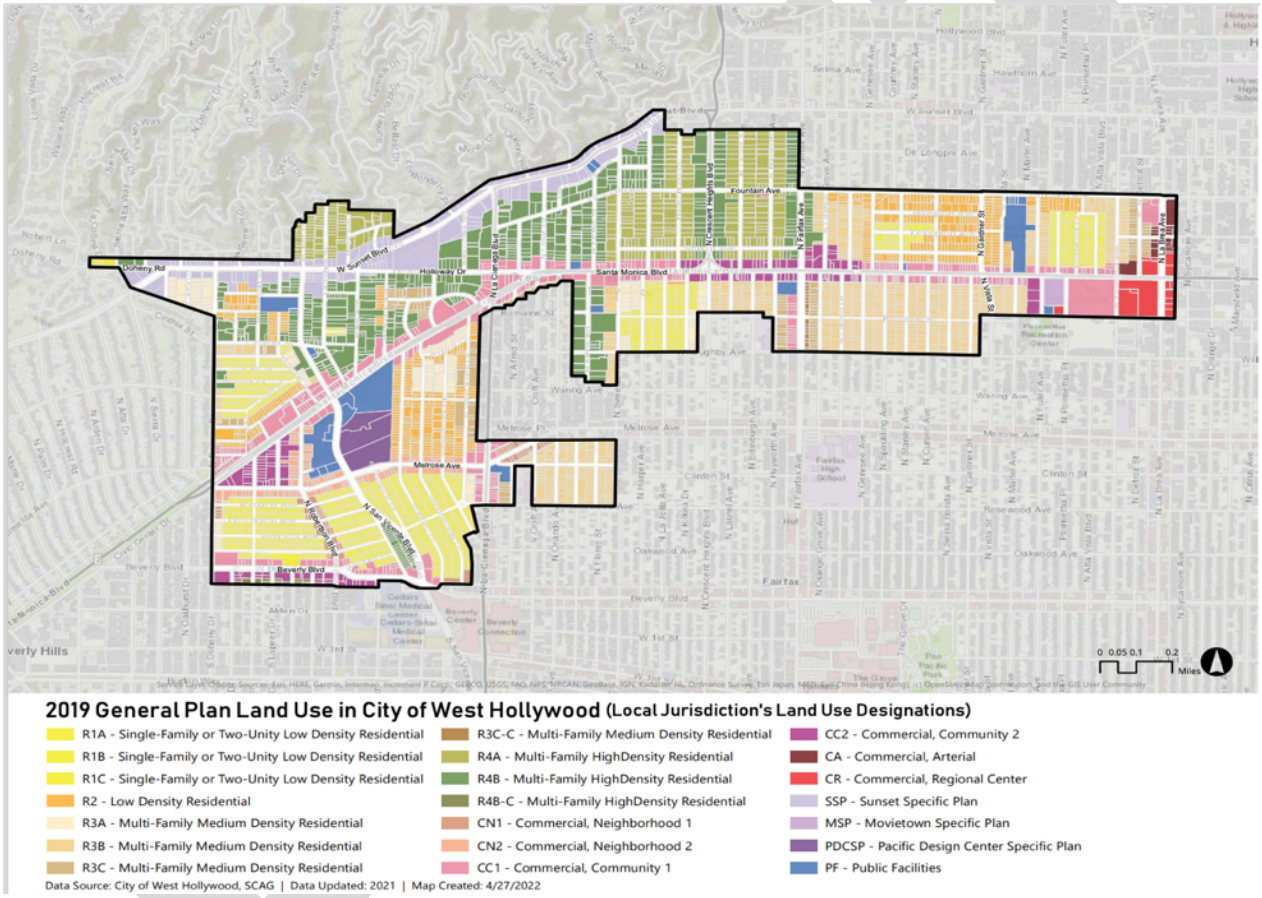
Housing affordability remains a significant issue for West Hollywood. In a major disaster, replacing damaged or destroyed housing will be more difficult than in many other areas, possibly leading to many current lower-income residents being displaced. The age of housing stock is another. The Los Angeles area historically has had a very moderate climate compared to many other parts of the United States, and both older homes and apartment buildings were not built for the kinds of extreme events already occurring. Some public buildings also are likely to show strain. As time passes, maintenance and upgrade costs will grow – again, borne with more significant strain by disadvantaged and lower-income populations.

Finally, West Hollywood is home to many high-end hotels – many of which could be designated as unsafe for habitation or even repair in the event of a major earthquake. Given how built-out the City is, this would pose a major problem for reconstruction – and since the

economy of the City is so dependent on their revenues, it could cause major problems going forward for tax revenues and the budget to make other improvements.

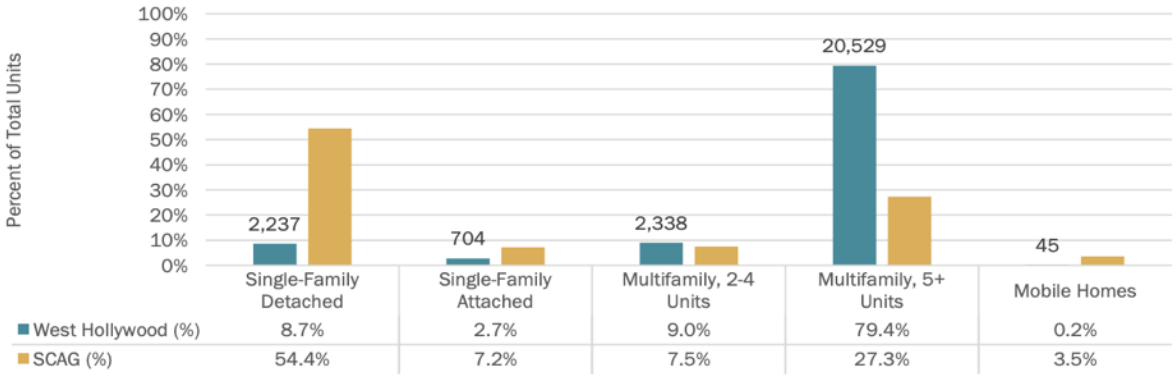
As of U.S. Census Bureau data from July 2021:

- Owner-occupied housing rate – 19.9%
- Median value of owner-occupied housing units – $782,500
- Median selected monthly owner costs with a mortgage – $3,305
- Median gross rent – $1,831
- Number of households – 22,984
- Persons per household – 1.55



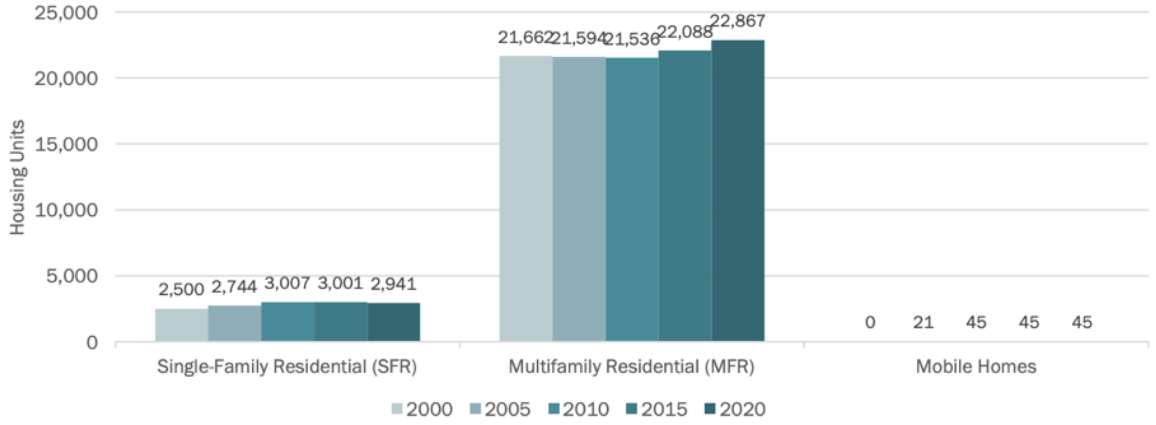
Source: https://scag.ca.gov/sites/main/files/file-attachments/p0222-west-hollywood.pdf?1655314251

Housing Type



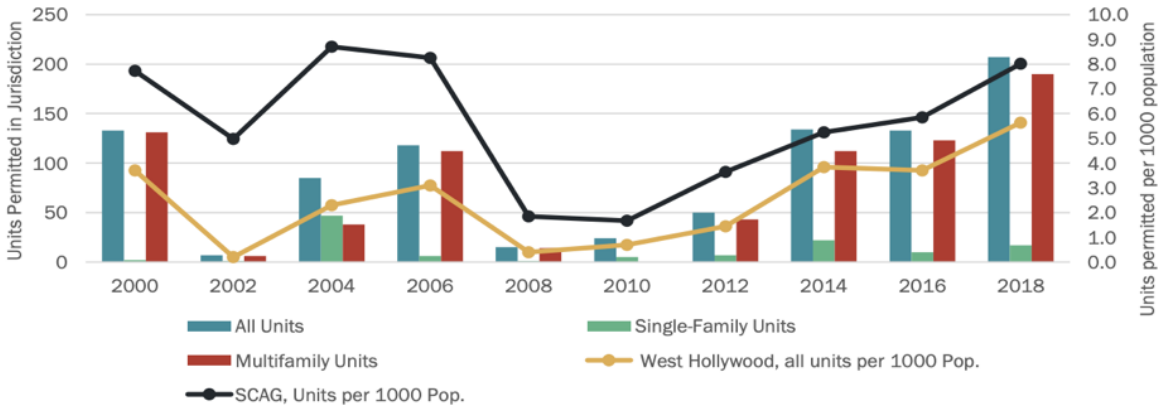
Source https://scag.ca.gov/sites/main/files/file-attachments/west-hollywood-he0421.pdf?1620755968

Housing Type Trend



Source https://scag.ca.gov/sites/main/files/file-attachments/west-hollywood-he0421.pdf?1620755968

Housing Units Permitted



Source https://scag.ca.gov/sites/main/files/file-attachments/west-hollywood-he0421.pdf?1620755968

2.7 Economy

The West Hollywood business community is a diverse blend of commercial venues. The City of West Hollywood receives revenue from property taxes, sales and use taxes, transient occupancy taxes, business license taxes, parking fines, photo safety citations, parking meters, motor vehicle in lieu fees, and other funds.

The businesses that populate West Hollywood are diverse. "Mom and Pop" stores co-exist with boutiques. Russian specialty stores and markets co-exist with posh hotels, popular avant-garde nightclubs, restaurants, florists, pet emporiums, and medical and legal professional services.

Santa Monica Boulevard is considered the City's main street and is home to neighborhood businesses, including those serving the Russian-speaking community, restaurants, bars, and markets. The City works collaboratively with the Visit West Hollywood Travel + Tourism Board and the West Hollywood Chamber of Commerce to promote the City as a destination and to advocate for a community environment where businesses can flourish.

An important characteristic of West Hollywood's economy to note is its dependence on services and tourism. Restaurants, high-end shopping, and hotels are the backbone of the economy. The population of the City can shift dramatically by the time of day or week. This makes the economy that much more vulnerable to disasters. The COVID-19 pandemic and associated restrictions on commerce and movement is a good example.

2.8 Infrastructure

Electricity and Natural Gas: The City is served by Southern California Edison (SCE), which is one of the largest electric utilities in the United States. SCE provides electricity to over 15 million people across Southern California, including West Hollywood. West Hollywood also has a growing electric vehicle (EV) infrastructure, with 84 public charging stations located throughout the City. These charging stations are part of SCE's Charge Ready program, which aims to install more than 38,000 EV charging ports across Southern California by 2025.

The City is also served by Southern California Gas Company (SoCalGas), which is one of the largest natural gas utilities in the United States. SoCalGas provides natural gas to over 21 million customers across Southern California, including West Hollywood.

Water Infrastructure: The water that West Hollywood receives comes from a combination of local sources, imported water from the Colorado River and Northern California, and groundwater supplies. The Metropolitan Water District of Southern California (MWD) is a regional wholesaler that imports water to the greater Los Angeles area and provides water to its member agencies, including the City of West Hollywood. MWD delivers imported water to West Hollywood through a network of pipelines and reservoirs. The City of Los

Angeles Department of Water and Power (LADWP) manages the distribution of water within most of the City, with Beverly Hills water serving some areas in the west. s

Water conservation is a significant focus in Southern California due to the region's semi-arid climate and water scarcity concerns. Both MWD and LADWP promote water conservation efforts, including public education campaigns, incentives for water-efficient appliances, and water-efficient landscaping programs.

Wastewater Infrastructure: West Hollywood's sewer system consists of a network of underground pipes that collect and transport wastewater (including sanitary sewage and stormwater) from homes and businesses to treatment facilities. The sewer system helps prevent contamination of water bodies and ensures the safe disposal of wastewater. Wastewater from West Hollywood is typically conveyed to larger treatment facilities operated by the Los Angeles County Sanitation District (LACSD). LACSD is responsible for the treatment of wastewater from various municipalities in Los Angeles County, including West Hollywood.

Transportation: There are no freeways within the city limits of West Hollywood. West Hollywood is connected to the surrounding areas through a network of major streets and arterials. Some of the notable streets and roads in and around West Hollywood include:

- **Santa Monica Boulevard**: A prominent east-west thoroughfare that runs through West Hollywood and connects it to communities like Beverly Hills to the west and Silver Lake to the east.
- **Sunset Strip**: This iconic stretch of Sunset Boulevard is known for its entertainment venues, restaurants, and nightlife. It's a major artery running through West Hollywood.
- **La Cienega Boulevard**: Connecting West Hollywood to Beverly Hills and Culver City, La Cienega Boulevard is an important north-south thoroughfare.
- **Melrose Avenue**: A popular street known for its shopping, dining, and cultural attractions, Melrose Avenue runs through West Hollywood and connects to Hollywood and Beverly Grove.

Traffic on these streets can be heavy during certain times of the day, slowing both individual automobiles and public bus transit. This is a major vulnerability in the face of disasters or other adverse events – getting people evacuated or getting assistance into the City could be very difficult. Even during recovery, it may be difficult for contractors to enter the City.

Public Transit and Sidewalks: West Hollywood is served by various public transit options, which are part of the broader Los Angeles County Metropolitan Transportation Authority (Metro) system:

- **Bus Services**: Metro operates several bus routes that serve West Hollywood, providing connections to other parts of Los Angeles County. The City is well-connected to the regional bus network, allowing residents to access destinations across the area.

- **Metro Rail**: West Hollywood does not have its own Metro Rail station, but the City is relatively close to the Hollywood/Highland and Hollywood/Vine Metro Red Line stations, which provide access to rapid transit services.
- **CityLine**: West Hollywood operates a free shuttle service Monday through Saturday during the day. The CityLine Commutr service operates during rush hour and Saturday evening (until 8 pm) to and from Hollywood and Highland and the Metro B line every 15 minutes.
- **WeHo Pickup**: A free trolley runs on Santa Monica Boulevard between La Brea Avenue and Robertson Boulevard on Friday and Saturday evenings as well as Sunday.
    -

Most West Hollywood streets are served by sidewalks. However, as with much infrastructure, many sidewalks are showing their age, with increasing cracks and other uneven surfaces. While this may seem minor, sidewalks provide an alternate means of transportation than motorized transportation, which may be very valuable after a large-scale event that clogs auto-centric streets into and out of the City.

2.9 Historically Disadvantaged and Vulnerable Populations

LGBTQ+: The City of West Hollywood is well-known for having a prominent LGBTQ+ community and attracts huge numbers of visitors for events such as WeHo Pride in June and Halloween. This puts the City and its population at risk for terrorist incidents, either from organizations or, more commonly, from individuals or diffuse networks, who find the existence of LGBTQ+ people objectionable. Anonymous threats made to the City are not uncommon but have not yet resulted in mass casualty events. Section 3, Terrorism, describes this hazard in more detail as well as the kinds of events that have happened elsewhere. Working through existing LGBTQ+ community networks to both keep aware of threats and build individual and network resilience in cooperation with the City will be necessary to meet the kind of distributed threats modern anti-LGBTQ+ terrorism poses.

Russian-speaking Populations: The City of West Hollywood has a large Russian-speaking immigrant population, many of them Russian Jews. The City employs Russian-speaking employees and is conscious of the need for outreach in the Russian language, but there is still the potential for miscommunication or other issues stemming from being a linguistic minority in a largely English and Spanish speaking metropolitan area. The Jewish population in this community has an additional vulnerability, as anti-Semitic incidents have happened over the past decade in San Diego, California; Pittsburgh, Pennsylvania; Overland Park, Kansas, and other areas. Outreach to institutions in the community, both religious and otherwise, is very important to increasing the population's resilience to disasters.

Unhoused: The overall numbers of people experiencing homelessness have grown dramatically over the past decade, and especially in Southern California with its associated housing affordability crisis. Tents lining sidewalks is a common sight in many areas adjacent to the City of West Hollywood. Unhoused populations are uniquely vulnerable to many of the natural hazards mentioned in this Plan. The City works cooperatively with its

neighboring cities, Los Angeles County, and the state to find ways to provide services and housing to this population.

Behavioral Health: Anecdotally, there has been a rise in reports of behavior (not exclusively from unhoused people) that may indicate an increase in mental health needs. This is outside of the scope of the Plan but is being addressed by the City's development and implementation of the West Hollywood Care Team, a behavioral health crisis response team. These challenges should be carefully considered going forward in consultation with community mental health organizations and the Los Angeles County Department of Mental Health.

SECTION 3 – HAZARD IDENTIFICATION AND RISK ASSESSMENT

Element B: Risk Assessment Requirements
B1. Does the plan include a description of the type, location and extent of all natural hazards that can affect the jurisdiction? Does the plan also include information on previous occurrences of hazard events and on the probability of future hazard events? (Requirement 44 CFR § 201.6(c)(2)(i))
B2. Does the plan include a summary of the jurisdiction's vulnerability and the impacts on the community from the identified hazards? Does this summary also address NFIP insured structures that have been repetitively damaged by floods? (Requirement 44 CFR § 201.6(c)(2)(ii))

This section discusses the types of hazards that might reasonably impact the City of West Hollywood. It describes how they are measured, a history of these hazards and the future risk they pose. This chapter also discusses how hazards in the plan were selected and prioritized.

3.1 Hazard Scoring and Prioritization

On May 24, 2023, a hazards and vulnerability assessment workshop was conducted with the City of West Hollywood. During the workshop, attendees evaluated the risk of hazards included in previous LHMP documents as well as additional hazards suggested by attendees.

The City requested that the following hazards be evaluated in its hazard mitigation plan:

- Extreme Heat
- Power Outages
- Drought
- Wildfire/Smoke
- Hazardous Materials
- Cyberattack
- Terrorism/Armed Assailant
- Earthquake
- Infectious Disease
- Flood
- Heavy Rain
- Severe Wind

The May 24 workshop was conducted virtually and utilized Kahoot, an online survey tool, to gain information in real time about participant hazard awareness and risk assessment.

Participants were asked to score the above list of hazards on a scale of 0-5 using four categories for each, for a total of 48 questions:

- Severity at present
- Probability at present
- Severity in the future
- Probability in the future

After calculating risk scores for each question (number of responses per ranking * total weighted value by ranking) and a cumulative overall risk score for each hazard (sum of results for all four questions per hazard), the following hazard ranking was developed:

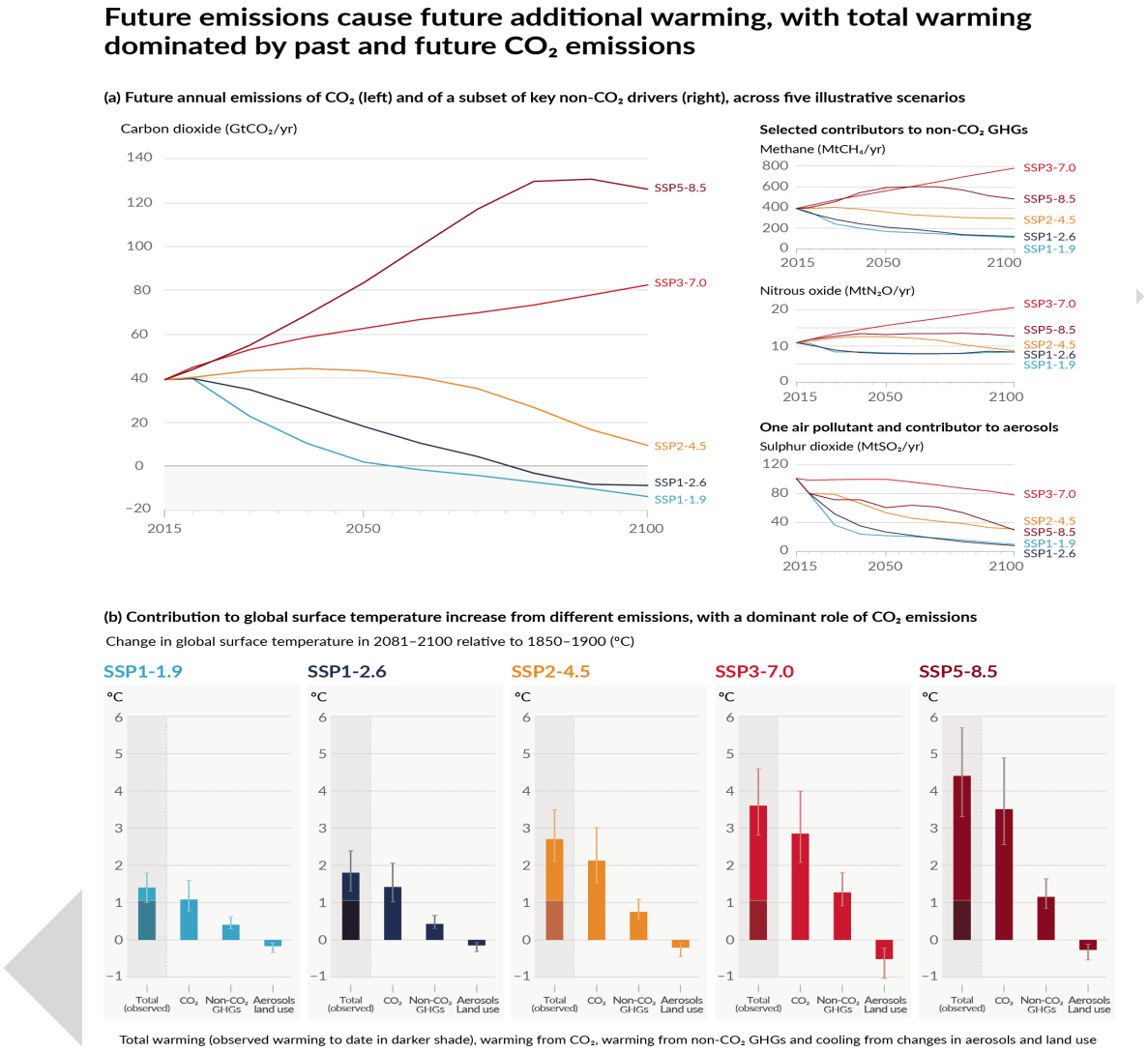
Hazard	Score
Cyberattack	32.1605
Earthquake	31.1426
Infectious Disease	29.0612
Extreme Heat	27.7698
Terrorism/Armed Assailant	26.5857
Drought	22.9843
Power Outages	21.1714
Heavy Rain	16.7177
Severe Wind	16.5944
Wildfire	15.7486
Hazardous Materials	13.6744
Floods	12.0147

3.2 Global Climate Change

Global climate change is one of the defining phenomena of the 21st century and is emphasized in FEMA's revised hazard mitigation planning guidance as of April 19, 2023. Climate change is caused by increasing emissions of specific gasses, primarily carbon dioxide (CO2) and the feedback loops caused by those emissions increasing overall global temperatures. As of 2023, current concentrations of CO2 in the atmosphere are equivalent to those last seen in the Pliocene era between 2 and 5 million years ago before the Ice Ages, where global sea levels were on average 20 feet higher than today.

Climate change is not, by itself, a discrete hazard, and will not be considered as such in this LHMP. Instead, climate will be considered in each individual hazard description, as well as within individual mitigation actions. Climate change is best thought of as, in security parlance, a threat multiplier, or as "loading the dice", amplifying the impacts of existing hazards, shifting the probability of extreme events, and extending new hazards to regions that previously have not experienced them.

National and intergovernmental efforts to establish consensus climate projections include the Intergovernmental Panel on Climate Change and the National Climate Assessment in the United States (the Fifth Assessment is currently in preparation). The IPCC uses a representative concentration pathway (RCP) and associated shared socioeconomic pathways (SSP) to illustrate likely outcomes of varying emissions levels.



At the time of writing (2023), given national pledges and observed trends in measurable emissions, the most probably emission scenario is the upper end of RCP4.5, which results in an increase of between 2.2 and 3.5 degrees Celsius over preindustrial temperatures. By 2100, a significant increase by any measure over the 1.5 degree Celsius boundary set by the 2015 Paris Accords. This outcome is subject to several significant caveats:

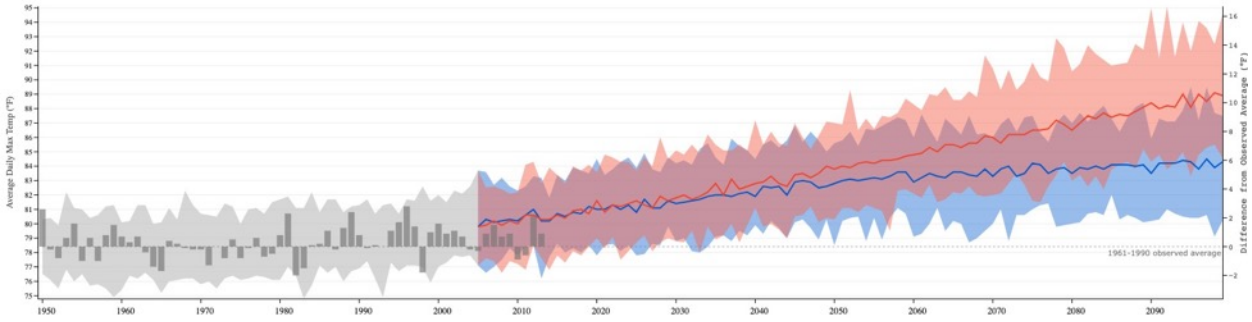
- This assumes that all national pledges are followed through upon, which is highly questionable given political realities.

- This also neglects the potential for feedback loops or unpredictable events such as major methane releases due to arctic thawing that may temporarily significantly increase greenhouse gases in the atmosphere.
- Many projections assume the development and widespread use of carbon capture and sequestration (CCS) technology to draw down carbon out of the atmosphere. As of yet, CCS technology has not been proven to scale, and the extent of deployment required for CCS to impact projections will be extraordinarily broad and expensive.
- Finally, a consensus is not a prediction – it is a product of a scientific process that is heavily impacted by political considerations. It can be thought of as a set of ranges, not as a hard number.

Many climate risk analyses today use RCP8.5, or "business as usual" projections as their baseline, which was the most likely outcome as of as little as three years ago. More recent projections have shifted to RCP4.5, but RCP8.5 is still completely in the realm of possibility and is more likely than the extremely optimistic projection of RCP1.9.

In its 2021 Climate Action and Adaptation Plan, the City of West Hollywood commissioned its own projections for City emissions using three scenarios – Business as Usual, Business as Planned, and Carbon Neutrality. These scenarios looked at trends in specific sectors. While the City's emissions are a small fraction of global emissions, these scenarios are an excellent example of thinking locally and taking into account the range of potential future outcomes.

Below are a few of the most relevant aspects of climate change for hazard mitigation planning:



Temperature Projections Source: U.S. Climate Resilience Toolkit Climate Explorer for Los Angeles County, California

- Many of climate change's impacts have resulted in greater unpredictability. For example, many regions are projected to experience both too little rain (increasing droughts) and too much rain (in severe events such as rain bombs or atmospheric rivers). Averages tend to obscure these kinds of extremes. Increasingly over the past several years, these kinds of almost stochastic events have increased all over the world.

- Projections by their nature tend to assume steady, linear change. Given what has been observed above, this is unlikely on either a local scale or a macrolevel scale. Planners should assume that surprises are likely to occur and plan accordingly.
- While overall climate projections have been remarkably accurate in terms of global temperature, many of the impacts of these temperature rises have been faster than expected, in some cases significantly so, with observed phenomena occurring today that researchers expected to see decades later. Planners should assume that impacts will occur on shorter time scales than anticipated – acting sooner will save money, time, and effort later.

This is important for planners and decision makers to keep in mind. Past conditions are no longer as reliable as guides to future conditions as they once might have been.

3.3 Hazard Profiles

3.3.1 Cyberattack

Hazard Description

A cyberattack is a malicious attempt to damage, disrupt, or gain unauthorized access to a computer system, network, or device. These attacks can take many forms and can be launched from anywhere in the world, making them a constant threat to local governments and businesses alike.

Cyberattacks on local governments and businesses are becoming increasingly common as more services move online and more data is stored in digital formats. These attacks can take many forms, including phishing scams, ransomware attacks, and distributed denial-of-service (DDoS) attacks. In a phishing scam, an attacker will send a legitimate-looking email or message to a target, attempting to trick them into revealing sensitive information such as usernames and passwords. In a ransomware attack, an attacker will use malware to encrypt a victim's data, demanding payment in exchange for the decryption key. In a DDoS attack, an attacker will flood a website or server with traffic, overwhelming it and making it unavailable to legitimate users.

Cyberattacks on local governments can be particularly damaging, as they can disrupt critical services such as emergency response systems, public utilities, and transportation networks. They can also result in the theft of sensitive data such as personal information, financial data, and intellectual property. Businesses are also vulnerable to cyberattacks, which can result in significant financial losses, reputational damage, and legal liability.

Location and Extent

By its nature, the threat of cyberattacks is ever-changing, and as the mechanics of how work happens is increasingly digitized, is ever-growing as well. Increasing vulnerability of cloud-based systems may result in attempts to wall off certain portions of the cloud or even

create “mini-clouds”. Widely available artificial intelligence (AI) is likely to increase vulnerability to cyberattacks as it becomes more pervasive and supplements or replaces human-based knowledge.

Cyberattacks are generally not geographically based in the sense that there is a discrete, singular location that is targeted. They could be targeted to specific organizations or departments or targeted towards the entire municipal IT network. Cloud storage, for example, may be used by a city but may physically be distributed among many servers in various locations, some potentially far from the City.

Previous Occurrences

Cyberattacks are, by their nature, often not publicized, and as such, there is not a detailed record of cyberattacks potentially available to the public against West Hollywood city government or local businesses.

However, there have been several high-profile cyberattacks that illustrate the nature of the threat:

- **Atlanta Ransomware Attack (2018):** In March 2018, the city of Atlanta, Georgia, fell victim to a ransomware attack. The SamSam ransomware was used to infect the city's computer systems, leading to widespread disruptions in various services, including the court system, utility payments, and police services. The attackers demanded a ransom in Bitcoin to decrypt the affected systems. The incident highlighted the vulnerabilities of municipal IT infrastructure and the potential consequences of cyberattacks on essential services.
- **Baltimore Ransomware Attack (2019):** In May 2019, the city of Baltimore, Maryland, was hit by a ransomware attack using the RobbinHood ransomware. The attack crippled the city's computer systems, affecting services such as email, payment processing, and even real estate transactions. The city refused to pay the ransom, leading to a lengthy recovery process that lasted several weeks and cost millions of dollars.
- **New Orleans Cyberattack (2019):** In December 2019, the city of New Orleans, Louisiana, suffered a cyberattack that disrupted various city services. While the city stated that no ransom was paid, the attack affected emergency services, public safety operations, and various administrative functions. This incident highlighted the potential risks of cyberattacks on critical infrastructure and the need for preparedness and response measures.
- **Colonial Pipeline Ransomware Attack (2021):** Although not targeting a municipal government directly, the Colonial Pipeline ransomware attack in May 2021 had significant regional implications. The Colonial Pipeline, which transports a large portion of the East Coast's fuel supply, was shut down due to a ransomware attack. The pipeline's shutdown led to fuel shortages and price increases in various states, affecting multiple municipalities' ability to provide services and respond to emergencies.

Probability of Future Events

The probability of future cyberattacks has only grown, and is likely to continue growing, as malicious actors gain access to increasingly sophisticated tools.

Vulnerability and Impact

Cyberattacks can impact local government, services, and businesses in a variety of ways, depending on the type and severity of the attack. Here are some examples:

Local Government:

- Emergency Services: Cyberattacks can disrupt emergency services such as 911 systems, which can prevent people from getting the help they need in a timely manner.
- Public Utilities: Cyberattacks can target public utilities such as water and power systems, potentially causing widespread outages and other disruptions.
- Transportation Networks: Cyberattacks can target transportation networks such as traffic signals and public transit systems, causing delays and safety hazards.
- Public Records: Cyberattacks can compromise public records such as birth certificates, social security numbers, and other sensitive information.

Services:

- Financial Services: Cyberattacks can target financial institutions such as banks, potentially compromising sensitive financial data and disrupting financial transactions.
- Healthcare: Cyberattacks can compromise healthcare systems, potentially putting patient data and even lives at risk.
- Retail: Cyberattacks can compromise retail systems, potentially exposing customer data and leading to financial losses and reputational damage.
- Education: Cyberattacks can target educational systems, potentially compromising sensitive data such as student records and grades.

Businesses:

- Intellectual Property: Cyberattacks can target businesses' intellectual property such as trade secrets, patents, and other sensitive information.
- Financial Information: Cyberattacks can compromise businesses' financial data, potentially leading to financial losses and reputational damage.
- Supply Chain Disruptions: Cyberattacks can disrupt businesses' supply chains, causing delays and financial losses.
- Reputational Damage: Cyberattacks can cause reputational damage to businesses, potentially leading to a loss of customers and revenue.

In addition, certain populations such as the elderly, disabled, and unhoused people may be more vulnerable to the impacts of cyberattacks on local government and services. For example, if emergency services or public utilities are disrupted, these populations may have a more difficult time accessing the resources they need to stay safe and healthy.

In West Hollywood, the City's IT management has taken measures to increase its resiliency, with at least one redundant connection to the outside world. However, it does not have a large, dedicated generator capacity, consisting only of one dedicated generator in City Hall. A secondary site, possible in the West Hollywood Aquatic and Recreation Center, would add significant resiliency. Laptops generally have 4-5 hours of power capacity, so in the event of a power outage, they could quickly run down without available power sources. And without an operating network to log in to, their utility would be seriously compromised. This becomes an issue in the case of another pandemic or other situation requiring widespread remote work as during the beginning of the COVID-19 pandemic – ensuring operation of the network will be key to ensuring the continued functioning of the City.

3.3.2 Earthquake

Hazard Description

An earthquake is a sudden, violent movement of the earth's surface that is caused by volcanic activity or tectonic movement along fault lines and the subsequent release of energy in the form of seismic waves. The effects of an earthquake can be widespread and include surface faulting, shaking of the ground, landslides, soil liquefaction, changes in the earth's tectonic structure, tsunamis, and oscillations in large bodies of water.

The point where two tectonic plates meet is called a fault line, and earthquakes often occur along these lines. In California, the San Andreas Fault is the most well-known fault line, where the North American Plate and the Pacific Plate come together. Over time, the constant friction between these two plates has caused the intersection to break into smaller faults, making the area more prone to earthquakes. The Earth's surface may show visible signs of fault lines in the form of sudden changes or breaks in the landscape.

Earthquakes strike suddenly, without warning. Earthquakes can occur at any time of the year and at any time of the day or night. On a yearly basis, 70 to 75 damaging earthquakes occur throughout the world. To this point, a 5.1 earthquake occurred on Sunday, August 20, 2023 during the landfall of Hurricane Hilary, the first tropical storm to arrive in California in 84 years.

The two main types of earthquakes that can occur in each region are strike-slip and dip-slip earthquakes. Strike-slip earthquakes occur on vertical or nearly vertical faults, where the plates of the Earth's crust move mostly horizontally. The direction of movement across the fault determines if it is a right lateral fault or a left lateral fault. Dip-slip earthquakes occur on slanted faults where the blocks of the Earth's crust shift mostly vertically. If the Earth above the fault moves downward, it is called a normal fault, and if it moves upward, it is known as a reverse fault. If the reverse fault has a dip of 45 degrees or less, it is referred to as a thrust fault.

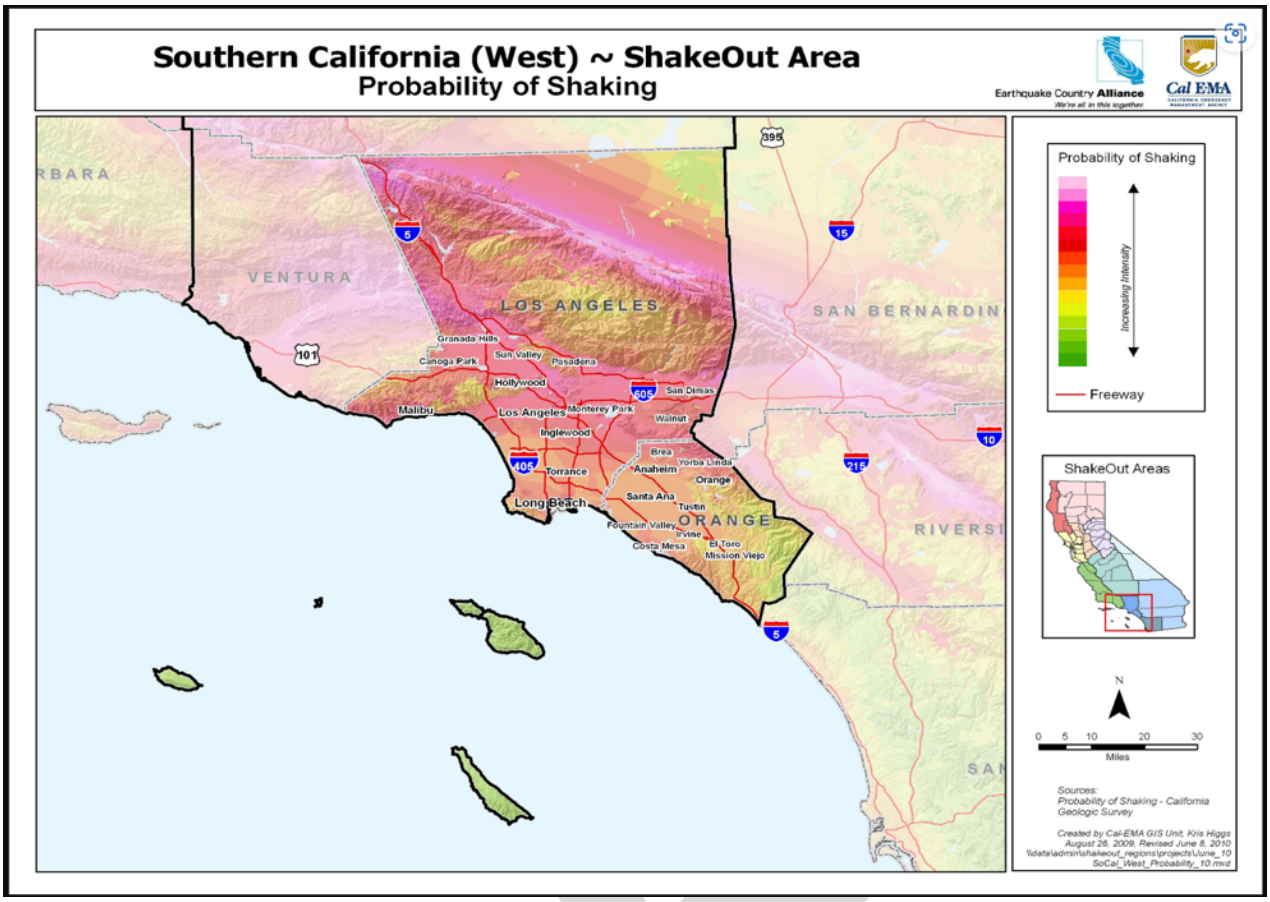
The region close to a fault line is vulnerable to damage due to the possibility of a fault rupture, resulting in the shifting and displacement of the land on either side of the fault, which may move a few inches to several feet in opposite directions. Buildings and infrastructure near, on top of, or crossing a fault line may be severely damaged or even destroyed. Some faults have only recently formed in geological history and are known as Quaternary faults. These faults, which have developed within the past 1.8 million years, are a concern as they are most likely to be active and cause future earthquakes. The Alquist-Priolo Earthquake Fault Zoning Act permits the California State Geologist to identify zones around active faults as Alquist-Priolo Special Study Zones, which are designated as special regulatory areas. These zones require further study to determine the location of the fault and the extent of the area prohibited from surface construction above the known location of an active fault.

Liquefaction

Liquefaction happens when seismic energy shakes an area with a low-density material, such as fine-grained soil like sand or silt, that is saturated with water. This can cause the loose soil to suddenly compact and behave more like a liquid than solid ground. Buildings and infrastructure built on these areas can be damaged or even collapse because of the liquefaction. Utility lines like pipelines that pass through a liquefaction zone may also be ruptured, leading to potential flooding or the release of hazardous substances. Although there is no standard method for measuring the scale of liquefaction, other factors can be used to gauge the extent of damage caused by it. These include the type of soil, the strength of the seismic shaking in the affected area, the size of the affected region, and the degree of destruction caused by the liquefaction.

Seismic shaking

Seismic shaking is the trembling felt on the Earth's surface caused by an earthquake. While not all earthquakes are strong enough to cause noticeable shaking, the intensity of seismic shaking is proportional to the amount of energy released from the earthquake, which is determined by the length and depth of the fault that caused it. Typically, areas closest to the fault rupture experience stronger seismic shaking, while areas farther away experience weaker shaking. Seismic shaking can result in structural damage or collapse, and it can also harm underground utilities or pipelines, leading to flooding if water lines are broken.



Source: https://www.shakeout.org/california/images/SoCal_West_Probability_map.jpg

The Richter magnitude scale, named after seismologist Charles F. Richter, measures the amount of energy released by an earthquake at its source. The scale ranges from 0 to 10, with each increase of one representing an earthquake 10 times stronger than the previous one. However, because it is a logarithmic scale, the energy released increases by a factor of 32 for each one-point increase in magnitude. For example, an earthquake with a magnitude of 6.0 releases 32 times more energy than an earthquake with a magnitude of 5.0.

The Mercalli intensity scale, on the other hand, measures the effects of an earthquake on people, structures, and the environment. It is based on observations of damage and shaking intensity rather than on instrumental measurements. The scale ranges from I to XII, with each level representing a different level of damage and impact. For example, an earthquake with an intensity of I would be felt only by a few people under very special circumstances, while an earthquake with an intensity of XII would cause total destruction of buildings and infrastructure.

The Richter Magnitude Scale

Richter Magnitudes	Earthquake Effects
Less than 3.5	Generally, not felt but recorded.
3.5-5.4	Often felt, but rarely causes damage.
Under 6.0	At most slight damage to well-designed buildings. Can cause major damage to poorly constructed buildings over small regions.
6.1-6.9	Can be destructive in areas up to about 100 kilometers across where people live.
7.0-7.9	Major earthquake. Can cause serious damage over larger areas.
8 or greater	Great earthquake. Can cause serious damage in areas several hundred kilometers across.

Source: https://www.usgs.gov/natural-hazards/earthquake

Modified Mercalli Intensity Scale for Earthquakes

Scale	Intensity	Description of Effects	Corresponding Richter Scale Magnitude
I	Instrumental	Detected only on seismographs	
II	Feeble	Some people feel it	<4.2
III	Slight	Felt by people resting; like a truck rumbling by	
IV	Moderate	Felt by people walking	
V	Slightly Strong	Sleepers awake; church bells ring	<4.8
VI	Strong	Trees sway: suspended objects swing, objects fall off shelves	<5.4
VII	Very Strong	Mild Alarm; walls crack; plaster falls	<6.1
VIII	Destructive	Moving cars uncontrollable; masonry fractures; poorly constructed buildings damaged.	
IX	Ruinous	Some houses collapse; ground cracks; pipes break open	<6.9

X	Disastrous	Ground cracks profusely; many buildings destroyed; liquefaction and landslides widespread	<7.3
XI	Very Disastrous	Most buildings and bridges collapse; roads, railways, pipes, and cables destroyed	
XII	Catastrophic	Total destruction: trees fall; ground rises and falls in waves	>8.1

Source: https://www.usgs.gov/natural-hazards/earthquake

Location and Extent

Major fault lines in close proximity to the City of West Hollywood include:

- **San Andreas Fault**: The San Andreas Fault is perhaps the most famous fault in California. It runs approximately 800 miles (1,300 kilometers) through the state, marking the boundary between the Pacific Plate and the North American Plate. While the main trace of the fault is not directly adjacent to West Hollywood, its influence on seismic activity and potential earthquakes in the region is significant.
- **Hollywood Fault**: The Hollywood Fault is a thrust fault that runs through parts of the Hollywood Hills and could potentially impact the Los Angeles Basin, including West Hollywood. It has been the subject of geological studies to understand its activity and potential for seismic events.
- **Santa Monica Fault**: The Santa Monica Fault runs parallel to the coast, just a few miles from West Hollywood. It's considered a significant seismic hazard due to its proximity to populated areas and its potential to generate earthquakes.
- **Puente Hills Fault**: The Puente Hills Fault is another important fault in the area, running from the San Gabriel Valley to downtown Los Angeles. It's a thrust fault capable of producing powerful earthquakes. Its proximity to densely populated areas raises concerns about the potential impact of a seismic event.
- **Raymond Fault**: The Raymond Fault is located to the east of West Hollywood, running through parts of Pasadena and nearby areas. It's considered active and capable of generating earthquakes.

Beyond these known faults, there are a potentially large number of “blind” faults that underlie the surface of Southern California. One such blind fault was involved in the Whittier Narrows earthquake in October 1987.

Although the most famous of the faults, the San Andreas, can produce an earthquake with a magnitude of 8+ on the Richter scale, some of the “lesser” faults have the potential to inflict greater damage on the urban core of the Los Angeles Basin. Seismologists believe that a 6.0 earthquake on the Newport-Inglewood would result in far more damage than a “great” quake on the San Andreas, because the San Andreas is relatively remote from the urban centers of Southern California.

Limitations to predicting damage from an earthquake to the City specifically include not being able to identify with certainty which fault might be affected, the magnitude of the earthquake, or the length of time of the shaking. Comparisons can be drawn from history and geologic studies and are addressed in the Safety and Noise Chapter of the City's General Plan. The City Seismic Hazard Zone map, which is included in the City's General Plan, denotes southern areas of the City that have historic occurrence of liquefaction or local geological, geotechnical and groundwater conditions that indicate a potential for permanent ground displacements. There is also an area in the northern part of the City that either has pervious occurrence of landslide movement or local topographic, geological, geotechnical, and subsurface water conditions that indicate a potential for permanent ground displacements.

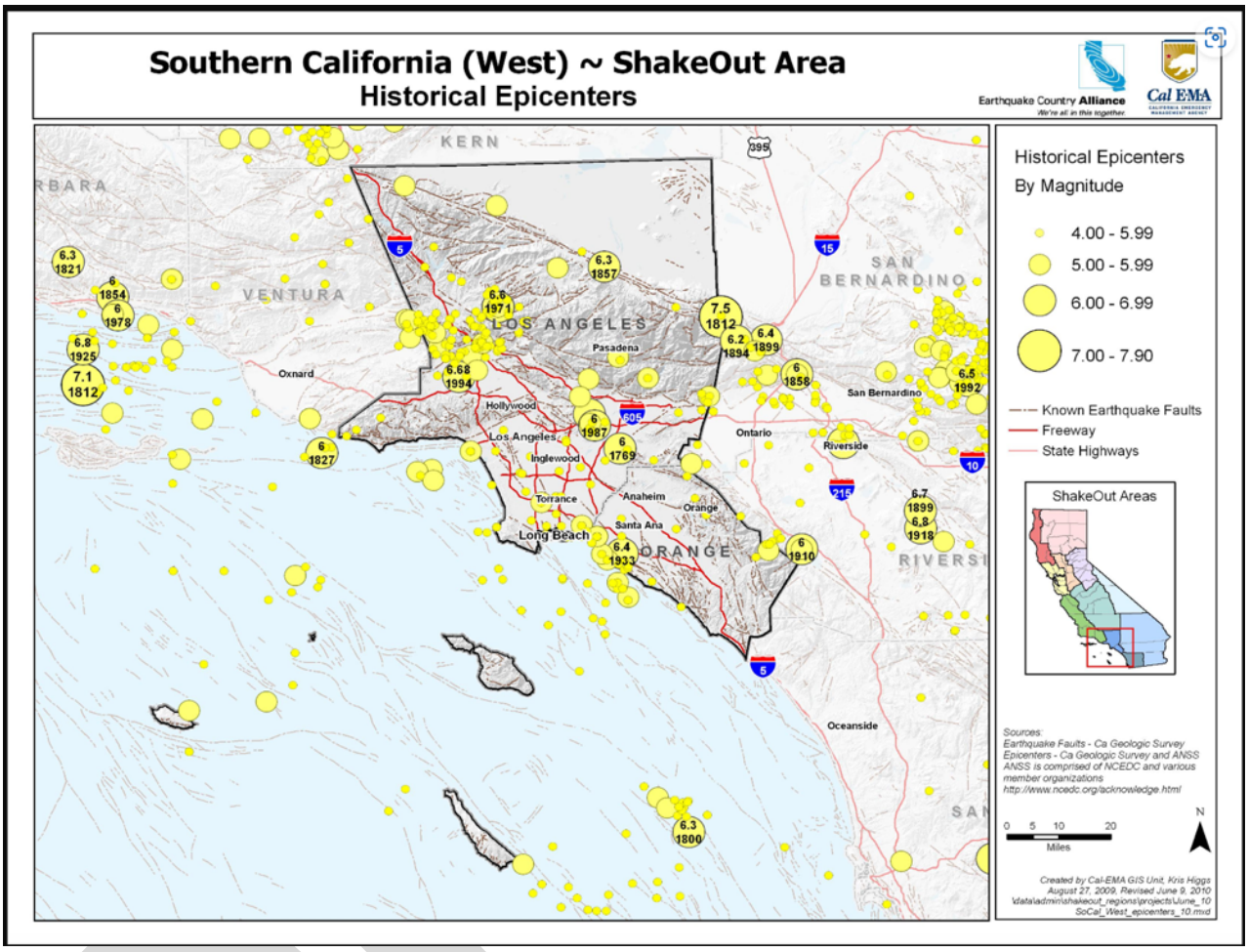
Previous Occurrences

In the past several decades, earthquakes of magnitude 5.0 or greater occurred in the Los Angeles Area, with the most recent being the La Habra earthquake (magnitude 5.1) March 28th, 2014. For the La Habra earthquake, the epicenter was one mile east of La Habra and four miles north of Fullerton. An aftershock (magnitude 4.1) centered near the Los Angeles County community of Rowland Heights the following day. Based on the Modified Mercalli Intensity Scale (a measure of the effect of an earthquake on the Earth's surface, or the intensity), the City of West Hollywood received an intensity rating of IV on a Roman numeral scale of I to X. A rating of IV means light shaking, in which the effects are felt indoors by many and outdoor by a few. The second most recent earthquake with a magnitude of 5.0 or greater in the Los Angeles Area was the July 29th, 2008 Chino Hills earthquake, with the epicenter located 28 miles east-southeast of downtown Los Angeles. Similar to the La Hambra earthquake, the City of West Hollywood received a rating of IV on the Mercalli Intensity Scale.

Earthquakes in southern California have been frequent, with many impacting the City of West Hollywood and surrounding communities. Among the more notable area:

- **Northridge Earthquake (1994):** One of the most impactful earthquakes in recent history for the Los Angeles area was the Northridge Earthquake. On January 17, 1994, a magnitude 6.7 earthquake struck in the San Fernando Valley, which is relatively close to West Hollywood. The earthquake caused widespread damage, including collapsed buildings, infrastructure damage, and loss of life. The event highlighted the vulnerabilities of the region's infrastructure to seismic events.
- **Whittier Narrows Earthquake (1987):** The Whittier Narrows Earthquake, with a magnitude of 5.9, occurred on October 1, 1987. While its epicenter was further east, near the San Gabriel Valley, it was felt throughout the Los Angeles Basin. The quake caused damage to several freeway overpasses and highlighted the potential for seismic hazards in the area.
- **Long Beach Earthquake (1933):** The Long Beach Earthquake, also known as the 1933 Long Beach earthquake, struck on March 10, 1933. It had a magnitude of 6.4 and caused significant damage in Long Beach and surrounding areas. Although West Hollywood is further west, it was still affected by the shaking from this earthquake.

- **San Fernando Earthquake (1971):** The San Fernando Earthquake, also referred to as the Sylmar Earthquake, occurred on February 9, 1971. With a magnitude of 6.5, it caused destruction in the San Fernando Valley, which is close to West Hollywood. The earthquake resulted in collapsed buildings, fires, and widespread damage.



Source: https://www.shakeout.org/california/images/SoCal_West_epicenters_map.jpg

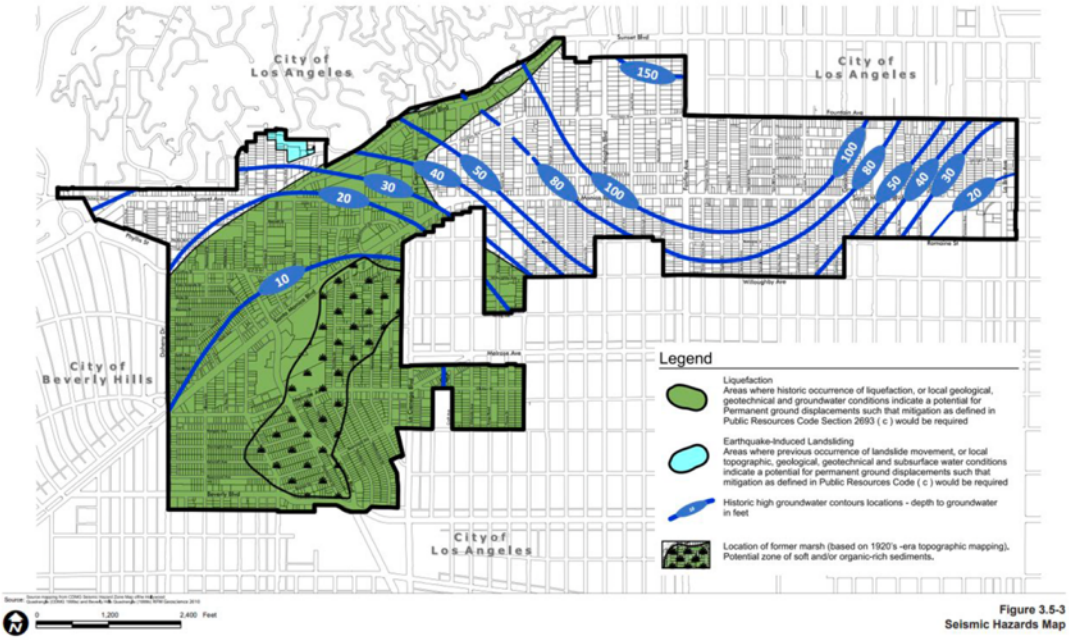
Probability of Future Events and Impacts of Climate Change

There is a higher likelihood of large earthquakes occurring in the Los Angeles region compared to other parts of California, due to the presence of multiple faults that can cause multi-fault ruptures. On average, it is expected that a quake measuring 6.0 or greater in magnitude will occur in Southern California every few years. It is not possible to predict when a major earthquake will occur, but the USGS has estimated that there is a 75% chance that one or more earthquakes with a magnitude of 7.5 or greater will occur within the next thirty years.

Some research indicates that climate change could result in “isostatic rebounds,” or a sudden upward movement of the crust because of reduced downward weight caused by

glaciers, which could result in increased seismic and volcanic activity in previously glaciated areas. However, this will not impact West Hollywood directly.

Vulnerability and Impact



Groundwater and Liquefaction Areas (source: 2010 EIR)

People

Both indoor and outdoor environments can be hazardous during earthquakes, with collapsed buildings, falling equipment, and moving debris causing death and injury. Additionally, downed power lines, as well as broken water and gas lines, pose threats to human life.

Buildings

Earthquakes can cause significant damage to the built environment, including collapsed structures that may trap or bury individuals, resulting in loss of life and expensive cleanup efforts. Many buildings in California, including West Hollywood, were constructed before 1993, when building codes were less stringent, and retrofitting is not mandatory except in certain circumstances, leading to a high number of vulnerable structures. After an earthquake, significant time is devoted to the removal of debris from various structures, including brick, glass, wood, steel, concrete building components, and office or home contents following damage.

The western area of the City of West Hollywood is susceptible to liquefaction in the event of a severe earthquake. Prior to the 1920s, a subsection of this area was a marsh, with continued soils including organic sediments.

Infrastructure

Even for more modern and updated construction, bridges and overpasses can still be unsafe for use after an earthquake, with some suffering complete failure from strong ground motion. Even minor damage can cause a disruption to transportation links, making certain areas inaccessible. Due to the variability in size, materials, location, and design, each earthquake affects bridges and overpasses differently. Older structures, built before the mid-1970s, have a significantly higher risk of suffering structural damage during moderate to large earthquakes compared to those built after 1980, when design improvements became standard.

Businesses

Seismic activity poses a significant threat to businesses, including large corporations and small retail shops. Even a single day of production downtime can result in tremendous economic loss, particularly for businesses with national or global markets. These losses can be a burden for owners who may struggle to recover. According to FEMA, forty percent of businesses fail to reopen after a disaster, and another twenty-five percent fail within one year. Similarly, statistics from the United States Small Business Administration show that over ninety percent of businesses fail within two years after being hit by a disaster.

Fire

Fires are frequently triggered by downed power lines or broken gas mains during earthquakes. If fire stations sustain damage, there is a reduced chance of responders being able to promptly put out fires. Additionally, major incidents require a greater allocation of resources, leaving smaller fires and issues with little or inadequate attention in the initial hours following a significant earthquake event. The associated loss of electricity can also lower water pressure, further impeding firefighting efforts.

3.3.3 Epidemic/Pandemic

Hazard Description

An infectious disease is a disease caused by pathogenic microorganisms, characterized by clinical symptoms. Infectious diseases pose a major threat worldwide and cause millions of deaths annually. Transmission of infectious diseases can occur through various modes such as direct physical contact with infected individuals, exposure to contaminated food or water, exposure to bodily fluids, contact with contaminated objects, airborne inhalation, or vector-borne dissemination.

An infectious disease can be classified based on its impact as endemic, epidemic, or pandemic. Endemic diseases are consistently present but at low levels (e.g., chicken pox in the United States). Epidemic diseases are sudden severe outbreaks (e.g., the bubonic

plague during Medieval times). A pandemic disease is an epidemic that spreads widely across a region, continent, or the world (e.g., the 1957 flu pandemic caused millions of deaths globally). With global travel and trade, fears of pandemics have increased in recent years due to the potential for rapid spread.

A pandemic is defined by the CDC as a worldwide epidemic that affects many people and crosses international borders, creating a public health emergency that impacts all sectors of society. It occurs when a virus undergoes significant antigenic drift or shift, resulting in a new and efficient strain that spreads from person-to-person without pre-existing immunity. The severity of the outbreak is generally unpredictable.

A high number of infectious disease cases can strain healthcare infrastructure. The impact on morbidity and mortality may differ depending on the disease; it can disproportionately affect either younger and healthier people, as seen in the 1918 influenza pandemic, or older and medically-at-risk people, as happened with the recent COVID-19 outbreak. This can lead to worker shortages due to illness, isolation/quarantine, or caring for sick family members. It may also disrupt daily life and lead to shortages of goods and services. Strategies like "stay-at-home" orders and closing non-essential businesses can limit disease transmission but may also create additional burdens on productivity and essential services.

Location and Extent

A pandemic of a human infectious disease has the potential to impact the entire country, including California. Due to the integration of business and social activities both nationally and internationally, it is unreasonable to assume that any location would be exempt from the threat of a pandemic. Locations with high population concentration, such as schools, retail areas, and special event venues, are at the greatest risk.

Recent data on the COVID-19 outbreak indicates that individuals living in densely populated urban areas were more prone to contracting the virus, potentially due to close contact with other residents or visitors from other places. The ease of global transportation makes it increasingly challenging to contain local outbreaks, as infected or exposed individuals travel for business and leisure, possibly disseminating the disease worldwide within hours.

Probability of Future Occurrences and Impacts of Climate Change

Pandemics are relatively rare when compared to the frequency of natural disasters. When they do occur, however, they can have far-reaching effects. Even suppressed outbreaks of disease can have significant impacts to the localities they affect.

It is difficult to accurately predict the likelihood of future pandemics. However, human encroachment into formerly natural areas worldwide increase the risk of hitherto unknown animal diseases making the jump into human populations. Public health systems should be aware of the potential for new diseases that may pose a threat to the populations they serve, and they should expect future pandemics to appear, some potentially more deadly than COVID-19.

Climate change may impact the emergence and transmission of viruses by extending the habitat range of animals that carry them. Already, viruses such as West Nile or Zika have appeared in areas previously not hosting these viruses. It is likely that future diseases from warmer climates will spread along with those climates.

Vulnerability and Impact

The vulnerability of a population to epidemic or pandemic is affected by several variables, including virus type, affected demographics, and environmental factors such as seasonality and individual medical conditions. While the Spanish Flu of 1920 impacted largely healthy young people, the COVID-19 pandemic was most impactful for elderly individuals, with morbidity and mortality rates highest among those aged 65 and older, particularly those 85 and older.

The economy can be impacted by infectious disease outbreaks through measures such as limiting travel and public events, and closing non-essential businesses, creating a high demand for healthcare resources. Small businesses in rural areas are at high risk of economic damage, and closures may become permanent if containment measures last long.

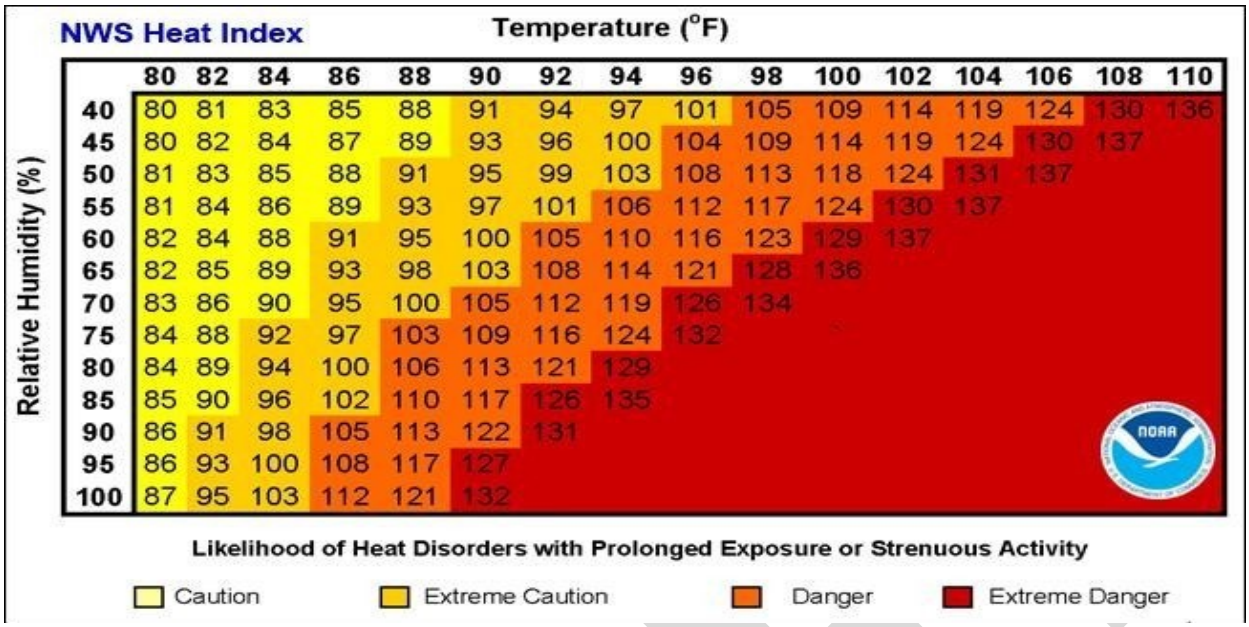
3.3.4 Extreme Heat

Hazard Description

Extreme heat refers to a period of abnormally high temperatures in a specific location. There are three major types of extreme heat events:

- Extreme heat days, which exceed 98% of all historic high temperatures for the area between April and October from 1961 to 1990.
- Warm nights, which exceed 98% of all historic minimum daytime temperatures observed between April and October from 1961 to 1990.
- Extreme heat waves, a successive series of extreme heat days and warm nights defined as a minimum of four successive extreme heat days and warm nights by Cal-Adapt.

Different regions will experience extreme heat events differently due to variations in historic high temperatures. For example, an extreme heat day on the coast will feel distinct from an extreme heat day in the high desert due to the impact of humidity on people's perception of heat. Humid conditions make a day feel hotter than nonhumid conditions, even if the temperature is the same, resulting in a difference known as the heat index. A 90-degree day with 50 percent humidity feels like 95°F, whereas a 90°F day with 90 percent humidity feels like 122°F.



National Weather Service Extreme Heat Index

Prolonged exposure to extreme heat can be hazardous to public health, as the human body is less able to withstand high temperatures for extended periods of time. This can result in heat exhaustion and dehydration, which may progress to heat stroke and organ failure if internal body temperature surpasses 105 degrees Fahrenheit. Without intervention, this can be fatal.

While West Hollywood and the Los Angeles area experience moderate temperatures throughout the year, citizens are still vulnerable to unusually hot weather during the summer or early fall months. The City cooperates with the County of Los Angeles to offer cooling centers during significantly hot weather, including the West Hollywood library, operated by the County. The primary center is in the Senior Lounge in Plummer Park. The City's Cooling Center is open during periods of extreme heat (above 90 degrees). Occasionally the City offers bottled water to older adults who are in the cooling centers.

Location and Extent

Extreme heat events occur with the same intensity and duration across all locations in West Hollywood and are not limited to any specific part of the City. Extreme heat does have disproportionate impacts depending on the type and age of building, however. Many older buildings may not have the same cooling capacity or may be more vulnerable to power outages and loss or air conditioning. Residential buildings of this age in West Hollywood are disproportionally occupied by lower income tenants.

Previous Occurrences

According to the 2018 Los Angeles County Hazard Mitigation Plan:

Los Angeles is experiencing more heat waves and more extreme heat days. Heat waves have increased by more than three per century and extreme heat days have increased by 23 per century. Both have more than tripled over the past 100 years as a consequence of the steady warming of Los Angeles. The average annual maximum temperature in Los Angeles has warmed by 5.0°F, and the average annual minimum temperature has warmed by 4.2°F. The greatest rate of change was during the summer for both maximum and minimum temperature, with late fall and early winter having the least rates of change. There was also an increase in heat wave duration. Heat waves lasting longer than six days occurred regularly after the 1970s but were nonexistent from 1906 until 1956, when the first six-day heat wave was recorded (Tamrazian et al. 2008).

Probability of Future Events and Impacts of Climate Change

The probability and frequency of extreme heat events will grow over the coming decades. According to California's Fourth Climate Assessment for the Los Angeles Region:

The average hottest day of the year is expected to increase roughly 4-7°F under RCP4.5 and 7-10°F under RCP8.5 by the late 21st century. Similar to the spatial pattern in annual max temperature changes, the largest changes in extremes are found in the interior of the region, and particularly the valleys, while the smallest changes are generally confined to coastal regions.

The number of extremely hot days Is expected to Increase In the future. For instance, LA International Airport (LAX) historically experiences less than 15 days per year with temperatures equal to or greater than 90°F (Cayan et al. 2018). By the end of the century under RCP8.5, LAX is projected to experience 50–90 such days per year (Pierce et al. 2018). Sun et al. (2015) similarly found that land locations are projected to experience 60–90 additional extremely hot days (greater than or equal to 95°F) per year by the end of the century, with the exception of the highest elevations and regions along the coast, where increases are only a few days.

Vulnerability and Impact on People

Extreme heat can have serious consequences for human health, including headaches, dizziness, weakness, cramping, nausea, vomiting, confusion, dehydration, and even death. Vulnerable populations such as the very young, elderly, the unhoused and those with special needs or disabilities are particularly at risk, especially during prolonged heat waves.

In addition to the groups identified above, the following demographic groups are also more susceptible to the effects of extreme heat:

- Women who are pregnant

- Persons with medical conditions (e.g., heart disease, diabetes, high blood pressure, insulin-dependent, dialysis)
- Persons with mental illness/disabilities or cognitive disorders
- Persons who use medical equipment (e.g., ventilators, oxygen, G-tubes)
- Individuals with drug or alcohol dependencies
- Persons with mobility devices (e.g., wheelchairs, walkers, canes)
- Persons who are non-ambulatory
- Persons who are socially isolated
- Persons who do not speak English with minimal access to current weather information in their own language.

Property

Extreme heat can affect critical infrastructure such as roads, bridges, power lines, and water supply systems. Heat stress on metal and road materials, as well as increased use, can cause system breakdowns and outages as well as outright damage, as seen during the "heat dome" event in the Pacific Northwest in 2021. Additionally, the high demand for energy due to the increased use of air conditioning during heat events can cause utility "brownouts" and "blackouts."

Intentional or unintentional drops in voltage in an electrical power supply system or grid are referred to as brownouts. Brownouts are used by power companies in emergencies to prevent total power outages and can last for minutes or hours. Different types of electrical equipment react differently to brownouts. On the other hand, a short- or long-term loss of electrical power to a limited or widespread area is known as a blackout. Overloading the system, as can occur during an extreme heat event, can lead to blackouts.

Power outages by themselves are a significant enough hazard in West Hollywood to be mentioned separately later in this section.

Environment

Prolonged extreme heat can cause severe damage to the natural environment, particularly the water supply, which can affect drinking water as well as other uses. The combination of extreme heat and drought can result in significant crop loss and increase the risk of wildfire. While West Hollywood has no agricultural land, this will affect plant growth and survival from personal gardens to shade trees and recreational landscapes.

According to the City of West Hollywood's Climate Action and Adaptation Plan Vulnerability Assessment:

> *Productivity and labor supply have been shown to suffer during hot days, eventually leading to lags in economic development. Excessive heat has also been linked to worse student performances on exams and general decline in cognitive functions. These effects have been most pronounced in regions where access to adaptive technology (for example air conditioning) is lacking. Extreme heat can lead to various*

other issues including increased energy demands, higher emissions, and overloading of healthcare systems.

3.3.5 Terrorism/Active Assailant

Hazard Description

Terrorism is defined as the use of violence and intimidation in the pursuit of political, ideological, or religious aims. Terrorism can take many forms, but generally involves attacks or threats that are intended to cause harm, fear, or disruption to the community. Here are some examples of the types of terrorism that could impact an American city (cyberattacks are described in the preceding section):

- **Domestic Terrorism:** Domestic terrorism refers to acts of violence committed by individuals or groups based in the United States who seek to promote a political or social agenda. Domestic terrorism can take many forms, including hate crimes, extremist attacks, and targeted violence.
- **International Terrorism:** International terrorism refers to acts of violence committed by individuals or groups who are based outside of the United States and seek to cause harm to American interests. International terrorism can include attacks on American citizens, businesses, or institutions, as well as attacks on foreign targets that have an impact on American interests.
- **Biological Terrorism:** Biological terrorism refers to the intentional release of biological agents, such as viruses or bacteria, with the intention of causing harm to the public. Biological terrorism can cause widespread illness or death, as well as panic and fear within the community.
- **Chemical Terrorism:** Chemical terrorism refers to the intentional release of chemical agents with the intention of causing harm to the public. Chemical terrorism can cause widespread illness or death, as well as damage to infrastructure and the environment.

Location and Extent

As with any American city, terrorism could impact various areas of West Hollywood depending on the type and scale of the attack. Certain areas are more likely to attract terrorist attack, and mass shooting events would be more likely in areas with higher concentrations of people or during mass events such as WeHo Pride.

Previous Occurrences

There have been no major instances of terrorism directed at the City of West Hollywood since its founding. However, the City's prominence as an LGBTQ+ haven combined with its hosting of mass community events such as WeHo Pride and Halloween and the intensity of political tensions around LGBTQ+ issues make the possibility of some kind of terrorist event targeting the City and its inhabitants a distinct possibility that requires planning and preparation.

Below are a list of some major terrorist incidents that have targeted the LGBTQ+ community in the United States since 2000:

- **Backstreet Café Shooting (2000)**: In Roanoke, Virginia, on September 22, 2000, a gunman opened fire at the Backstreet Café, a popular gay bar. He killed one person and wounded six others before being apprehended by police. The shooter later pleaded guilty and was sentenced to life in prison.
- **LGBT Center Shooting in Colorado Springs (2007)**: In Colorado Springs, Colorado, on August 31, 2007, a man entered the Colorado Springs Pride Center and opened fire, injuring three people. The shooter was convicted of attempted first-degree murder and bias-motivated crimes.
- **Seattle Gay Bar Shooting (2014)**: In Seattle, Washington, on January 1, 2014, a man opened fire inside Neighbours, a gay nightclub. He wounded two people before being subdued by club patrons. The shooter later pleaded guilty to charges of attempted first-degree assault and malicious harassment.
- **Pulse Nightclub Shooting (2016)**: On June 12, 2016, a mass shooting took place at the Pulse nightclub in Orlando, Florida. The nightclub was hosting a Latinx-themed event for the LGBTQ+ community. The attack, carried out by a lone gunman, resulted in the deaths of 49 people and numerous injuries, making it one of the deadliest mass shootings in U.S. history. The incident was widely condemned and sparked discussions about gun control, hate crimes, and LGBTQ+ rights.

In general, these incidents have targeted smaller venues such as night clubs and not large-scale events such as Pride. This cannot be assumed to hold true indefinitely, however.

Probability of Future Events

It is difficult to predict the probability of future terrorist or mass shooting-related events. LGBTQ+ communities such as West Hollywood are likely to always have some elevated level of risk; however, the degree of that risk is very closely tied to the political climate in the United States in a variety of ways. While there is no way to eliminate the risk of such events, law enforcement and emergency services can take proactive measures to prevent and respond to potential threats.

Vulnerability and Impact

Here are some examples of where terrorism could potentially impact the City:

- **Public spaces:** Public spaces, such as parks, shopping centers, and public transportation hubs, are potential targets for terrorist attacks. For example, an attack on a crowded public space could cause mass casualties and widespread panic. West Hollywood is especially susceptible to this during WeHo Pride or other major events when large numbers of visitors are present.
- **Critical infrastructure:** Critical infrastructure, such as power plants, water treatment facilities, and communication systems, are essential to the functioning

of the City. An attack on these facilities could disrupt vital services and cause significant damage to the City's infrastructure.

- **Government institutions:** Government institutions, such as City Hall and law enforcement agencies, are potential targets for terrorist attacks. The population of West Hollywood is estimated to be over 40% LGBTQ+ making government institutions especially vulnerable to being targeted.
- **Religious institutions:** Religious institutions, such as churches and synagogues, are potential targets for terrorist attacks. Religious institutions perceived as pro-LGBTQ+ have been attacked in the past decades, such as the shooting at a Unitarian Universalist church in Knoxville, Tennessee in 2007.

3.3.6 Drought

Hazard Description

A drought is a prolonged period of scarce water supplies caused by a lack of substantial rainfall. By one count, there are over 150 definitions for "drought". The National Weather Service describes drought as "*a deficiency of moisture that results in adverse impacts on people, animals, or vegetation over a sizeable area.*"

Drought is a natural occurrence in all climates, both in regions with high and low average rainfall. Droughts typically are declared when lasting for a calendar season or longer and can be categorized into five different types: meteorological, agricultural, hydrologic, socioeconomic, and ecological.

- **Meteorological:** This type of drought refers to a decrease in rainfall that deviates from the normal precipitation pattern. It includes changes in the amount, intensity, or timing of rainfall, as well as changes in temperature, humidity, and wind patterns. The threshold for defining meteorological drought varies from country to country. In the United States, a meteorological drought is declared if there is less than 2.5mm of rainfall in 48 hours. This type of drought is the first stage to be detected. Broader multi-year precipitation patterns can give rise to drought conditions. In California, the El Niño Southern Oscillation (ENSO) cycle, a regional meteorological event in the Pacific Ocean, is important in the region's hydrologic regime. The ENSO cycle consists of changes in ocean water and air temperature and results in two phases: El Niño, a warm and wet phase, and La Niña, a dry and cold phase. When La Niña is active, it can lead to below-normal precipitation levels in California and frequently lead to drought conditions.
- **Agricultural:** This type of drought is characterized by insufficient moisture conditions that cause lasting damage to crops and other vegetation. It is dependent on factors such as rainfall, temperature, topography, soil permeability, evapotranspiration, vegetative demand, and more. Agricultural drought begins when the available soil moisture only supports a fraction of the actual evapotranspiration rate.
- **Hydrological:** This type of drought is related to the effects of reduced precipitation on the surface or subsurface water supply. During the latter part of the

hydrological cycle, water infiltrates into the groundwater. The subsurface water supply is the last component to return to normal when meteorological conditions and aquifer recharge return to normal.

- **Socioeconomic**: This type of drought occurs when the consequences of drought start to impact social and economic systems. It arises when the demand for an economic good is greater than the available supply due to drought-related weather conditions. Examples of such goods include water, food grains, dairy products, hydroelectric power, and more. Socioeconomic drought affects both individuals and the population as a whole.
- **Ecological**: This type of drought is defined as a widespread and prolonged deficit in naturally available water supplies that leads to multiple stressors across ecosystems. This includes changes in both natural and managed hydrology.

Determining the onset and end of a drought can be challenging compared to sudden and discrete weather events such as hurricanes, tornadoes, and thunderstorms. Early signs of a drought can be difficult to detect, and it may take some time, perhaps even weeks, or months, before it is recognized. The conclusion of a drought is also challenging to identify for the same reasons. Droughts can range in duration from a few weeks to several years and in some cases, even persist for a decade or more.

Drought primes the conditions for a variety of other hazards by drying soil out, which reduces its capacity to absorb water. Thus, when precipitation returns, the soil is less able to hold onto water, increasing runoff and the risk of floods. Due to the soil's reduced ability to bond together, dry earth is more prone to erosion and landslides. In addition, the lack of participation effects plants and other vegetation in natural places as the lack of nutrients makes them more vulnerable to pests and diseases and the lack of internal water raises the possibility of wildfires.

Location and Extent

The impact of drought is regional in nature, and typically would extend far beyond the city limits of West Hollywood to include the whole of southern California.

The Palmer Drought Index is a tool used to assess the severity of drought by evaluating the duration and intensity of persistent circulation patterns that cause drought. The intensity of drought in each month is determined by the current weather conditions combined with the cumulative impact of previous months. The effects of drought on water resources such as reservoir levels and groundwater levels take longer to manifest.

Category	Description	Example Percentile Range for Most Indicators	Values for Standard Precipitation Index and Standardized Precipitation-Evapotranspiration Index
None	Normal or wet conditions	31 or above	-0.49 or above
D0	Abnormally Dry	21 to 30	-0.5 to -0.79
D1	Moderate Drought	11 to 20.99	-0.8 to -1.29
D2	Severe Drought	6 to 10.99	-1.3 to -1.59
D3	Extreme Drought	3 to 5.99	-1.6 to -1.99
D4	Exceptional Drought	0 to 2.99	-2.0 or less

US Drought Monitor Classification Scheme.
Source: https://droughtmonitor.unl.edu/About/AbouttheData/DroughtClassification

Previous Occurrences

West Hollywood, like the rest of California, has experienced many drought events throughout its history. California was in some form of drought for 376 consecutive weeks from December 20, 2011, until March 14, 2017. By summer of 2014, almost all of California was experiencing level D2 (severe drought) conditions. By 2015, emergency water saving mandates were enacted, which required all jurisdictions to reduce water use by no less than 25 percent. In late 2016 and early 2017, consecutive occurrences of heavy rain helped end the drought conditions in the state. The following winter, in late 2017 and early 2018, rains did not occur to the same level and slight drought conditions again affected the state. This moderate drought was again abated in the winter season of late 2018 and early 2019, when heavy rains ended any existing drought conditions. Drought conditions returned shortly thereafter, with water restrictions being eased after the intense precipitation events of early 2023.

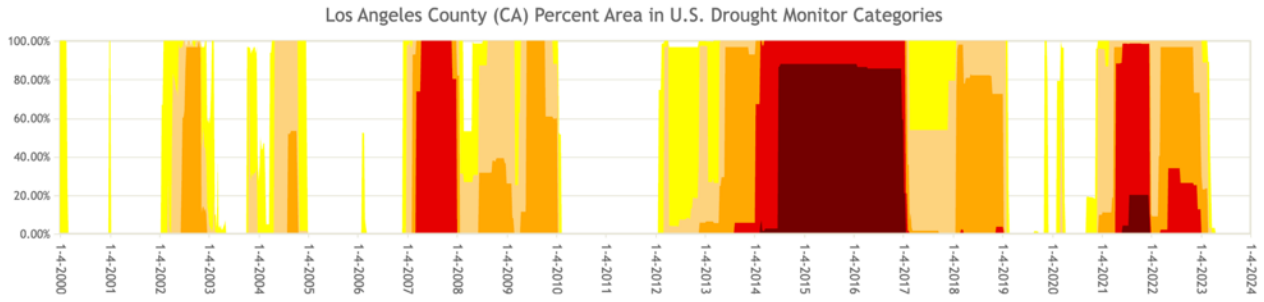


Figure 3.4 Los Angeles County Percent Area in Drought Categories

Source: https://droughtmonitor.unl.edu/dmData/Timeseries.aspx

Probability of Future Events and Impacts of Climate Change

Periodic drought has been a fact of life in California since before written records were kept. However, global climate change has already had a significant impact, in part fueling the North American West's "megadrought", as of 2023 in its 23rd year and being the driest

period in over 1,200 years. October 2019 through September 2022 were California's driest years on record.

Paradoxically, climate change has also brought historic rainstorms and flood events, as conditions whipsaw between drought and flooding. This increased variability and oscillation between too little rain and too much rain is a hallmark of climate projections and is playing out in real time. As described in West Hollywood's 2021 Climate Action and Adaptation Plan Appendix B: Climate Vulnerability Assessment:

This projection indicates that the City of West Hollywood will likely experience both an increase in the severity of wet years and an increase in the severity of dry years, resulting in more precipitation whiplash events. These whiplash events are particularly important in that they contribute to and intensify various other climate hazards. When dry years are followed by very wet years, mudslides and landslides are more likely to occur. This is due to declines in vegetation during the dry years which otherwise offer soil stabilization. When wet years are followed by dry years, wildfires are much more likely. This is because the wet years allow a lot of new vegetation to grow, but it eventually dries out in the drought period – leading to increases in fuel sources for fire.

Atmospheric rivers (narrow corridors of concentrated moisture in the atmosphere) are largely responsible for precipitation patterns across the southern California region, and coupled with topographical influences, can create intense storms.21 Cal-Adapt climate projections predict that the likelihood and duration of atmospheric rivers will increase, leading to increased likelihoods of flood events.

Predictions for extreme weather events show that no major trend changes are expected under either scenario. However, as noted above for patterns in precipitation, whiplash events are expected to increase. When years with elevated numbers of extreme rain events follow dry years, the likelihood and severity of mudslides and flooding increases. This is largely due to reductions in vegetation during dry years, which otherwise stabilize soil. Conversely, dry years that follow upticks in extreme rain events can lead to wildfires. This is due to increased presence of fuel sources for wildfire in the form of dry vegetation.

These whiplash events will increase vulnerability to both fire and floods. A tragic example at the time of writing (August 2023) is the Hawai'i fires on the island of Maui that consumed the historic town of Lahaina, killing large numbers of people. The compounding nature of this disaster – high winds driving fires on an island experiencing extended drought conditions – illustrates that drought is not only an absence of water but can be an accelerant for devastating wildfires.

According to California's Fourth Climate Change Assessment's Los Angeles Region survey, published in 2019:

Anthropogenic warming has increased the probability that low-precipitation years coincide with warm years, increasing the current risk and severity of droughts and low snowpack in California (Difenbaugh et al. 2015; Berg and Hall 2017; Williams et al. 2015). Atmospheric conditions conducive to California droughts, such as a persistent region of high pressure in the northeastern Pacific Ocean, may have also become more frequent in recent decades

(Swain et al. 2016). GCMs (global climate models) project significantly drier soils in the future over the Southwest (including California), with more than an 80% chance of a multidecadal drought during 2050–2099 under RCP8.5 (Cook et al. 2015).

The effects of climate change on drought are expected to be mixed. For instance, in some years, climate change-enhanced weather patterns such as those during the El Nino Southern Oscillation (ENSO) phase may bring more rainfall to California and West Hollywood, alleviating drought conditions. On the other hand, it may also extend the La Niña phase of ENSO, leading to longer periods without precipitation. Furthermore, climate change is projected to cause more frequent and prolonged heat waves in California, increasing the average temperature. During such events, the water supply may be diverted for essential cooling needs, including those of the elderly and to maintain critical City operations, leading to greater water consumption. If a heat wave were to occur during a drought, it would place even more strain on the water supply.

From a larger perspective, rising temperatures in California are expected to impact and reduce water supplies across the state. Much of California's water comes from snowmelt in the High Sierra, a part of the Sierra Nevada mountain range. As temperatures rise due to climate change, the precipitation that would have fallen as snow is expected to become rainfall, leading to less snowfall and therefore, less meltwater from the Sierra Nevada snowpack, reducing the water that would have flowed into Southern California's reservoirs and aqueducts. This could lead to a strain on the City's imported water supply, resulting in a greater reliance on local groundwater in Los Angeles County.

Vulnerability and Impact

The effects of drought are widespread and reach beyond geographic boundaries. These impacts are predominantly seen in water scarcity and the loss of crops and livestock in agricultural regions, and in increased difficulties in providing sufficient water in urban areas. The economic consequences of drought can be complex, as it affects numerous industries and has a ripple effect throughout the economy. This is because water is a critical component in the production of goods and provision of services. If a drought persists for multiple years, the direct and indirect economic impacts can be substantial.

The impact on the human population can also be significant. A shortage of water can cause dehydration, which can lead to symptoms such as headaches, dizziness, weakness, cramping, nausea, vomiting, confusion, and, in extreme cases, death.
Drought can also coincide with high temperatures, exacerbating the effects and putting vulnerable populations, such as young children, the elderly, and those with disabilities, at greater risk. As the population grows in areas prone to hazards, or as the number of people with special needs increases, their vulnerability to drought also increases.

Drought conditions result in decreased water availability for plant and animal habitat from sources such as lakes, streams, aquifers, soil, wetlands, springs, and other surface and subsurface sources. This reduction in water quality can alter the levels of salinity, bacteria, turbidity, pH, and temperature, potentially affecting the aquatic habitat of plants and animals, and the health of livestock if they ingest too much salt or bacteria.

During droughts, water customers are instructed to use less water, which in turn leads to decreased revenue for local water utilities with no reduction in fixed costs. As a result, water utilities often raise rates to make up for lost revenue. The reduction in water flow also leads to decreased sewage flows, causing an increase in contaminants in the water supply. This can affect the availability of drinking water and water for agriculture, leading to a decrease in food supply, a loss of biodiversity, increased mortality in humans and animals, an increase in disease, and a rise in endangered species.

The risk of drought in the City has increased dramatically since the last plan update, moving from possible to highly probable. This rise in likelihood is because California has experienced an unusually low amount of precipitation over the past five years, leading communities across the state to take more proactive steps to implement mitigation measures to reduce the effects of drought.

3.3.7 Power Outages

Hazard Description

A power outage is a temporary loss of electricity to a home or business due to a disruption in the power supply. There are several causes of power outages, including severe weather conditions such as thunderstorms, high winds, and extreme heat. In Southern California, power outages can also be caused by wildfires, earthquakes, and equipment failures.

During times of extreme heat, power outages can be particularly hazardous to a city. High temperatures can cause increased demand for electricity as people turn up their air conditioning units, leading to strain on the power grid. This can result in blackouts or brownouts, which can lead to several hazards.

Location and Extent

Power outages can impact the City in several ways and at various locations. The exact location and duration of power outages can vary depending on the cause and severity of the outage, as well as the configuration and capacity of the local power grid.

The location and duration of power outages can also vary depending on the cause of the outage. For example, power outages caused by weather events such as thunderstorms or wildfires may be localized, affecting only a few neighborhoods or communities. On the other hand, power outages caused by equipment failures or grid overloads may be more widespread and impact larger areas or even entire regions.

Power outages are disproportionally frequent in the La Cienaga Boulevard area. Areas with larger and older street trees may also see tree limbs knocking out power during storms.

Previous Occurrences

Minor power outages are a not-infrequent occurrence in any grid system. Several major incidents that impacted Los Angeles County include:

- **Northridge Earthquake (January 17, 1994):** One of the most significant power outages in Los Angeles County's history occurred because of the 6.7 magnitude Northridge Earthquake. The earthquake caused widespread damage to the electrical grid and left much of the county without power. It took several days to restore power to all affected areas, and the total economic losses from the earthquake were estimated to be around $44 billion.
- **Summer Heat Wave (July 2006):** During an intense heat wave in July 2006, the demand for electricity soared as people turned on their air conditioners to cope with the high temperatures. The increased strain on the power grid led to rolling blackouts and power interruptions in various parts of Los Angeles County. The heat wave was part of a larger statewide energy crisis during that year.
- **September 2015 Outage:** In September 2015, a major power outage occurred in Los Angeles County after a fire broke out at a power station in the city of Vernon. The fire led to the loss of a significant transmission line, leaving many areas in the county without power. It took several hours to restore electricity to affected communities.
- **Rye Fire (December 2017):** The Rye Fire, which occurred in December 2017, was one of several wildfires that impacted Southern California that year. The fire damaged power infrastructure, leading to power outages in parts of Los Angeles County and neighboring areas. Firefighters worked to control the blaze and restore power to affected communities.
- **Saddleridge Fire (October 2019):** Another wildfire, the Saddleridge Fire, struck Los Angeles County in October 2019. The fire's spread led to precautionary power shutoffs by utility companies to prevent the risk of power lines igniting more fires. This measure affected thousands of residents and businesses in the county.

The above list underlines the vulnerability of the electrical supply for West Hollywood to natural events such as fire and earthquake, as well as to extreme heat events. One particularly dangerous scenario, exemplified by the 2006 summer heat wave, is a power outage amid a severe heat wave. This scenario, which is likely to result in fatalities, is unfortunately becoming more probable as climate impacts grow.

Probability of Future Events and Impacts of Climate Change

The likelihood of future power outages impacting the City of West Hollywood may increase because of climate change and the associated risks of wildfires and extreme heat events.

Wildfires have become increasingly common and severe in California beyond the traditional fire season in recent years, with record-breaking fires causing widespread damage and disruption to power infrastructure. Power lines and equipment damaged by wildfires can lead to power outages and disruptions to essential services, such as hospitals and

emergency response systems. Los Angeles County, with its dry climate and high wildfire risk, may be particularly vulnerable to these types of power outages.

In addition to the risk of wildfires, extreme heat events associated with climate change can also increase the likelihood of power outages. High temperatures can put strain on the power grid, leading to equipment failures and blackouts. In Los Angeles County, which experiences hot and dry summers, this risk is particularly acute.

To mitigate the risks of future power outages, Los Angeles County, and utility providers such as Southern California Edison (SCE) have implemented measures such as grid upgrades, equipment maintenance, and emergency response plans. SCE has also implemented Public Safety Power Shutoffs (PSPS) to reduce the risk of wildfire-related power outages. PSPS is a proactive measure in which SCE intentionally shuts off power to certain areas during periods of high fire risk to reduce the risk of equipment-related fires. While these measures can help reduce the risk of power outages, they may not eliminate the risk, especially during extreme weather events.

Another consideration is the drive towards electrification in response to climate change – most notably electric cars, but also potentially including electric appliances among others. West Hollywood already has 84 public EV charging stations, and that number will only grow, as well as private charging stations at residences and multi-unit housing. This will inevitably lead to greater demands on the City's electric grid, putting further strain during times of the year where the demand may already be extremely taxing.

Vulnerability and Impact

The most immediate impact of a power outage is typically felt in homes and businesses. When the power goes out, residents and employees may experience a loss of lighting, heating, or cooling, and access to electronic devices. This can result in inconvenience, discomfort, and potential safety hazards, especially if the outage occurs at night or during extreme weather conditions.

One of the most significant hazards of power outages during extreme heat is the risk of heat-related illnesses. When power goes out, air conditioning units and fans stop working, which can lead to indoor temperatures rising quickly. This can lead to dehydration, heat exhaustion, and even heatstroke, especially among vulnerable populations such as the elderly, young children, and those with preexisting medical conditions.

In addition to homes and businesses, power outages can also impact essential services such as hospitals, emergency response systems, and water treatment facilities. Hospitals and medical facilities rely on electricity to power life-support systems and medical equipment, and a loss of power can lead to delays or interruptions in medical care. Emergency response systems such as 911 call centers and police and fire departments also rely on electricity to function, and a power outage can hinder their ability to respond to emergencies quickly.

Power outages also affect traffic signals. For a community such as West Hollywood, surrounded by the greater Los Angeles metropolitan region, this can reduce the speed of vehicles both entering and leaving the City. In the event of other major disasters that cause power outages, this can be a compounding hazard that affects the ability of people to evacuate and the ability of responders to enter the City.

Water treatment facilities are another critical service that can be impacted by power outages. These facilities rely on electricity to pump and treat water, and a loss of power can result in a disruption in the water supply or a decrease in water quality.

3.3.8 Heavy Rain and Flash Flooding

Hazard Description

When heavy rain occurs, it can fall at a rate so high that the water is unable to drain away quickly enough. This can result in flooding, causing inundation and potential damage to buildings, road networks, public areas, utilities, critical infrastructure, and other assets. In California, heavy rainfall events are typically brief and intense bursts of rain, although in some instances, heavy rain can persist for several days.

Precipitation levels in California fluctuate from year to year, largely dependent on the amount of moisture the state receives from atmospheric rivers. These rivers are pathways along which moist air travels from the tropics to the continents, and when this moisture reaches California, it can fall as either rain or snow. One of the most well-known atmospheric rivers in California is the "Pineapple Express," which brings wet air from the ocean surrounding Hawaii to California. In some years, a substantial amount of moisture can be transported by atmospheric rivers, resulting in heavy rainfall events in California.

The weather pattern known as El Niño, or the Southern Oscillation, is another factor that can influence rainfall in southern California, especially during winter. El Niño occurs when the surface of the eastern tropical Pacific Ocean warms, causing warm, moist air to evaporate into the atmosphere. This moisture is then carried by winds to the eastern Pacific and the American continents, where it can result in increased rainfall. While El Niño doesn't always lead to increased rainfall, it generally increases the likelihood of a winter with above-average precipitation. Anomalous events such as Hurricane Hilary in 2023 are another example of extreme weather that could cause flooding.

Location and Extent

The northern half of the City of West Hollywood sits at the base of the Hollywood Hills, and many streets have severe grades leading away from the hills. During heavy storms, residential and commercial properties in the area experience flooding and landslide damage from mud and debris. While not common, heavy storms can affect Southern California, e.g. the occasional El Nino Storms.

Flooding can have significant impacts on a community, including property damage, road closures, and power outages. In some cases, flooding can also pose a threat to public safety, particularly if floodwaters are fast-moving or carry debris.

The size and location of a precipitation event are influenced by both local geography and regional and global weather conditions. While small precipitation events may only affect a specific area of West Hollywood, a large event could impact a significant portion of southern California. The intensity of a heavy rain event is typically measured by the amount of precipitation that falls.

Measuring Heavy Rain Events

Rain Type	Description
Heavy rain	More than 4 millimeters (mm) per hour but less than 8 mm per hour
Very heavy rain	Greater than 8 mm per hour
Moderate shower	Greater than 2 mm, but less than 10 mm per hour
Heavy shower	Greater than 10 mm per hour, but less than 50 mm per hour
Violent shower	Greater than 50 mm per hour

Source: https://water.usgs.gov/edu/activity-howmuchrain-metric.html

Probability of Future Events and Impacts of Climate Change

West Hollywood can expect to experience more frequent and intense heavy rainstorms due to the expected increase in the frequency and overall amount of rainfall in California. By the end of the 21st century, it is projected that intense rainfall events may occur twice as often and may result in up to a 40% increase in total rainfall.

According to California's Fourth Climate Assessment for the Los Angeles Region:

Atmospheric rivers are regions of high water vapor transport from the tropics to the Pacific Coast of the U.S. that can produce intense topographic-induced precipitation along southern California mountain ranges (Neiman et al. 2008; J. Kim et al. 2012; Harris and Carvalho 2017; Guan et al. 2013; Payne and Magnusdottir 2014). Such events have helped pull the region out of droughts, although they are also responsible for devastating floods and mudslides (Ralph et al. 2006; Guan et al. 2013; M. D. Dettinger 2013). Between 1979-2013, 72 atmospheric rivers were identified as landfalling along the coast of southern California, approximately 2-3 events each year, though significant interannual variability exists. The frequency of atmospheric rivers over southern California has a potential connection to some natural climate variability patterns (Neiman et al. 2008; J. Kim et al. 2012; Harris and Carvalho 2017; Guan et al. 2013; Payne and Magnusdottir 2014).

Analysis of several previous-generation GCMs by (Dettinger 2011a) suggest that the frequency of atmospheric river events may increase in the future, and that the storms themselves will be associated with higher water vapor transport rates compared to historical conditions. Moreover, the peak season of atmospheric rivers may also lengthen, which could extend the food-hazard season in California. The current generation of GCMs project a nearly 40% increase in precipitation during atmospheric river events over southern California by the late-21st century under RCP8.5. The number of atmospheric river events is also projected to increase in the future, possibly around a doubling of days by the end of the century (Warner et al. 2015; Hagos et al. 2016; Gao et al. 2015). Understanding future characteristics of atmospheric rivers, particularly over local spatial scales in California, remains an active area of research.

Increased periods of little to no rainfall and associated drying out of soils could also contribute to reduced absorptive capacity and increased surface transport of water from heavy rainfall, intensifying localized flooding.

Vulnerability and Impact

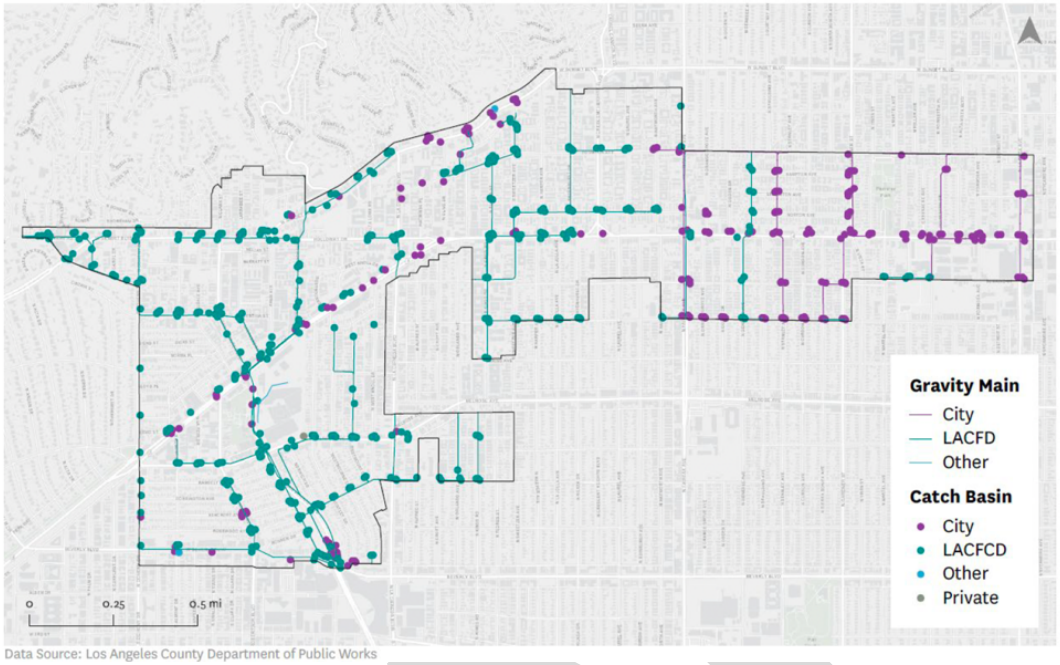
The City of West Hollywood may experience local drainage issues, particularly in areas where stormwater runoff enters culverts or flows underground into storm drains. Poor maintenance of these drains may also contribute to flooding hazards in urban areas.

Property

Property damage caused by heavy rain and flooding events can vary depending on the depth and velocity of the rainfall. Although some events may not reach the level of a 100-year flood, they can still pose a serious threat, potentially washing away buildings from their foundations and sweeping away cars. Infrastructure such as pipelines and bridges are also at risk, as flood debris carried by high waters can cause extensive damage upon impact. Soil saturation from flood events can also lead to landslide damage and basement flooding, resulting in further property damage. Most flood damage is caused by water saturating materials that are susceptible to loss, such as wood, insulation, wallboard, fabric, furnishings, floor coverings, and appliances. In many cases, flood damage to homes can render them uninhabitable.

Water, Wastewater and Stormwater Systems

Storm Drain Infrastructure



Data Source: Los Angeles County Department of Public Works

Environmental quality problems can occur when storm water runoff enters culverts or goes underground into storm sewers, which is a common problem in urban areas. This can result in the accumulation of bacteria, toxins, and pollution. Inadequate maintenance of these systems can further exacerbate flood risk in urban areas.

3.3.9 Wildfire

Hazard Description

Wildfires tend to occur most frequently in the summer when dry brush provides fuel for flames to spread rapidly. Ignition sources for wildfires can include campfires that were not properly extinguished, discarded cigarettes, burning debris, lightning strikes, or intentional acts of arson. Wildfires can start as slow burns along the forest floor, damaging and killing trees. As they spread to the tops of trees, wind can carry the flames from one tree to another, causing the fire to spread more rapidly. Typically, the first indication of a wildfire is the presence of dense smoke.

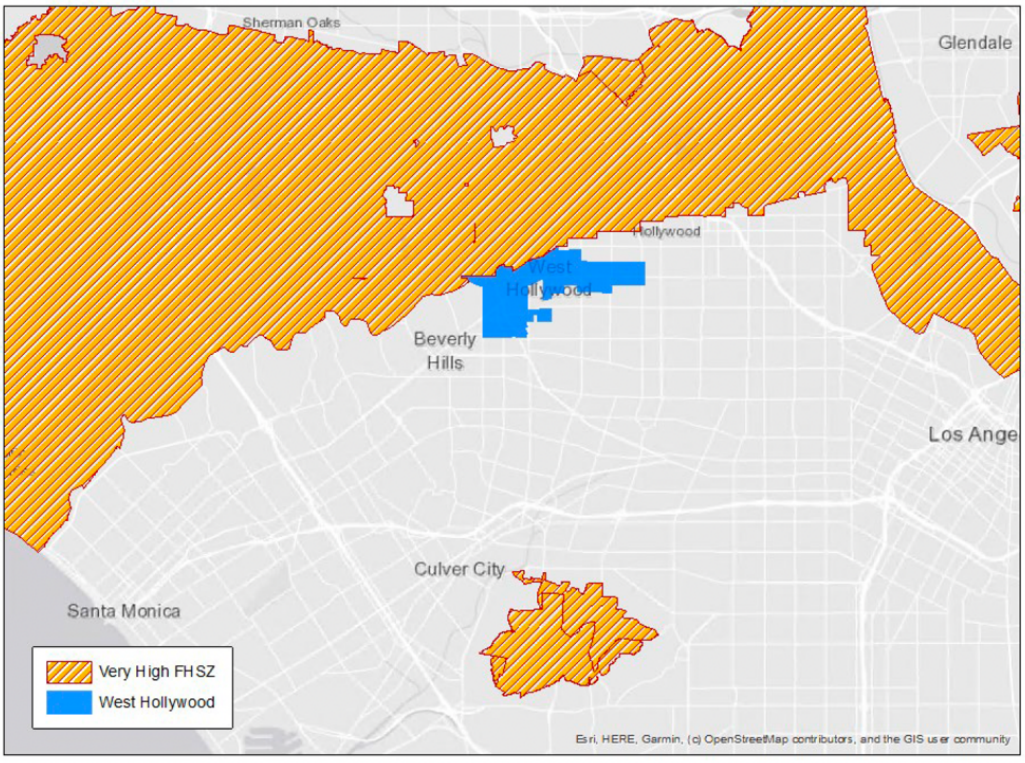
Wildfires pose a significant threat when they happen during a drought, and they can occur anywhere, with variation in size, intensity, location, and duration. The danger to people and property is particularly high in the wildland urban interface (WUI), where development meets undeveloped open grassland or fire-adapted forest ecosystems.

Wildfires are more frequent and intense in summer and autumn, especially during droughts when dry vegetation such as fallen branches, leaves, grasses, and scrub become highly flammable. Some experts attribute the increased severity and frequency of wildfires to global warming, which is believed to worsen drought conditions. As urbanization expands into wildlands, fires sometimes destroy suburban homes in the WUI. Entire neighborhoods or even towns can be at risk, as illustrated by the destruction of Paradise, California in 2018, Lytton, British Columbia in 2021, and nearly 1,000 homes near Boulder, Colorado in December 2021. Strong winds and low humidity exacerbate the threat to people and property, and fires can also start in urban areas and spread into wildlands, caused by various sources such as electrical fires, arson, cooking, smoking, and other hazards.

There are currently no state-designated fire hazard areas either within or adjacent to West Hollywood. However, fire can impact the City through smoke, which can severely impact air quality and increase health risks for vulnerable populations, including children and the elderly.

Location and Extent

Los Angeles County Very High FHSZ



The City of West Hollywood sits at the base of the Hollywood Hills in the City of Los Angeles. The Hollywood Hills are characterized by low density but widespread development and windy, difficult-to-navigate roads, and are designated as a Very High Fire Hazard Severity Zone (FHSZ). A fire in the Hollywood Hills could easily spread to the northern region of the City of West Hollywood, which is also densely populated, making large evacuations difficult. Regardless of whether fire itself spreads, smoke is very likely to impact the City, whether from adjacent fires or more severe fires further away.

Fire growth is related to building density, types of building construction, the presence and amount of flammable materials, wind speed and direction, width of fire breaks, water supply, time of fire department arrival, and available fire fighter resources. There are two fire stations in the City of West Hollywood: Fire Station 7 at 864 N. San Vicente Blvd, West Hollywood, CA 90069, and Fire Station 8 at 7643 Santa Monica Blvd, West Hollywood, CA 90046.

Fire Danger Rating System

Fire Danger Rating	Description
Low (L)	Fuels do not ignite readily from small firebrands, although a more intense heat source, such as lightning, may start fires in duff or punky wood. Fires in open cured grasslands may burn freely a few hours after rain, but woods fires spread slowly by creeping or smoldering, and burn in irregular fingers. There is little danger of spotting.
Moderate (M)	Fires can start from most accidental causes, but except for lightning fires in some areas, the number of starts is generally low. Fires in open cured grasslands will burn briskly and spread rapidly on windy days. Timber fires spread slowly to moderately fast. The average fire is of moderate intensity, although heavy concentrations of fuel, especially draped fuel, may burn hot. Short-distance spotting may occur but is not persistent. Fires are not likely to become serious and control is relatively easy.
High (H)	All fine dead fuels ignite readily, and fires start easily from most causes. Unattended brush and campfires are likely to escape. Fires spread rapidly and short-distance spotting is common. High intensity burning may develop on slopes or in concentrations of fine fuels. Fires may become serious and their control difficult unless they are attacked successfully while small.
Very High (VH)	Fires start easily from all causes and, immediately after ignition, spread rapidly and increase quickly in intensity. Spot fires are a constant danger. Fires burning in light fuels may quickly develop high intensity characteristics, such as long-distance spotting and fire whirlwinds when they burn into heavier fuels.
Extreme (E)	Fires start quickly, spread furiously, and burn intensely. All fires are potentially serious. Development into high intensity burning will usually be faster and occur from smaller fires than in the very high fire danger class. Direct attack is rarely possible and may be dangerous except immediately after ignition. Fires that develop headway in heavy slash or in conifer stands may be unmanageable while the extreme burning condition lasts. Under these conditions the only effective and safe control action is on the flanks until the weather changes, or the fuel supply lessens.

Source: U.S. Forest Service's Wildland Fire Assessment System (USFS WFAS)

Urban Fires due to Seismic Events

Urban fires are a constant threat in the City, given the seismic hazards of fault rupture, strong ground shaking, and liquefaction. In the United States, fires following earthquakes have caused the largest losses associated with earthquakes. Urban fires following earthquakes are driven by two key features: 1) the earthquake is likely to ignite multiple, nearly simultaneous fires; and 2) the earthquake is likely to damage and disrupt fire suppression by severing water pipelines and delaying the arrival of adequate fire-fighting equipment and personnel. There have been no recent fires due to seismic events in the City of West Hollywood.

Previous Occurrences

Large fires have been part of the Southern California landscape for millennia. Indigenous communities used controlled fires to shape the landscape to their benefit. In the aftermath of Mexican and later American colonization, California's fire regime was significantly altered. Early US forest management practices centered around the idea of fire suppression, which reduced the frequency of fires in proximity to settlements but ultimately increased their intensity by allowing vegetation to build up and fuel more intense fires.

Fires outside of West Hollywood that have nevertheless impacted Los Angeles County's air quality include:

- **1993 Southern California Wildfires:** In October 1993, a series of wildfires swept through Southern California, including areas in Los Angeles County. These fires were fueled by strong Santa Ana winds and dry conditions. The smoke from the wildfires blanketed the region, leading to poor air quality and health concerns for residents.
- **2003 Southern California Wildfires:** In October 2003, another series of devastating wildfires struck Southern California, affecting Los Angeles County and neighboring areas. The fires resulted in widespread smoke and ash, creating hazardous air quality conditions, and prompting evacuation orders for communities in their path.
- **Station Fire (2009):** The Station Fire, which started in August 2009, was one of the largest wildfires in Los Angeles County's history. The fire burned for weeks, charring vast areas of the Angeles National Forest and adjacent foothill communities. The smoke from this fire significantly impacted air quality in the surrounding regions, including parts of Los Angeles County.
- **Creek Fire (2017):** In December 2017, the Creek Fire erupted in the Angeles National Forest and quickly spread, posing a threat to numerous communities in Los Angeles County's northern and eastern regions. The heavy smoke from this fire led to health advisories and air quality concerns for residents in the affected areas.
- **Woolsey Fire (2018):** The Woolsey Fire, also in November 2018, burned through parts of Los Angeles and Ventura Counties, including areas near Malibu. The fire's

smoke and ash affected air quality throughout the region, with residents advised to stay indoors and use air purifiers to reduce exposure.

- **Bobcat Fire (2020):** In September 2020, the Bobcat Fire ignited in the Angeles National Forest and quickly grew, threatening homes and communities in Los Angeles County. The fire's smoke spread across the region, leading to poor air quality and health risks for vulnerable populations.

Probability of Future Events and Impacts of Climate Change

Wildfires can occur at any time of the year, although over the past two decades, wildfire season has begun to extend into the cooler months. The frequency and severity of fires are increasing due to higher temperatures and drier climates. Climate change is projected to lead to increased temperatures and more frequent/intense droughts, resulting in more dry plant matter available and a higher risk of wildfires statewide.

In a low-emissions (conservative) scenario, burned acreage in Los Angeles County is expected to increase 16% by 2050. According to California's Fourth Climate Assessment for the Los Angeles Region:

Future projections by Jin et al. (2015) using statistical models indicate that southern California may experience a larger number of wildfires and burned area by the mid-21st century under RCP8.5. Overall burned area is projected to increase over 60% for Santa Ana-based fires and over 75% for non-Santa Ana fires. New wildfire projections were developed for the Assessment (Westerling et al. 2018) using different statistical models than those used by Jin et al. (2015), which also incorporated new datasets of future climate data and land use. Compared to the observed 1950- 2009 historical average area burned of 53,300 hectares (Jin et al. 2015), the modeled 1976-2005 historical average area burned is roughly 16,000 hectares (Westerling et al. 2018). This discrepancy highlights that large uncertainties remain in current wildfire models and is an area where further research is required. Based on the projections developed by Westerling et al. (2018), the annual burned area over the LA region may increase over 2000 hectares by the mid-21st century under RCP4.5 or RCP8.5 compared to simulated historical conditions. Similar, yet potentially slightly lower, increases are projected by the late-21st century, as continued warming (even with moderate precipitation increases) could lead to overall fuel declines necessary for wildfire.

Vulnerability and Impact

Southern California's brush plants are largely composed of chaparral, which grows quickly and leaves behind dead vegetation that is nutrient-rich and released into the soil through burning. Some chaparral plants, like Ceanothus, have flammable resin coatings on their leaves, while others, such as Chamise (greasewood), produce volatile gases when burned and leave a water-resistant residue in the soil that can cause erosion on denuded slopes, increasing the risk of post-fire flash flooding and mudslides in nearby communities.

Life and Property

While wildfire is unlikely to have direct impacts relating to flame itself, fires from other causes can spread given extreme windy conditions. As discussed above, smoke from wildfires in other areas can directly and adversely impact human health due to reductions in air quality.

Buildings

Fire's primary effects, which include loss of life, injury, and destruction of buildings and wildlife, are well known. However, it also has several secondary effects, such as overburdened public utilities, reduced water supplies, disrupted communication systems due to downed power lines and road closures. Bare hillsides increase the flow of water and material, putting a strain on flood control facilities and leading to traveling debris. Affected recreation areas may need to close, or access may be limited for public safety.

3.3.10 Hazardous Materials

Hazard Description

Hazardous materials are substances that have physical properties that can be dangerous to human health or the environment if they are not handled or managed correctly. They can come in the form of pesticides, herbicides, toxic metals, chemicals, liquefied natural gas, explosives, volatile chemicals, and radioactive materials. These substances can be found in both households and businesses, such as motor oil, paint, cleaners, solvents, gasoline, and lawn and garden chemicals.

If hazardous materials are mishandled or improperly managed, they can contaminate soil and groundwater, which can pose a threat to the health of individuals and ecological systems. When contaminated sites are disturbed, the public can be exposed to toxic substances through airborne dust, surface water runoff, or vapors.

The following bullets define hazardous materials according to the Occupational Safety and Health Administration (OSHA):

- Chemicals that are carcinogens, toxic agents, irritants, or corrosives and sensitizers.
- Agents that act on the hematopoietic system.
- Agents which damage the lungs, skin, eyes, or mucous membranes.
- Chemicals that are combustible, explosive, flammable, oxidizers, pyrophoric, unstable, reactive, or water reactive.
- Chemicals that may produce or release dust, gases, fumes, vapors, mists, or smoke with any of the previously mentioned characteristics during normal handling, use, or storage.

The nine classes of hazardous materials are provided below.

Occupational Safety and Health Administration (OSHA) Hazard Classes

Hazard Class	
1. Explosives	1.1: Mass Explosion 1.2: Projectile Hazard 1.3: Minor blast/projectile/fire 1.4: Minor blast 1.5: Insensitive explosives 1.6: Very insensitive explosives
2. Compressed Gases	2.1: Flammable Gases 2.2: Nonflammable compressed 2.3: Poisonous
3. Flammable Liquid	3.1: Flammable (flash point below 141°) 3.2: Combustible (flash point 141°-200°)
4. Flammable Solids	4.1: Flammable solids 4.2: Spontaneously combustible 4.3: Dangerous when wet
5. Oxidizers and Organic Peroxides	5.1: Oxidizer 5.2: Organic Peroxide
6. Toxic Materials	6.1: Material that is poisonous 6.2: Infectious Agents
7. Radioactive Material	7.1: Radioactive I 7.2: Radioactive II 7.3: Radioactive III
8. Corrosive	8.1: Destruction of the human skin 8.2: Corrode steel at a rate of 0.25 inches per year
9. Miscellaneous	A material that presents a hazard during shipment but does not meet the definition of other classes

Source: Occupational Safety and Health Administration (OSHA)

Location and Extent

There are no major sites that generate or store large quantities of hazardous materials in the City of West Hollywood. There are smaller businesses within city limits such as dry cleaners that use smaller amounts of materials that may be hazardous to human health. These facilities are required to comply with regulations related to the storage, handling, and disposal of these materials to minimize the risk of exposure to workers and the surrounding community.

Given that there are no major freeways or industrial rail routes within the City, the likelihood of the transport of significant amounts of hazardous materials through the City is greatly reduced. Accidents or spills involving hazardous materials during transport could still pose risk to public health and the environment.

Previous Occurrences

There are no known incidents involving significant quantities of hazardous materials in the City of West Hollywood.

Probability of Future Events and Impacts of Climate Change

Unless there is a significant change to the character and economic drivers of the City of West Hollywood, the presence of significant amounts of hazardous materials on a regular basis is highly unlikely. However accidents can still occur even at a low likelihood. Natural disasters such as earthquakes or floods can increase the risk of hazardous materials events by damaging storage and transportation facilities or disrupting transportation routes.

Climate change may also impact the probability of hazardous materials events in the future. For example, rising temperatures and more frequent extreme weather events may increase the risk of chemical spills and explosions due to equipment failure or human error.

Vulnerability and Impact

The City of West Hollywood has a low vulnerability and low likelihood of significant impact from hazardous materials events.

3.3.11 Flood

Hazard Description

Floods are among the most common and most widespread of all natural disasters. Almost every community in the United States has, at some point, experienced flooding.

Floods are typically caused by excessive precipitation and can be influenced by various factors such as topography, weather patterns, soil moisture, vegetation, and impervious surfaces. Drainages and streams can overflow if their capacity is surpassed by rainwater. In urban areas, the presence of pavement and other impermeable surfaces reduces the ground's ability to absorb excess water, necessitating the use of storm channels or waterways.

Floods can cause secondary hazards such as erosion or scouring of stream banks, roadway embankments, foundations, footings for bridge piers, and other features. High-velocity flow and debris carried by floodwaters can also cause impact damage to structures, roads, bridges, culverts, and other features, with debris accumulating on bridge piers and in culverts. In addition, floods can lead to the release of sewage and hazardous or toxic

materials when wastewater treatment plants are inundated, storage tanks are damaged, and pipelines are severed.

The standard for flooding is the so-called "100-year flood," a benchmark used by the Federal Emergency Management Agency to establish a standard of flood control in communities throughout the country. Thus, the 100-year flood is also referred to as the "regulatory" or "base" flood.

It is important to note that it does not mean that only one flood of that size will occur every 100 years. What it means is that there is a one percent chance of a flood of that intensity and elevation happening in any given year. In other words, it is the flood elevation that has a one percent chance of being equaled or exceeded each year. And it could occur more than once in a relatively short period of time. (By comparison, the 10-year flood means that there is a ten percent chance for a flood of its intensity and elevation to happen in any given year.)

Flash floods typically occur during the rainy seasons of fall and winter. The region's dry soil makes matters worse since water has little chance to absorb the rainfall only adding to the problem. Flash floods occur suddenly, usually within 6 hours of the rain event, and result from heavy localized rainfall or levee failures. Flash floods can begin before the rain stops. Water level on small streams may rise quickly in heavy rainstorms, especially near the headwaters of river basins. Heavy rains can also cause flash flooding in areas where the floodplain has been urbanized.

Many people are killed by flash floods when driving or walking on roads and bridges that are covered by water. In fact, flash floods are the number one weather-related killer in the United States. Even six inches of fast-moving flood water can knock a person off their feet, and a depth of only two feet of water will float many of today's automobiles.

Location and Extent

The Los Angeles Basin, of which West Hollywood is a part, has historically experienced flooding during major winter storm events. Fortunately, the City is situated on relatively high ground and does not have a major waterway subject to flood hazards. However, the City is situated at the base of the mountains with steep narrow canyons that drain into the City.

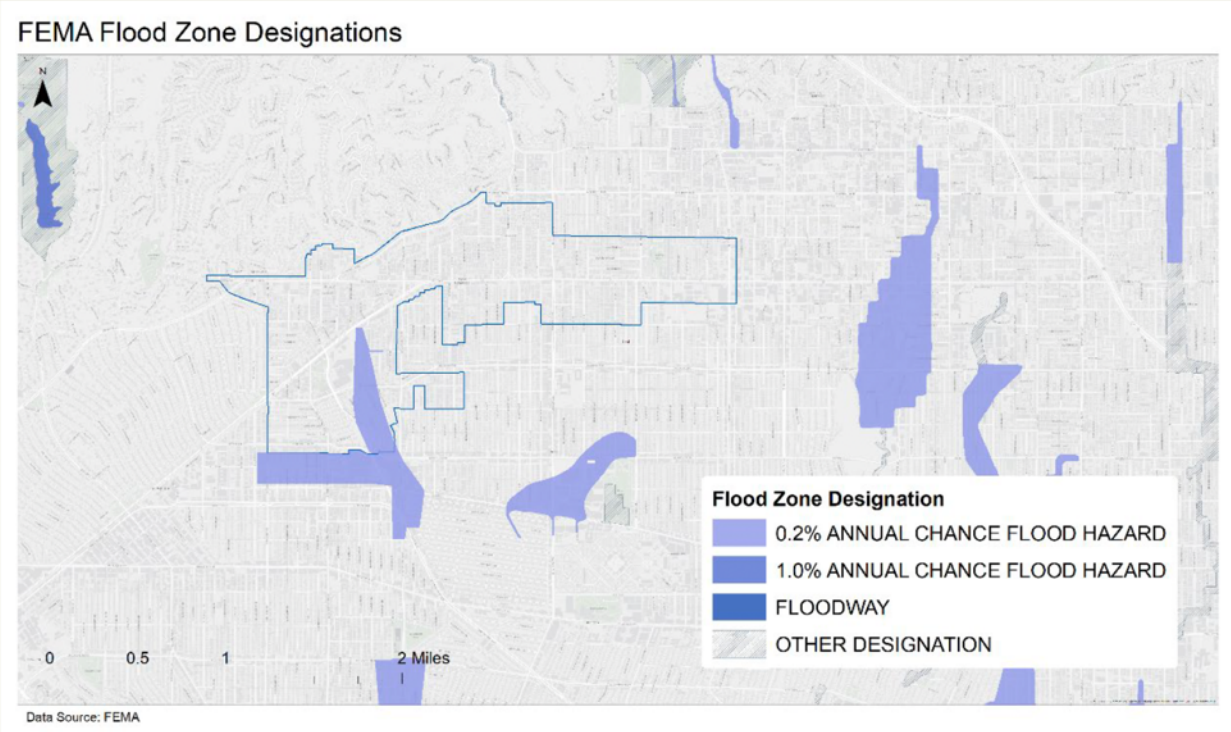
Historically, localized flooding has occurred in low topographic areas where street gutters must accommodate peak flows during a storm event. Generally, localized flooding does not overtop curbs and dissipates quickly after heavy rain ceases.

The Los Angeles County Flood Control District maintains the backbone flood control system, a network of catch basins and underground storm drainpipes. The City owns and maintains a few catch basins and small storm drainpipes that directly flow into the Los Angeles County Flood Control District system.

Floodplains and frequently flooded areas are typically identified by FEMA as Special Flood Hazard Areas (SFHAs), although flooding can occur outside of these areas. Low-lying regions near bodies of water are most susceptible to future flooding. FEMA maps and identifies floodplains on Flood Insurance Rate Maps (FIRMs) and assesses flood events based on their probability of occurrence.

To illustrate, a flood that has a 1 in 100 (1.0 percent) chance of occurring in any given year is called a 100-year flood. Similarly, a flood that has a 1 in 500 (0.2 percent) chance of occurring in any given year is referred to as a 500-year flood. The 100-year flood serves as a reference point for significant flood events and is known as the "base flood." The three most prevalent categories described on FIRMs are:

- **Special Flood Hazard Area:** The area within a 100-year floodplain.
- **Moderate Flood Hazard Area:** The area outside of the 100-year floodplain but within the 500-year floodplain.
- **Minimum Flood Hazard Area:** The area outside of the 500-year floodplain.



City of West Hollywood Flood Hazard Map (2021)

Previous Occurrences

There have been no notable flood events impacting the City of West Hollywood since its founding.

Probability of Future Events and Impact of Climate Change

The probability of future flooding events in and around West Hollywood is difficult to predict with certainty, but climate change is expected to increase the frequency and severity of extreme weather events, including heavy rainfall and flooding. The topography of the City and the neighborhoods surrounding it make the potential damage from a future flood event more possible at some point.

According to the Fourth National Climate Assessment, Southern California is expected to experience more frequent and intense precipitation events, which can increase the risk of flash flooding and mudslides. In addition, as temperatures continue to rise due to climate change, the snowpack in the nearby mountains is expected to decrease, leading to a shift from snowmelt to rainwater runoff, which can further increase the risk of flooding.

Vulnerability and Impact

Excessive storm debris may build up at upstream culverts, blocking the water flow and permitting the water to become un-channelized and overtopping the roadway at each location. In that instance, the waters may overtop each roadway, preventing the ingress and egress of emergency vehicles, between the east and west sides of the channel. In severe storm events there is the possibility that the flow may be excessive. Expected results would include possible undercutting and failure of roadway surfaces, washout of stream banks or embankments adjacent to the channel, or sheet flooding in adjacent residential neighborhoods with some levels of inundation depending on the location of individual properties. It is expected that most sheet flows within residential areas may be more nuisance type flows but are generally not expected to cause damage other than interior mudflows.

Additional hazards may include vehicles that may attempt to cross these flooded locations and may stall or be swept away into the channel with possible resulting injury or loss of life due to vehicle entrapment.

Property Loss

The extent and nature of property damage from floods depend on the velocity and depth of floodwaters. Swift floodwaters can carry away buildings and vehicles. Flood debris carried along by the waters can hit and damage infrastructure such as pipelines and bridges. Basement flooding and soil saturation from flood events can lead to significant damage from landslides. Most flood damage occurs from water penetrating materials that are vulnerable to loss, such as wood, insulation, wallboard, fabric, furnishings, floor coverings, and appliances. In some cases, flood damage can make homes unlivable.

Water, Wastewater and Stormwater Systems

During heavy rain events, stormwater can quickly overwhelm the capacity of storm drains, leading to flooding in streets and neighborhoods. This excess water can also flow into the sewer system, causing it to become overloaded and leading to backups and overflows.

In addition, stormwater runoff can carry pollutants, such as debris, trash, chemicals, and sediment, into the sewer system. These pollutants can cause blockages and damage to pipes and equipment, as well as pose a risk to human health and the environment.

3.3.12 Severe Wind

Hazard Description

High winds can result from thunderstorm inflow and outflow, or downburst winds when the storm cloud collapses, and can result from strong frontal systems, or gradient winds (high or low pressure systems) moving across the land. High winds are speeds reaching 50 mph or greater, either sustaining or gusting.

Windstorms can damage buildings, power lines, and other property and infrastructure due to falling trees and branches. For example, tree limbs breaking in winds of 45 mph can be thrown over 75 feet. During wet winters, saturated soils cause trees to become less stable and more vulnerable to uprooting from high winds. In addition, windstorm activity can negatively impact transportation routes and power outages.

Perhaps the greatest danger from windstorm activity in Southern California comes from the combination of the Santa Ana winds with the major fires that occur every few years in the urban/wildland interface. With the Santa Ana winds driving the flames, the speed and reach of the flames is even greater than in times of calm wind conditions. The higher fire hazard raised by a Santa Ana wind condition requires that even more care and attention be paid to proper brush clearances on property in the wildland/urban interface areas.

One of the strongest and most widespread existing mitigation strategies pertains to tree clearance. Currently, California State Law requires utility companies to maintain specific clearances (depending on the type of voltage running through the line) between electric power lines and all vegetation. The California Public Resource Code (Sections 4293, 4292, 4291, and 4171) provides guidance on tree pruning regulations. In addition the California Code of Regulations and the California Public Utilities Commission both have provisions for clearance. The power companies, in compliance with the above regulations, collect data about tree failures and their impact on power lines. This mitigation strategy assists the power company in preventing future tree failure, and the company can advise residents as to the most appropriate vegetative planting and pruning procedures.

Location and Extent

Santa Ana winds are generally defined as warm, dry winds that blow from the east or northeast (offshore). These winds occur below the passes and canyons of the coastal ranges of Southern California and in the Los Angeles Basin. Santa Ana winds often blow with exceptional speed in the Santa Ana Canyon (the canyon from which it derives its name). Forecasters at the National Weather Service in Oxnard and San Diego usually

place speed minimums on these winds and reserve the use of "Santa Ana" for winds greater than 25 knots.

The complex topography of Southern California combined with various atmospheric conditions creates numerous scenarios that may cause widespread or isolated Santa Ana events. Commonly, Santa Ana winds develop when a region of high pressure builds over the Great Basin (the high plateau east of the Sierra Mountains and west of the Rocky Mountains including most of Nevada and Utah). Clockwise circulation around the center of this high pressure area forces air downslope from the high plateau. The air warms as it descends toward the California coast at the rate of 5 degrees Fahrenheit per 1000 feet due to compressional heating. Thus, compressional heating provides the primary source of warming. The air is dry since it originated in the desert, and it dries out even more as it is heated.

The measurement of winds typically employs the Beaufort scale, which was created in 1805 and sorts wind occurrences based on their speed and effects on a force scale ranging from 0 to 12. Wind events classified as force 9 or higher are typically recognized as severe wind events.

Previous Occurrences

Santa Ana winds commonly occur between October and February with December having the highest frequency of events. Summer events are rare. Wind speeds are typically north to east at 35 knots through and below passes and canyons with gusts to 50 knots. Stronger Santa Ana winds can have gusts greater than 60 knots over widespread areas and gusts greater than 100 knots in favored areas. Frequently, the strongest winds in the basin occur during the night and morning hours due to the absence of a sea breeze. The sea breeze which typically blows onshore daily, can moderate the Santa Ana winds during the late morning and afternoon hours.

Probability of Future Events and Impacts of Climate Change

The probability of high wind events in West Hollywood and the surrounding areas depends on several factors, including atmospheric conditions, the location and topography of the region, and the season. The probability of high wind events is highest during the fall and winter months, when the Santa Ana winds are most likely to occur. However, these events can occur at any time of year and can vary in intensity and duration.

It is difficult to predict exactly how climate change will impact high wind events in the West Hollywood area and surrounding region. However, some research suggests that climate change may increase the frequency and intensity of Santa Ana winds in Southern California. This is because climate change is expected to cause warming in the western United States, which could lead to greater temperature contrasts between the coast and the inland areas and increase the pressure gradients that drive Santa Ana winds. Additionally, climate change could impact precipitation patterns, which may further exacerbate the risk of wildfire and other impacts associated with high wind events.

Vulnerability and Impact

Residential and commercial structures with weak reinforcement are vulnerable to windstorm damage. Wind pressure can push walls, doors, and windows inward, while passing currents create suction forces that pull building components and surfaces outward. Extreme wind forces can cause a building or its roof to fail, resulting in significant damage. In addition, even winds of 45 mph can cause tree limbs to become flying debris and damage structures. Overhead power lines can also be damaged and falling trees can bring electric power lines down to the pavement, creating a risk of electric shock. With rising population growth and new infrastructure in the region, the probability of windstorm damage is higher as more life and property are exposed to risk.

Windstorms can cause damage to buildings, block roads and bridges, and damage traffic signals, streetlights, and parks, among other things. The inability to access emergency services due to blocked roads can limit the response operations during a windstorm, while industry and commerce can suffer losses from interrupted electric services and extended road closures. Such losses to buildings, personnel, and equipment, as well as service interruptions, may impact the local economy following a windstorm event.

The combination of Santa Ana winds and major fires in the urban/wildland interface presents the greatest danger from windstorm activity in Southern California. Severe windstorms can also pose significant risks to life and property by disrupting essential systems and causing tornado-like damage to local homes and businesses.
Additionally, they can destabilize dry brush in hillsides and urban wildland interface areas.

Life and Property

In the event of a windstorm or microburst, emergency personnel may be required to respond to damage sustained by both residential and commercial structures, especially those with weak reinforcement. As discussed earlier, wind pressure and suction forces can cause damage to a building's components and surfaces, potentially causing the roof or entire building to fail. The debris carried by extreme winds can contribute to loss of life and failure of protective building elements. Downed trees, power lines, and damaged property can hinder emergency response and disaster recovery efforts.

Utilities

Falling trees have been a leading cause of power outages. Windstorms, including strong microbursts and Santa Ana winds, can result in flying debris and downed utility lines. Even in minor windstorm events, tree limbs can break in winds as low as 45 mph and be thrown over 75 feet, causing damage to overhead power lines. This can result in electric power lines falling to the ground, posing a potential risk of fatal electric shock.

Increased Fire Threat

The combination of the Santa Ana winds and major fires in the urban/wildland interface poses the greatest danger from windstorm activity in Southern California. The Santa Ana winds can accelerate the flames, increasing their speed and reach beyond what is typically observed during calm wind conditions.

Transportation

Strong windstorms can affect local transportation by causing trees and electrical wires to fall onto streets and highways, leading to road closures. During periods of very strong winds, major highways may also be temporarily closed to trucks and recreational vehicles. However, these disruptions are usually short-lived and do not have a significant long-term economic impact on the region.

SECTION 4 – CAPABILITY ASSESSMENT

Element C: Mitigation Strategy Requirements
C1. Does the plan document each jurisdiction's existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement 44 CFR § 201.6(c)(3))
C2. Does the plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement 44 CFR § 201.6(c)(3)(ii))

A capability assessment is an in-depth look at community mechanisms (such as plans, codes, ordinances, staffing, etc.) in place to support proposed mitigation activities. Performing the capability assessment helps communities identify regulatory, administrative, technical, and fiscal capacities and capabilities, and to consider ways that these tools can be used to further hazard mitigation and disaster resiliency goals.

4.1 Planning and Regulatory Capabilities

The City of West Hollywood has many highly trained and experienced civil servants who bring a high level of expertise to their work. Of note is the City's Long Range Planning department as well as its close relationships with Los Angeles fire and sheriff's departments. The City also has close relationships with other local governments through the Westside Council of Governments and through relationships with the cities of Beverly Hills, Culver City and Santa Monica.

West Hollywood operates as what is popularly termed a "contract city". Contract cities rely on outside agencies – sometimes public, sometimes private – to provide many of the basic functions of a city. This produces both unique challenges and unique opportunities when considering resilience and hazard mitigation. West Hollywood, for example, through its contract relationship with the Los Angeles Fire Department or the Los Angeles County Sherriff's Department, draw upon the resources of a much larger area in times of need than it may be able to if having to rely on its own. This may become a problem during larger-scale disasters such as a major earthquake, however, when West Hollywood may find itself triaged compared to other areas in greater need.

A major related consideration, already mentioned in Section 2, Community Profile, is accessibility. The City of West Hollywood is accessed only through surface arterials from three directions and from winding hill streets from the north. In the case of a mass casualty event such as a terrorist attack during a major public celebration, the only way to get into or out of the City may be by air. And since there are no major public spaces large enough for helicopter landings in the City, street intersections may have to be used, which pose their own problems.

Being a small city in the middle of a major metropolitan area, West Hollywood relies on facilities within its neighbors' boundaries, such as hospitals. Again, this may work very well ordinarily or during localized events, but on a large scale, this may present problems.

Policy and Regulatory Resources

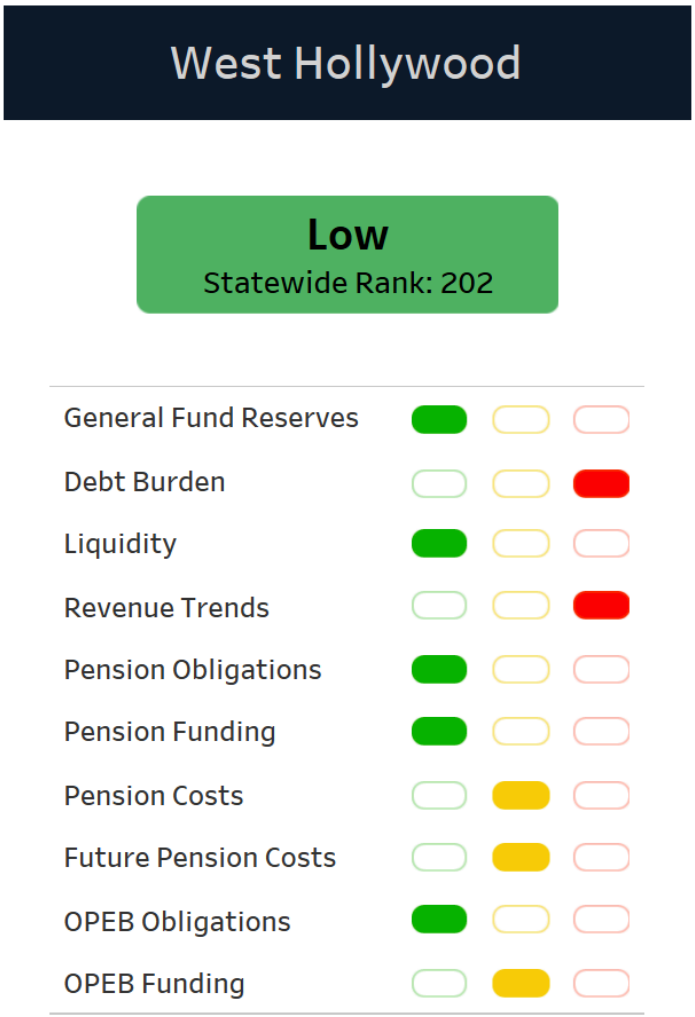
Policy and Regulatory Resources	Link / Location
Building Code	https://library.qcode.us/lib/west_hollywood_ca/pub/municipal_code/item/title_13
General Plan 2035	https://www.weho.org/city-government/city-departments/community-development-department/general-plan-2035
2021 Climate Action and Adaptation Plan	www.
2011 Climate Action Plan	https://www.weho.org/city-government/city-departments/community-development-department/general-plan-2035
Erosion Management Ordinance	https://www.weho.org/services/search-results/construction-management
Floodplain Management Ordinance	https://library.qcode.us/lib/west_hollywood_ca/pub/municipal_code/item/title_15-article_3-chapter_15_68
Seismic Retrofit Grant Program	https://www.weho.org/city-government/city-departments/community-development-department/building-and-safety/seismic-retrofit
Stormwater Management	https://library.qcode.us/lib/west_hollywood_ca/pub/municipal_code/item/title_15-article_3-chapter_15_56
Subdivision Regulation	https://library.qcode.us/lib/west_hollywood_ca/pub/municipal_code/item/title_20-chapter_20_04
Zoning	https://library.qcode.us/lib/west_hollywood_ca/pub/municipal_code/item/title_19

Administrative Resources

Administrative Resources	Link / Location
Planning Commission	https://www.weho.org/city-government/boards-commissions/commissions/planning-commission
Building & Safety	https://www.weho.org/city-government/city-departments/community-development-department/building-and-safety
Emergency Preparedness	https://www.weho.org/city-government/city-departments/community-safety/public-safety/emergency-preparedness
Sherriff's Department	https://www.weho.org/city-government/city-departments/community-safety/public-safety/sheriff-fire-security-ambassadors/sheriff-s-department
Fire Department	https://www.weho.org/city-government/city-departments/community-safety/public-safety/sheriff-fire-security-ambassadors/fire-department
Long Range Planning	https://www.weho.org/city-government/city-departments/community-development-department/long-range-planning
Public Works	https://www.weho.org/city-government/city-departments/public-works
Economic Development	https://www.weho.org/city-government/city-departments/economic-development
Urban Art Program Guidelines	https://www.weho.org/home/showpublisheddocument/52227/637812042576500000

4.2 Fiscal Capability

According to the California State Auditor's Office's ranking of the fiscal health of California cities, based on a variety of factors such as liquidity, debt burden, and pension obligations, West Hollywood was ranked 202 out of 471 cities in terms of its overall fiscal health, putting it in the overall "Low Risk" category.



Source: https://www.auditor.ca.gov/local_high_risk/dashboard-csa

The City's fiscal resources are provided by the City's General Fund. The General Fund is supported by various tax and other revenue sources. City Departments submit two-year budget plans which are approved by City Council.

Local funding sources for mitigation projects are limited but can include taxes and grants for Capital Improvement Projects and maintenance projects.

The City of West Hollywood can apply for funding under FEMA programs such as the Hazard Mitigation Grant Program (HMGP) or the Building Resilient Infrastructure in Communities (BRIC) program. Another potential source of funding for hazard mitigation projects is through the Community Development Block Grant (CDBG) program, administered by the Department of Housing and Urban Development (HUD). This program provides funding to local communities for a variety of projects, including those related to hazard mitigation. The City can apply for CDBG funding to implement projects such as drainage improvements, erosion control, or wildfire fuel reduction.

The City of West Hollywood can also consider issuing bonds to fund hazard mitigation projects. These bonds would be repaid over time through property taxes or other revenue sources and would allow the City to implement projects such as retrofitting critical infrastructure, building fire breaks, or developing early warning systems. Finally, the City can partner with other organizations and agencies to fund hazard mitigation projects. For example, the City can work with local businesses or non-profits to fund projects such as emergency preparedness education or the development of community-wide evacuation plans.

Lifelines and Critical Infrastructure

FEMA-Defined Community Lifelines

FEMA's Lifelines are a framework for identifying and prioritizing critical infrastructure and services that are essential to the functioning of communities during and after a disaster. The Lifelines framework was developed by the Federal Emergency Management Agency (FEMA) to help emergency managers and first responders prioritize their response efforts and allocate resources during a disaster.

The concept of Lifelines emerged from the realization that disasters can have wide-ranging impacts on a community's infrastructure and services, and that disruptions to these critical systems can significantly hinder response and recovery efforts. The Lifelines framework was developed to identify these critical systems and services and prioritize them based on their importance to overall community functioning and resilience.

There are seven FEMA Lifelines, each of which represents a critical area of infrastructure or service. Critical facilities are categorized under the following lifelines:

- **Safety and Security:** This includes law enforcement/security, search and rescue, fire services, government service, and responder safety.
- **Food, Water, and Shelter:** This encompasses evacuations, schools, food/potable water, shelter, durable goods, water infrastructure, and agriculture.
- **Health and Medical:** This lifeline involves medical care (hospitals), patient movement, public health, fatality management, health care, and supply chain.
- **Energy:** Power (grid), temporary power, and fuel.
- **Communications:** This includes infrastructure, alerts, warnings, messages, 911 and dispatch, responder communications, and financial services.
- **Transportation:** This encompasses highway/roadway, mass transit, railway, aviation, and pipeline.
- **Hazardous Materials:** This includes facilities, hazardous debris, pollutants, and contaminants.

The Lifelines framework is designed to help emergency managers and first responders prioritize their response efforts and allocate resources based on the criticality of each Lifeline. By prioritizing the most critical Lifelines, emergency responders can work to restore essential services and infrastructure more quickly, which can help to speed up the overall recovery process and reduce the impact of the disaster on the community.

4.3 Critical Infrastructure

A critical infrastructure list has been a part of City hazard mitigation plan updates up through the most recent in 2018. New infrastructure was included as appropriate.

Critical Facility List

Name	Address	Lifeline	Critical Rank
Plummer Park Community & Senior Center	7377 Santa Monica Boulevard	Food, Water and Shelter	Critical
Plummer Park – Various Structures	7377 Santa Monica Boulevard	Food, Water and Shelter	Critical
West Hollywood Library	625 N. San Vicente Boulevard	Food, Water and Shelter	Critical
City Field Services Facility	7317 Romaine Street	Safety and Security	Critical
City Hall	8300 Santa Monica Boulevard	Safety and Security	Critical
Fire Station #7	864 N. San Vicente Boulevard	Safety and Security	Critical
Fire Station #8	7643 Santa Monica Boulevard	Safety and Security	Critical
West Hollywood Sheriff's Station	780 N. San Vicente Boulevard	Safety and Security	Critical
Aquatic and Recreation Center	8750 El Tovar Place	Food, Water and Shelter	High
Formosa Park	1140 Formosa Avenue	Food, Water and Shelter	High
Havenhurst Park	1351 Havenhurst Drive	Food, Water and Shelter	High
Hart Park	8341 De Longpre	Food, Water and Shelter	High
Kings Road Park	8383 Santa Monica Boulevard	Food, Water and Shelter	High
West Hollywood Park Various Structures	647 N. San Vicente Boulevard	Food, Water and Shelter	High

4.4 National Flood Insurance Program Participation

The City of West Hollywood currently participates in the National Flood Insurance Program.

CID	Community Name	County	Init FHBM Identified	Init FIRM Identified	Curr Eff Map Date	Reg-Emer Date	Tribal
060720	WEST HOLLYWOOD, CITY OF	LOS ANGELES COUNTY		6/18/87	9/26/08	6/18/87	No

No portions of West Hollywood lie within a federally designated mandatory flood insurance zone. The City of West Hollywood entered the National Flood Insurance Program (NFIP) on June 18th, 1987 (CID 060720). On June 3, 1994, FEMA issued a Letter of Map Revision for Case No. 94-09-540P. The FEMA flood insurance rate map was revised for the eastern portion of the City to reflect upgrades to flood protection due to completion of the Los Angeles County Flood Control District's Pan Pacific Flood Control System. On September 29, 2008, FEMA issued a Letter of Map Revision for Case No. 08-09-1715P, which is found in on appendix pages 228-229. The flood insurance rate map was revised for the southwest portion of the City to reflect upgrades to flood protection due to the completion of the Los Angeles County Flood Control District's Holly Hills Storm Drain System. In August 2018, FEMA Region IX reviewed the effective Flood Insurance Rate Map for the City of West Hollywood and confirmed that there are no mapped Special Flood Hazard Areas (1% annual chance: 100-year) floodplains within the jurisdictional boundaries of the City. The only mapped area is a 'Zone X' which is the 0.2% Annual Chance Flood Hazard which is out of the 100-year floodplain.

SECTION 5 – MITIGATION STRATEGY

Element C: Mitigation Strategy Requirements
C1. Does the plan document each jurisdiction's existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement 44 CFR § 201.6(c)(3))
C2. Does the plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement 44 CFR § 201.6(c)(3)(ii))
C3. Does the plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement 44 CFR § 201.6(c)(3)(i))
C4. Does the plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement 44 CFR § 201.6(c)(3)(ii))
C5. Does the plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented and administered by each jurisdiction? (Requirement 44 CFR § 201.6(c)(3)(iii)); (Requirement 44 CFR § 201.6(c)(3)(iv))

The Mitigation Strategy serves as a comprehensive guide for the City of West Hollywood in its pursuit of enhancing disaster resilience by reducing vulnerability to identified hazards. Through the identification of specific Mitigation Goals and Objectives, strategies and initiatives are formulated to prevent, minimize, and alleviate the impacts of both natural and manmade disasters on the local population and property within the planning area.

Strengthening community resilience involves the implementation of building codes, zoning ordinances, and other regulatory measures. During the review or update of these planning mechanisms, there is an opportunity to assess the feasibility of integrating mitigation strategies into policy changes. These proactive efforts contribute significantly to ensuring the City's sustained resilience in the face of hazard events.

5.1 Mitigation Goals and Objectives

Goal 1: Ensure Effective Response of Emergency Services to Hazards

- Maintain adequate levels of law enforcement, fire protection, and emergency medical services to meet the needs of a changing population.
- Cooperate and collaborate with neighboring jurisdictions, social services, and internal departments to maximize public safety and emergency services.
- Support the County's existing mutual aid and automatic aid agreements for additional fire and police resources needed during an emergency.

Goal 2: Reduce impact (injury and damage) from natural and man-made hazards.

- Minimize the level of death, injury, property damage, economic and social dislocation, and disruption of vital services as a result of a hazard.
- Protect critical facilities from damage, loss of function, or inaccessibility in the event of a hazard.
- Minimize exposure to hazardous materials.

Goal 3: Maximize Internal and External Resources for Investment in Hazard Mitigation

- Maximize the use of internal sources of funding for mitigation programs.
- Identify, apply for, and utilize external sources of funding for mitigation programs.
- Prioritize mitigation and capital improvement projects, based on cost effectiveness for projects that promote protecting life, property, and the environment.
- Plan for alternative sources of financing of damage and reconstruction.

Goal 4: Increase Public Understanding, Support, and Demand for Hazard Mitigation and Emergency Preparedness

- Utilize existing and procure additional resources to adequately educate the residents and business owners of West Hollywood regarding hazard mitigation and emergency preparedness.
- Provide printed materials and seminars to residents and business owners regarding non-structural hazard mitigation and other mitigation activities.

5.2 Mitigation Actions

Action #	Goal	Hazard/Category	Action	Description
1.1	Goal 1: Emergency Response	All Hazards	Accelerated Emergency Response for Vulnerable Populations	Prioritize focused response efforts in the event of disaster to ensure the safety of persons in vulnerable or hard to access areas, as well as increase planning and response capabilities.
1.2	Goal 1: Emergency Response	All Hazards	Alternate Emergency Operations Center Infrastructure and Procedures	Develop alternate EOC infrastructure and capability and conduct drills
1.3	Goal 1: Emergency Response	All Hazards	Area Monitors	Personnel act as Area Monitors in City Facilities to assist with employee preparedness, including conducting monthly fire extinguisher checks, maintaining employee lists, practicing evacuations, and assisting the Community Safety Department with other preparedness and response activities.
1.4	Goal 1: Emergency Response	All Hazards	Back-up generators	Provide back-up generators for critical facilities and schools
1.5	Goal 1: Emergency Response	All Hazards	CERT Program	Continue coordination with the Los Angeles County Fire Department to offer CERT training and courses for residents

1.6	Goal 1: Emergency Response	All Hazards	City Employee Disaster Training	Provide training to all City employees on their roles and responsibilities in times of disasters and local emergencies. Training should include comprehensive and realistic disaster exercises, and cross-training for multiple potential roles should be considered.
1.7	Goal 1: Emergency Response	All Hazards	Earthquake Preparedness Drills	Conduct emergency preparedness and response drills for mock major earthquake events-the natural hazards with the greatest potential for injury, life loss, property damage and service interruptions. Drills should test disaster response systems and communication protocols. When preparing the drills, consider the wide range of potential risks associated with critical facilities and vulnerabilities. Include City officials, utility providers, emergency response stakeholders and representatives of vulnerable facilities.
1.8	Goal 1: Emergency Response	All Hazards	Emergency Drill	Conduct emergency drills and exercises to provide City personnel with the opportunity to practice their responsibilities during an emergency
1.9	Goal 1: Emergency Response	All Hazards	Emergency Operations Center Equipment	Update Emergency Operations Center equipment and supplies as necessary to ensure effectiveness.
1.10	Goal 1: Emergency Response	All Hazards	Emergency Operations Center Technology	Periodically review technology used to support the Emergency Operations Center to ensure systems are updated and effective.
1.11	Goal 1: Emergency Response	All Hazards	Emergency Operations Plan	Continue to implement the Emergency Operations Plan, which functions as the City's manual for communication protocol in the events of disaster.

1.12	Goal 1: Emergency Response	All Hazards	Emergency Preparedness and Resilience Campaigns	Implement public education campaigns for residents and businesses about appropriate emergency preparedness measures and what to do in the event of a disaster. Develop special themes and topics to increase awareness of hazards. As an example, the City is currently developing a Community Climate Action/Resilience Toolkit focusing on preparing for climate-related natural hazards.
1.13	Goal 1: Emergency Response	All Hazards	Emergency Response Vehicle Traffic Control	Develop the specifications and designs for an emergency response vehicle-operated traffic control system.
1.14	Goal 1: Emergency Response	All Hazards	Employee Emergency Backpacks	Issue all employees an emergency backpack and supplies are restocked annually.
1.15	Goal 1: Emergency Response	All Hazards	Employee Emergency Notification System:	Coordination with County's Emergency Alert system.
1.16	Goal 1: Emergency Response	All Hazards	EOC Drill	Conduct annual EOC drill or exercise to provide City personnel with the opportunity to practice their responsibilities during an emergency
1.17	Goal 1: Emergency Response	All Hazards	Evacuation Routes	Continue to study and monitor the conditions of existing evacuation routes with particular attention to traffic conditions to incorporate a range of emergency scenarios including differences in hazard types, locations, and timing. Consider collaboration with neighboring jurisdictions for hazard scenarios that may cause regional evacuation.

1.18	Goal 1: Emergency Response	All Hazards	Hazard Recovery Program Database	Develop a repository of resources or case studies on relevant hazard recovery programs that could allow for nimble emergency ordinances, facilitate speedy recovery, and increase resilience for vulnerable populations.
1.19	Goal 1: Emergency Response	All Hazards	Mandatory NIMS/SEMS Refresher	Conduct refresher trainings annually for all City personnel on NIMS and SEMS
1.20	Goal 1: Emergency Response	All Hazards	Mutual Aid Agreement Participation	Continue to participate in Statewide Master Mutual Aid Agreements and local automatic aid agreements related to emergency response.
1.21	Goal 1: Emergency Response	All Hazards	Pitch & Purge	The City Clerk conducts an employee "Pitch and Purge Day" where non-structural hazards are mitigated, and non-essential items are disposed of or recycled.
1.22	Goal 1: Emergency Response	All Hazards	Update and Maintain Geographic Information System (GIS) Program Capability	Update and maintain City Geographic Information System (GIS) capacity and ensure coordination between planning, public safety, and emergency management.
1.23	Goal 1: Emergency Response	All Hazards	Update Continuity of Operations and Disaster Recovery Plans	When needed because of changing City conditions, update the Continuity of Operations Plan and Disaster Recovery Plan.
1.24	Goal 1: Emergency Response	All Hazards	Urban Art Program Emergency Response Plan Development	Develop an Emergency Response Plan for the Urban Art Program to ensure the safe handling and restoration of City-owned public artworks, and pursue grants on federal, state, and regional levels.
2.0.1	Goal 2: Reduce Hazards Impact	All Hazards	Annual Fire Department Structural Inspections	Personnel annually inspect each structure in the City.

2.0.2	Goal 2: Reduce Hazards Impact	All Hazards	Environmental and Open-space Grants	Pursue environmental and open-space grants on federal and state level for at-risk parcels to fire, flood, and other hazards.
2.0.3	Goal 2: Reduce Hazards Impact	All Hazards	Green Space Networks	Green space networks: Promote the development to a network of green spaces throughout the City, prioritizing areas with low park access.
2.0.4	Goal 2: Reduce Hazards Impact	All Hazards	Sponge City Infrastructure - Normalize Water Cycle Flows	Use "sponge city" concepts to increase water flow and reduce undesired retention (i.e., flooding) to work with water cycle and retain water where desired.
2.1.1	Goal 2: Reduce Hazards Impact	Cyberattack	City-wide Cybersecurity Strategy	Update and implement citywide cyber-security strategy and operational plan to identify threats and vulnerabilities to all cyber systems (including , communications, signals, corporate data, security networks), and put operational plans in place to mitigate those threats and reduce vulnerabilities.
2.1.2	Goal 2: Reduce Hazards Impact	Cyberattack	Citywide Cybersecurity Awareness Program	Risk reduction through employee education via training and awareness initiatives including classroom, computer-based training courses, anti-phishing simulation testing and training, various media initiatives, and role-based training for users with privileged access.
2.1.3	Goal 2: Reduce Hazards Impact	Cyberattack	IT Recovery Plan	Create, distribute, and implement a recovery plan to ensure continuity of IT operations in the event of a disaster.
2.1.4	Goal 2: Reduce Hazards Impact	Cyberattack	Simulated Cyberattacks to Understand Vulnerability	Simulate cyberattacks including using "black-hat" intruders to understand and address cyber-vulnerabilities.
2.1.5	Goal 2: Reduce Hazards Impact	Cyberattack	Update Authentication Methods for IT Access	Revise and update access to City networks.

2.2.1	Goal 2: Reduce Hazards Impact	Drought	Incentives for Water-saving Appliances	Provide incentives for households and businesses to install water-saving appliances.
2.2.2	Goal 2: Reduce Hazards Impact	Drought	Incentives for Water-saving Landscaping and Xeriscaping	Provide incentives for households and businesses to install water-saving landscaping, including xeriscaping.
2.2.3	Goal 2: Reduce Hazards Impact	Drought	Water Recycling for Non-Potable Uses	Use of greywater or recycled water for non-drinking water uses wherever possible.
2.3.1	Goal 2: Reduce Hazards Impact	Earthquake	Building and Infrastructure Seismic Retrofits	Evaluate and update the City's existing building stock and infrastructure seismic retrofit program for orderly and effective identification of vulnerable buildings/infrastructure, outreach, education, support, and enforcement.
2.3.2	Goal 2: Reduce Hazards Impact	Earthquake	Earthquake Action Plan	Prepare earthquake action plan identifying most vulnerable infrastructure/utilities and planning emergency routes bypassing the infrastructure if damaged. Provides the ability to move emergency management personnel to help residents after an earthquake.
2.3.3	Goal 2: Reduce Hazards Impact	Earthquake	Earthquake Code Compliance	Require all construction to be in conformance with the Uniform Building Code (UBC) and the California Building Code (CBC), and to be consistent with the Municipal Code as it provides for earthquake resistant design, excavation, and grading.
2.3.4	Goal 2: Reduce Hazards Impact	Earthquake	Earthquake Insurance for All City Facilities	Secure earthquake insurance for all City facilities.
2.3.5	Goal 2: Reduce Hazards Impact	Earthquake	Earthquake Preparedness	Encourage reduction of nonstructural and structural earthquake hazards in homes, schools, businesses, and government offices

2.3.6	Goal 2: Reduce Hazards Impact	Earthquake	Fault Rupture Hazard Studies	Required for sites located within the City-defined Fault Precaution Zone
2.3.7	Goal 2: Reduce Hazards Impact	Earthquake	New Development Seismic Standards:	Evaluate and update seismic standards for all new development based on best practices and needs.
2.3.8	Goal 2: Reduce Hazards Impact	Earthquake	Participation in Great California Shakeout Drill	Annually, participate in the Great California Shakeout Drill at City Hall and provide prizes for participation
2.3.9	Goal 2: Reduce Hazards Impact	Earthquake	Renovations and Retrofits	Require seismic retrofits for major renovations. Additionally, when supporting revitalization or rehabilitation of substandard housing, require seismic retrofits as needed, such as for unreinforced masonry buildings.
2.3.10	Goal 2: Reduce Hazards Impact	Earthquake	Require Geotechnical Investigations for Relevant Projects	Require geotechnical investigations by certified engineering geologist or other qualified professionals for all grading and construction projects subject to geologic hazards, including fault rupture, severe ground shaking, liquefaction, landslides, and collapsible or expansive soils. Particular attention should be paid to areas within Alquist-Priolo Earthquake Fault Zones.
2.3.11	Goal 2: Reduce Hazards Impact	Earthquake	Unreinforced Masonry Retrofit Program	Continue unreinforced masonry retrofit programs.

2.4.1	Goal 2: Reduce Hazards Impact	Extreme Heat	Cool/Green/White Roofs	Explore the feasibility of incentivizing cool and/or green roofs for existing residential and existing/new commercial, industrial, institutional, and similar structures in the City. Develop user-friendly standards that clearly explain the process and requirements for incorporating cool roof systems in the City and train all relevant personnel in processes and requirements. Consider developing and implementing a white roof project, modeled after New York City's in the communities most highly burdened by heat island impacts.
2.4.2	Goal 2: Reduce Hazards Impact	Extreme Heat	Cooling Centers	Develop and expand designated network of cooling centers for use during extreme heat events.
2.4.3	Goal 2: Reduce Hazards Impact	Extreme Heat	Generator Backup for Air Conditioning Systems in Cooling Centers and Backup City Facilities	Ensure generator backup for air conditioning systems exists for all cooling centers and City facilities that might be used as backup cooling centers.
2.4.4	Goal 2: Reduce Hazards Impact	Extreme Heat	Public Education Programs	Develop public education programs for what to do during extreme heat events and how to stay safe and hydrated.
2.4.5	Goal 2: Reduce Hazards Impact	Extreme Heat	Street Tree Planting	Prioritize tree planting from approved street tree list based on the existing tree canopy and the population's vulnerability to extreme heat. Where possible, integrate shade trees with bike and pedestrian infrastructure.
2.4.6	Goal 2: Reduce Hazards Impact	Extreme Heat	Tree Trimming and Health Checks	Prune street trees regularly in residential areas and along commercial streets. Have regular tree health checks by certified arborists.

2.4.7	Goal 2: Reduce Hazards Impact	Extreme Heat	Urban Tree Canopy	Develop a program and funding mechanisms to increase and maintain the urban tree canopy, prioritizing neighborhoods with low tree canopy coverage and/or high urban heat island effect.
2.5.1	Goal 2: Reduce Hazards Impact	Flood	Drain Maintenance and Clearance	Maintain routine maintenance of down and bench drains in and around residential and commercial areas to avoid accumulation of debris which could lead to dangerous and destructive flooding.
2.5.2	Goal 2: Reduce Hazards Impact	Flood	Flood Infrastructure and Drainage Projects In Conjunction with Road Construction/Expansion	For all future road expansion or construction, integrate flood control infrastructure and where possible nature-based solutions (swales, etc.)
2.5.3	Goal 2: Reduce Hazards Impact	Flood	Promote Permeable Surfaces and Water Flow	Design new developments with water retention structures and permeable surfaces to minimize flooding of the surface drainage system by peak flows. Consider the potential for larger-scale capture via diversion to large-scale spreading grounds or other options on a site-by-site basis.
2.5.4	Goal 2: Reduce Hazards Impact	Flood	Sewer Root Control	Annually treat approximately 20% of the citywide sewer system with herbicide to retard tree root intrusion. This prevents sewer blockages and overflows which are a health and safety emergency.
2.5.5	Goal 2: Reduce Hazards Impact	Flood	Storm Drain Master Plan update & review	Review and update stormwater plans; communicate recommendations to planning and emergency management departments
2.5.6	Goal 2: Reduce Hazards Impact	Flood	Stormwater Infrastructure as part of	Update stormwater infrastructure as identified in City's capital improvement program.

			capital improvement updates	
2.5.7	Goal 2: Reduce Hazards Impact	Flood	Update Engineering Standards considering Climate Change and More Extreme Rainfall	Update engineering standards for water infrastructure to handle increased stress from extreme weather and climate events.
2.6.1	Goal 2: Reduce Hazards Impact	Hazardous Materials	Hazardous Materials User Inventory	Identify hazardous material users and generators within the City using field surveys, inspection programs, and licensing requirements.
2.6.2	Goal 2: Reduce Hazards Impact	Hazardous Materials	Spill Control Packages in City Vehicles	Allows for faster clean-up to protect the citizens and environment.
2.7.1	Goal 2: Reduce Hazards Impact	Infectious Disease	COVID-19 Response Report	Develop report with successes and lessons learned to institutionalize City response to COVID-19 and inform future pandemic response.
2.7.2	Goal 2: Reduce Hazards Impact	Infectious Disease	Digital Infrastructure Upgrades for Pandemic	Maintain and update IT systems regularly in case of sudden need for remote work.
2.7.3	Goal 2: Reduce Hazards Impact	Infectious Disease	Pandemic Planning	Review pandemic response and history and proactively plan based on lessons learned for future pandemics.
2.7.4	Goal 2: Reduce Hazards Impact	Infectious Disease	Personal Protective Equipment (PPE) Storage and Maintenance	Maintain store of usable PPE in case of pandemic event.
2.7.5	Goal 2: Reduce Hazards Impact	Infectious Disease	Public Education Programs	Conduct public education programs on communicable disease and methods to reduce spread

2.8.6	Goal 2: Reduce Hazards Impact	Power Outages	Encourage New Construction and Retrofit Consideration of Cooling Without Power	Encourage new construction to include porches , openable windows, and other structural methods to allow cooling without power. Explore a retrofit program to do the same for existing buildings.
2.8.1	Goal 2: Reduce Hazards Impact	Power Outages	Microgrids and Redundancy Structuring	Isolate partial outages to smallest areas possible
2.8.2	Goal 2: Reduce Hazards Impact	Power Outages	Power Capacity Adjustment for High-Risk Heat Days	Explore capacity of adjusting power capacity and redundancy during extreme heat events to increase capacity of grid to run air conditioning.
2.8.3	Goal 2: Reduce Hazards Impact	Power Outages	Remote Work Pre-planning	Develop plans to support remote work during hazard events. Ensure connectivity and strategic dispersal of key personnel.
2.8.4	Goal 2: Reduce Hazards Impact	Power Outages	Renewable Energy for Power Outages	Renewable energy for City infrastructure to reduce dependence on grid and susceptibility to broader power outages.
2.8.5	Goal 2: Reduce Hazards Impact	Power Outages	Storm Hardening to Prevent Power Outages	Storm hardening for critical power and utility facilities
2.9.1	Goal 2: Reduce Hazards Impact	Severe Wind	Windstorm Preparedness	Maintain local City and utility awareness of tree pruning and code sections relevant to wind-resistant utility operations
2.10.1	Goal 2: Reduce Hazards Impact	Terrorism	Advanced License Plate Recognition (ALPR) camera system	ALPR camera system installed to expand intelligence gathering capabilities, prevent crime and collect evidence.
2.10.2	Goal 2: Reduce Hazards Impact	Terrorism	Advertised First Aid Caches around City	Locate first aid caches around the City, especially at public gathering places, to reduce time immediate medical care could be given during an event

2.10.3	Goal 2: Reduce Hazards Impact	Terrorism	Business Emergency Alert and Communications	Explore systems to notify law enforcement and neighboring businesses in case of terrorist event in locations such as LGBTQ+ bars.
2.10.4	Goal 2: Reduce Hazards Impact	Terrorism	Emergency Planning for Events	Create standard operating procedures and regularly update for potential terrorist or active assailant events.
2.10.5	Goal 2: Reduce Hazards Impact	Terrorism	Improved Predictive Threat Methods	Software-based analysis to understand both potential events and potential perpetrators.
2.10.6	Goal 2: Reduce Hazards Impact	Terrorism	Portable Surveillance for Major Events	Cameras or other temporary surveillance technologies that can be moved for events.
2.10.7	Goal 2: Reduce Hazards Impact	Terrorism	School and Professional Mental Health Programs and Early Identification	Establish and promote mental health and anti-bullying programs in schools and elsewhere to reduce chance of event by individuals suffering from mental illness.
2.10.8	Goal 2: Reduce Hazards Impact	Terrorism	Socialize Lockdown Protocols	Socialize lockdown protocols for businesses in case of terrorist event to isolate extent of event.
2.11.1	Goal 2: Reduce Hazards Impact	Wildfire	Adequate Fire Personnel, Resources and Equipment for Both Regular Events and Major Disasters	Work with L.A. Fire Department to ensure adequate resources and personnel to support West Hollywood. Develop and strengthen plans with Los Angeles and neighboring communities to ensure adequate support in case of major disaster.
2.11.2	Goal 2: Reduce Hazards Impact	Wildfire	Analysis of Smoke Impacts and Mitigation	Conduct analysis of smoke impacts, trajectory, and best mitigation methods.
2.11.3	Goal 2: Reduce Hazards Impact	Wildfire	Provide Air Filters to Low-Income Residents	Provide air filtration equipment to low-income residents at low or no charge.

3.1.1	Goal 3: Maximize Resources	Funding	Community Insurance Promotion	Promote uptake of disaster insurance; consider community-embedded insurance or other new disaster insurance models.
3.1.2	Goal 3: Maximize Resources	Funding	Financial Resources Post-Disaster	Public awareness to have cash on hand in case of disaster; develop methods to deliver cash to survivors in a timely fashion.
3.1.3	Goal 3: Maximize Resources	Funding	Funding Options for Hazards Mitigation	Conduct survey of disaster risk reduction and adaptation funding options for the City. Options could include special taxing districts, private/philanthropic sources, and others.
3.1.4	Goal 3: Maximize Resources	Funding	Issuing Special-Purpose Bonds	Issue resilience/green infrastructure bonds or other special-purpose financial instruments.
3.1.5	Goal 3: Maximize Resources	Funding	Plug-and-Play Funding Guides	Develop plug-and-play funding guides describing public and private sources of funding; designate a position within City government for this knowledge.
3.1.6	Goal 3: Maximize Resources	Funding	Public-Private Partnerships	Pursue public-private partnerships for resilience funding, especially in industrial areas or with new development.
3.2.1	Goal 3: Maximize Resources	Infrastructure	Green Streets Program	Develop a green streets program to support a sustainable approach to stormwater, drainage, groundwater recharge, and landscaping and incorporate green streets standards and guidelines in all streetscape improvements.
3.2.2	Goal 3: Maximize Resources	Infrastructure	Program Cycle Management and Data Collection for Disaster Risk Reduction	Collect data and develop program methodology to adaptively manage hazard mitigation through examination of hazard events.

3.2.3	Goal 3: Maximize Resources	Infrastructure	Road Repair and Enhancement	Repave roadways, fix broken and damaged sidewalks, upgrade traffic signal equipment, install ADA ramps at the corners of streets, add landscaped medians and storm drain catch basins at locations. When possible and deemed necessary, or during regular road maintenance, upgrade existing roads to meet minimum road widths, surface, grade, radius, and turnarounds to ensure emergency vehicle access is possible. To ensure vegetation allows for continued emergency vehicle access, perform maintenance on City roads and enforcement on private roads.
3.2.4	Goal 3: Maximize Resources	Infrastructure	Sidewalk Repair Program	Annually have a person walk every sidewalk in the City to identify locations needing repairs to prevent trip/fall hazards and contract the repairs.
3.2.5	Goal 3: Maximize Resources	Infrastructure	Traffic Signal Battery Back-up	Installed battery back-up systems for traffic signals. Under power failure conditions, the traffic signals will continue to operate, rather than go black.
3.2.6	Goal 3: Maximize Resources	Infrastructure	Traffic signal Preemption for Sheriff's Station	Installed pre-emption push button system at the Sheriff's Station to enable the officers to control traffic at the Santa Monica/San Vicente intersection and at the Santa Monica/PDC Road intersection during times of emergency.
3.3.1	Goal 3: Maximize Resources	Zoning & Codes	Adoption of new City building codes	Adoption of new City building code approximately every three years: Includes updating seismic and structural requirements. Electrification efforts should include language on hardening grid and power systems as well as promoting resilience to disasters and distributed energy generation (solar, etc.).

3.3.2	Goal 3: Maximize Resources	Zoning & Codes	Code Enforcement	Enforce all applicable and current building & land use codes and ordinances. Adopt and develop new codes and standards that provide protection beyond minimum standards. Develop partnerships with business community to develop and maintain businesses with emphasis on pre-mitigation practices. Continue efforts to replace non-reinforced masonry buildings through safety inspections and business licensing process. Continue efforts to ensure that Critical facilities meet minimum building code standards for seismic and critical events. The overall goal is to minimize deaths and injuries that could be caused by the impact from a disaster
3.3.3	Goal 3: Maximize Resources	Zoning & Codes	Designate Hazard Mitigation Coordinator to Drive LHMP Implementation	Designate a Hazards Mitigation Coordinator to oversee LHMP implementation.
3.3.4	Goal 3: Maximize Resources	Zoning & Codes	Leverage Development for Resilience Investment	Require developers to implement resilience measures through impact fees, tax increment financing, or other mechanisms.
3.3.5	Goal 3: Maximize Resources	Zoning & Codes	New Development Seismic Standards	Evaluate and update seismic standards for all new development based on best practices and needs.
4.1	Goal 4: Public Understanding	Community	Community Forums for Sheriff/Fire Services Assessment and Community Engagement	Communication forums between police and fire department and the community to obtain community feedback regarding service, service needs and, to engage the community in crime prevention.

4.2	Goal 4: Public Understanding	Community	Community Forums for Sheriff/Fire Services Assessment and Community Engagement	Communication forums between law enforcement and public safety and the community to obtain community feedback regarding service, service needs and, to engage the community in crime prevention.
4.3	Goal 4: Public Understanding	Community	Continuation of Public Education Campaign "Live, Work, Play, Be Safe"	Used to address community emergency preparedness.
4.4	Goal 4: Public Understanding	Community	Disaster Kit Distribution	Work with local places of worship and local non-profits to create disaster kits for lower-income residents. This should include disaster supplies and guidance on how to collect and store important documents.
4.5	Goal 4: Public Understanding	Community	Emergency Shuttle	Explore the possibility of partnerships for providing an emergency evacuation shuttle service.
4.6	Goal 4: Public Understanding	Community	Encourage and Promote Community Networks and Groups	Support programs such as Neighborhood Watch Organizations to build and train teams of community residents, leaders, and stakeholders to assist with emergency response and first aid. Make use of existing community networks to enlist participants.
4.7	Goal 4: Public Understanding	Community	Fire Safety Education Programs	Develop new and expand existing public fire safety education programs.
4.8	Goal 4: Public Understanding	Community	Hazard Mitigation & Climate Adaptation School Clubs	Can include activities such as developing hazard and capacity maps of school grounds or neighborhoods;

4.9	Goal 4: Public Understanding	Community	Know Your Neighbor Program	Coordinate a Know Your Neighbor Program where community leaders and neighbors provide resources and check in on vulnerable populations during hazard events where people shelter at home.
4.10	Goal 4: Public Understanding	Community	Multi-Lingual Outreach and Emergency Notifications	Targeted, in-person outreach to Spanish and Russian speakers. Ensure any cellphone-based notification systems include Spanish and Russian.
4.11	Goal 4: Public Understanding	Community	Neighborhood Based Response	Convene and regularly train neighborhood-based emergency response teams (e.g., CERT), incorporating climate change response and recovery. Ensure CERT recruiting includes a diverse set of community members and leaders.
4.12	Goal 4: Public Understanding	Community	Outreach to Local Schools	Work with local schools to create age-appropriate preparedness classes. Prioritize schools in disadvantaged communities.
4.13	Goal 4: Public Understanding	Community	Public Hazardous Waste Roundup Events	Conduct regularly scheduled household hazardous waste roundup and disposal events.
4.14	Goal 4: Public Understanding	Community	Public Safety Education	Host public education programs to enhance public safety about fire safety and crime prevention as well as emergency preparedness
4.15	Goal 4: Public Understanding	Community	Public Safety Education	Host public education programs to enhance public safety about fire safety and crime prevention as well as emergency preparedness

4.16	Goal 4: Public Understanding	Community	Regular Needs Assessment	Regularly meet with community leaders that represent special needs populations, including seniors, to maintain continuous two-way communication. This should include surveys and other needs assessments to refine notification and response policies.
4.17	Goal 4: Public Understanding	Community	Resilience Centers	Supply cooling centers with refrigerators for storing medicine, backup water supplies, and social services information in multiple languages. Establish locations to provide disaster planning assistance and supplies, which can develop backup power sources in the event of a power outage.
4.18	Goal 4: Public Understanding	Community	Socialize Emergency Preparedness Plans	Distribute and/or publicize established emergency preparedness plans to increase public awareness. Consider development of translated plans, executive summaries, or policies and programs when feasible.
4.19	Goal 4: Public Understanding	Community	Unhoused Population Outreach	Outreach to unhoused populations living in and near riverbeds; provide pathways to employment and housing in less-perilous areas.
4.20	Goal 4: Public Understanding	Community	Vulnerable Population Registry	Develop a voluntary vulnerable population registry and subsequent priority list to help first responders better provide services and meet the needs of those most in need.

5.3 Mitigation Implementation

The list of mitigation actions above is meant to be as comprehensive as possible, not only to guide City actions and priorities but to enable the City to apply for FEMA funding to carry out the broadest possible array of strategies to mitigate hazards and build resilience for the City.

It is, of course, the City's prerogative to determine its own priorities and processes. But from a hazard mitigation planning perspective, there are several strategic options that are worthy of consideration.

- Municipal codes and zoning are powerful tools to drive mitigation actions by the public and by business. These regulations determine the urban form of a city, and by adding elements to require conformance to mitigation and resilience best practices, much good hazard mitigation work can be accomplished. This should be a high priority.

- In terms of infrastructure, piggybacking mitigation actions through other infrastructure such as road repair and upgrades can be highly effective as well. Pavement covers a not-negligible percentage of any community and can be modified and enhanced to deliver a variety of benefits.

- Along those lines, actions that can deliver tangible climate adaptation benefits should be prioritized as well. Climate impacts are accelerating to the point that extreme weather is visible to most people. During the development of this plan, many of the interviewees throughout various City departments reported that the weather was different in one way or another from even a few years ago, and that it was beginning to have impacts on day-to-day operations. One textbook describes climate adaptation as "hazard mitigation ten years in the future". That view is a useful one to drive action.

- The community needs to be engaged at every level. The City may not always be the first in line to support them in a disaster – and in a contract city such as West Hollywood, that may be truer than in other places. Community awareness, both at the individual and group levels, can and should be nurtured. The City's extraordinarily flexible and effective response to COVID-19, reassigning people to fill new needs that no one could have foreseen, should be fostered not only within City government but across the City.

- Finally, hazard mitigation can be expensive. A variety of funding sources, both public and private, should be pursued, and the City should take advantage of favorable financial conditions when available to fund efforts. Insurance is becoming an issue across California, and the City should proactively begin looking into new and innovative models of insurance to protect its citizens before the insurance companies, wary of the growing cost of climate-fueled events, forces it to act.

SECTION 6 – PLANNING PROCESS

Element A Requirements
A1. Does the plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement 44 CFR § 201.6(c)(1))
A2. Does the plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia, and other private and non-profit interests to be involved in the planning process? (Requirement 44 CFR § 201.6(b)(2))
A3. Does the plan document how the public was involved in the planning process during the drafting stage and prior to plan approval? (Requirement 44 CFR § 201.6(b)(1))
A4. Does the plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement 44 CFR § 201.6(b)(3))

6.1 Planning Process

This LHMP (Local Hazard Mitigation Plan) is designed to meet the requirements of the Disaster Mitigation Act of 2000 (DMA 2000) and to ensure that the City is eligible for all appropriate benefits under state and federal law and practices. The LHMP planning process considers natural and human-caused hazards facing the City, making sure that all federal and state requirements are met and supporting HMP review. The LHMP planning team gathered information from a variety of sources, including participating municipal and county agencies, local organizations and utilities, federal and state agencies, and residents of the City. They solicited information from individuals with specific knowledge of natural hazards, historical events, planning and zoning codes, and recent planning decisions affecting hazard mitigation. The natural hazard mitigation strategies were developed through an extensive planning process involving City agencies/officials and City residents.

6.2 Plan Update

Element E: Plan Update Requirements
E1. Was the plan revised to reflect changes in development? (Requirement 44 CFR § 201.6(d)(3))
E2. Was the plan revised to reflect changes in priorities and progress in local mitigation efforts? (Requirement 44 CFR § 201.6(d)(3))

The City of West Hollywood's first hazard mitigation plan was developed in 2004, and subsequently updated in 2010, 2015 and 2018. The Plan grew in depth and utility with each iteration. This update uses data from the U.S. Census Bureau and the Southern California Area Governments to examine the impact of development changes on the residents of the City, with particular attention to renters and other residents who may be more likely to be disadvantaged.

This update to the City's LHMP is a more comprehensive update than previous versions. It expands the scope of the LHMP to reflect new FEMA guidance as of April 2023.

- This LHMP update incorporates climate impacts into every relevant hazard to add a new depth to descriptions as well as into mitigation action to encourage adaptation to climate change.
- This update also weaves equity throughout the plan, centering where appropriate disadvantaged populations.

6.3 Stakeholder Involvement

Stakeholders were involved at multiple stages in the plan development process. As part of the initial research and analysis setting the foundation for the Plan, documents from not only the City of West Hollywood but also from neighboring jurisdictions as bodies were used to inform the Plan's context development.

Meetings were held between various City departments, the Emergency Management Coordinator, and Jacob Green & Associates, the consulting firm that produced the revised plan.

- City Manager's Office (April 10)
- Community Development (April 10)
- Public Works (April 12)
- Human Services and Rent Stabilization (April 20)
- Finance and Technology (April 24)
- Community Safety (May 4)
- Administrative Services (May 4)
- Community Services (May 8)
- Los Angeles County Sheriff and Los Angeles County Fire Department (May 9)
- Communications (May 11)

A Hazard Vulnerability Assessment to create a relative ranking of the City's hazards occurred on May 24, 2023.

Upon completion of the initial draft, a copy of the Plan was made available for review on the City's website. Public comment was invited, as well as comment from several communities that work closely with West Hollywood to enhance their common resilience from disasters. These communities included:

- City of Beverly Hills
- City of Culver City
- City of Santa Monica
- MORE TO BE ADDED DURING REVIEW PROCESS

6.4 Public Involvement

Public outreach for input on the Plan took place in several ways.

- A survey in English, Spanish and Russian was made available on the City's website through July 31, 2023, allowing residents to comment on their views of hazard impacting the City and actions to be taken to mitigate them.
- An in-person public meeting was held in the Aquatic and Recreation Center on June 28, 2023. Public comment was solicited through Kahoot, a public engagement software tool.
- A virtual meeting was held on July 13, 2023, using the same format as the in-person meeting, and allowing residents to comment remotely.
- The Draft LHMP was published to the City's website on DATE for a two-week public comment period.

Survey results summaries are included in the Appendices to the Plan.

Copies of the Plan will be catalogued and made available at City Hall and West Hollywood Public Library. The existence and location of these copies will be publicized on City websites and social media. A copy of the Plan and any proposed changes will be posted on the City's website. The website will also include an email address and phone number to which people can direct their comments, recommendations, and concerns.

The Hazard Mitigation Coordinator will work with stakeholders within City government to provide opportunities for the public to be involved throughout the five-year cycle, not just during the actual plan development phase. Opportunities may include piggybacking off existing public outreach meetings held by police or fire departments, booths at farmer's markets or other public events in the City, and periodic updates to City Council in public meetings.

Specific events that will be promoted as part of hazard mitigation planning public involvement will include:

- The Great California Shakeout
- National Fire Protection Association Fire Week

- City of West Hollywood Police Area Command Meeting

6.5 Plan Incorporation

The effectiveness of the Plan depends on successful implementation of the mitigation actions. This includes integrating mitigation actions into existing City plans, policies, programs, and other implementation mechanisms. The key plans that should reference or incorporate content from this LHMP include:

- **West Hollywood General Plan Safety Element** should incorporate relevant mitigation mapping and analysis ensure the goals and policies of this plan are reinforced throughout future developments and projects proposed within the City.
- **Climate Action and Adaptation Plan:** Produced in 2021, this plan guides the City's climate response. As climate impacts and extreme weather intensify, the LHMP and the CAAP should refer and amplify one another to the greatest extent possible.

Mitigation strategies are regularly reviewed through the City's existing programs, including the City General Plan review and updates, Building and Safety municipal code review and updates, transportation and public works projects, commercial and residential code compliance, housing authority programs, capital improvement plans and projects, and City Emergency Plan review and updates. Hazard identification and risk assessment is part of the development approval process. In addition, the City's "green building" ordinance is applicable to most future development.

The chart of mitigation strategies will be reviewed at regular intervals to identify funding and to incorporate work into other City projects when possible. Commercial and Residential Code Compliance, with assistance from the Planning and Building and Safety Divisions, will look for ways to strengthen the Municipal Code and other laws to support the City's mitigation strategies. In addition, there are several public meetings which will be used to encourage both public and private input and to adopt or incorporate mitigation projects into community outreach. The City has an active and participatory electorate.

6.6 Plan Maintenance

Element D: Plan Maintenance Requirements
D1. Is there discussion of how each community will continue public participation in the plan maintenance process? (Requirement 44 CFR § 201.6(c)(4)(iii))

D2. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating, and updating the mitigation plan within a five-year cycle)? (Requirement 44 CFR § 201.6(c)(4)(i))
D3. Does the plan describe a process by which each community will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement 44 CFR § 201.6(c)(4)(ii))

6.7 Monitoring, Evaluating, and Updating the Plan

The Hazard Mitigation Plan will continue to be tracked by the Emergency Management Coordinator. This person will make a record of necessary revisions yearly to ensure that the most accurate and up to date information is included in the Plan. The Emergency Management Coordinator will also review the mitigation actions yearly and revise the plan based on progress towards the outlined mitigation actions or new mitigation actions that were identified for existing hazards. The Coordinator will also reach out to relevant City departments to integrate their tracking updates for those actions that overlap with the LHMP – for example, the Climate Action and Adaptation Plan and its actions related to hazard mitigation and climate adaptation. After this initial review, the Emergency Management Coordinator will convene a meeting with stakeholders and the core planning team to discuss progress towards mitigation objectives and potential plan revisions. Feedback from stakeholders and members of the plan development team will be documented and shared at the November Public Safety Commission meeting.

Each mitigation action will be reviewed to determine its continued relevance to changing situations and land developments in the City, as well as changes in State or Federal policy, and to ensure that each action is addressing current and expected conditions. The risk assessment portion of the Plan will also be reviewed to determine if this information should be updated or modified. Factors to be reported on will include:

- Any changes in the nature or magnitude of risks identified in the Plan.
- The status of these actions, and, where applicable, will report on which actions worked well.
- Whether difficulties have been encountered, and if so, what they are.
- How coordination efforts have been proceeding, and which actions should be revised.

The Hazard Mitigation Plan evaluation process will be led by the Emergency Management Coordinator. The Emergency Management Coordinator will meet with key stakeholders, such as neighborhood groups, fire and law enforcement agencies, community groups, social service agencies, transportation, and public works to gather updated hazard mitigation information. After the initial review and key stakeholder meetings, Public Safety personnel will present the plan with any recommendations from the core planning team to the Public Safety Commission.

During the Public Safety Commission's review, members of the public will be able to attend a public meeting and voice any concerns or ideas for revisions to the plan. The agenda for each Public Safety Commission and City Council meeting is posted inside and outside of City Hall, faxed/emailed to the posting locations, and posted on the City website. Links to the agenda will also be shared using social media. At that point, the core planning team will meet and make all changes necessary and present an updated document to the Public Safety Commission and the West Hollywood City Council. In addition, the Community Safety Department will informally involve members of the public as well through presentations at neighborhood meetings, key informant interviews, public meetings, and existing public safety programs.

Prior to these Commission and Council meetings, the Emergency Management Coordinator will lead the monitoring and evaluating efforts to ensure that there is adequate funding for the mitigation activities. After the City's two year budget is passed by City Council, the Emergency Management Coordinator will collaborate with the plan development team to apply for hazard mitigation grants that will help the City implement the mitigation activities that are not included in the City's two year budget. Starting at year four, the Emergency Management Coordinator will begin to go through a formal update to the Hazard Mitigation Plan. The formal five year update to the Hazard Mitigation Plan will be brought to the Public Safety Commission and then to the City Council for formal approval of the updated plan. These meetings will be widely advertised using social media and open to residents, property owners, business owners, and other stake holders. Copies of the Plan will be catalogued and kept in appropriate departments and public locations.

6.8 Plan Adoption

Element F: Plan Adoption
F1. For single-jurisdictional plans, has the governing body of the jurisdiction formally adopted the plan to be eligible for certain FEMA assistance? (Requirement 44 CFR § 201.6(c)(5))

F2. For multi-jurisdictional plans, has the governing body of each jurisdiction officially adopted the plan to be eligible for certain FEMA assistance? (Requirement 44 CFR § 201.6(c)(5))

This section will be updated per City Council action.

Primary Point of Contact

The Point of Contact for information regarding this plan is:

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Appendix A: Sample Adoption Resolution

Note to Reviewers: When this plan has been reviewed and approved pending adoption by FEMA Region IX, the adoption resolutions will be signed and added to this appendix.
Sample Resolution: City of West Hollywood

Resolution # _____

Adopting the City of West Hollywood Local Hazard Mitigation Plan

WHEREAS, The City of West Hollywood recognizes the threat that natural and manmade hazards pose to people and property within our community; and

WHEREAS, undertaking hazard mitigation actions will reduce the potential for harm to people and property from future hazard occurrences; and

WHEREAS, the U.S. Congress passed the Disaster Mitigation Act of 2000 ("Disaster Mitigation Act") emphasizing the need for pre-disaster mitigation of potential hazards; and

WHEREAS, the Disaster Mitigation Act made available hazard mitigation grants to state and local governments; and

WHEREAS, an adopted Local Hazard Mitigation Plan is required as a condition of future funding for mitigation projects under multiple FEMA pre- and post-disaster mitigation grant programs; and

WHEREAS, the City of West Hollywood fully participated in the FEMA-prescribed mitigation planning process to prepare this local hazard mitigation plan; and

WHEREAS, the California Office of Emergency Services and Federal Emergency Management Agency, Region IX officials have reviewed the City of West Hollywood Local Hazard Mitigation Plan and approve it contingent upon this official adoption of the participating governing body; and

WHEREAS, the City of West Hollywood desires to comply with the requirements of the Disaster Mitigation Act and to augment its emergency planning efforts by formally adopting the City of West Hollywood Hazard Mitigation Plan by reference into the Safety Element of the General Plan in accordance with the requirements of AB 2140; and

WHEREAS, adoption by the governing body for the City of West Hollywood
demonstrates the jurisdiction's commitment to fulfilling the mitigation goals and objectives outlined in this Local Hazard Mitigation Plan; and

WHEREAS, adoption of this legitimizes the plan and authorizes responsible agencies to carry out their responsibilities under the plan.

NOW, THEREFORE, BE IT RESOLVED that the City of West Hollywood adopts the City of West Hollywood
Local Hazard Mitigation Plan as an official plan; and

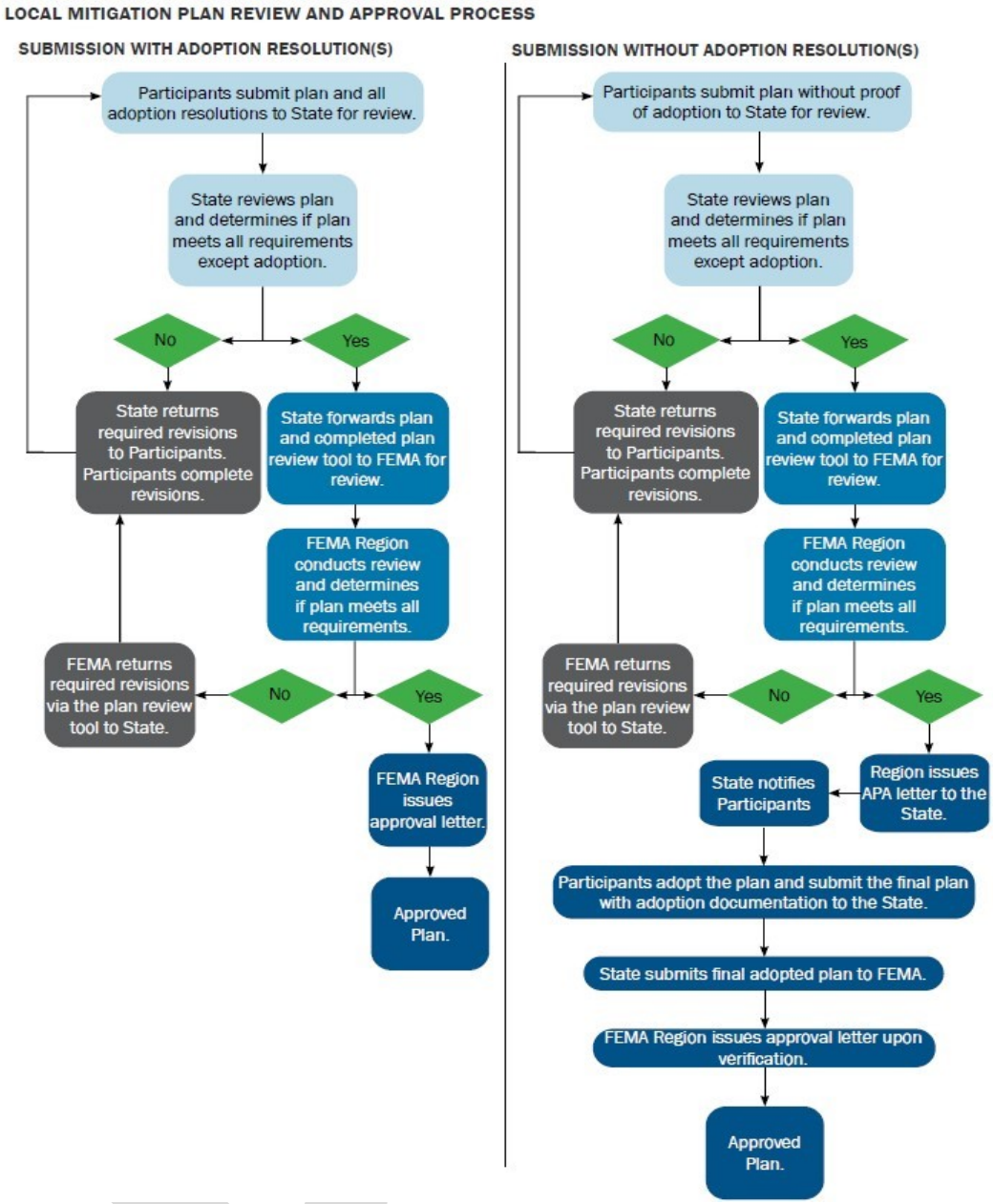
BE IT RESOLVED, that the City of West Hollywood adopts the West Hollywood Local Hazard Mitigation Plan by reference into the safety element of their general plan in accordance with the requirements of AB 2140; and

BE IT FURTHER RESOLVED, the City of West Hollywood will submit this adoption resolution to the California Office of Emergency Services and FEMA Region IX officials to enable the plan's final approval in accordance with the requirements of the Disaster Mitigation Act of 2000 and to establish conformance with the requirement of AB 2140.

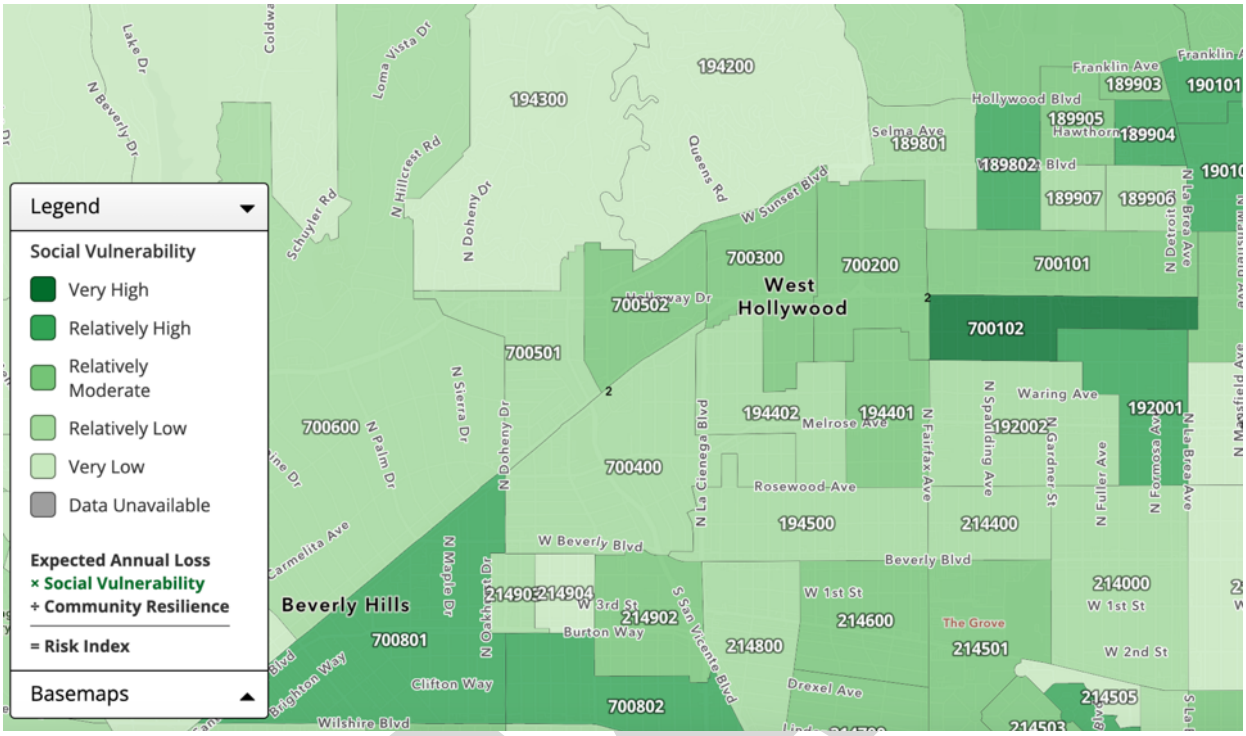
Passed: _____(date)_____

Certifying Official _____

Appendix B: LHMP Approval Process



Appendix C: National Risk Index Social Vulnerability



Appendix D: Public Engagement Survey Results

West Hollywood Community Hazard & Risk Assessment Survey

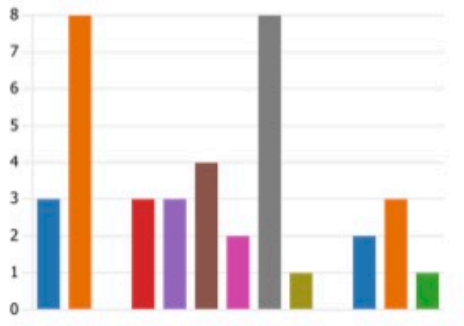
30	191:16	Active
Responses	Average time to complete	Status

1. Have you or someone you know in the City of West Hollywood been directly impacted by a significant adverse event or disaster (other than the COVID-19 pandemic)?

Yes	9
No	21

2. Which of these events specifically have you experienced (select all that apply)?

Extreme Heat	3
Earthquake	8
Floods	0
Wildfire	3
Drought	3
Heavy Rain	4
Severe Wind	2
Power Outages	8
Terrorism/Active Assailant	1
Cyber Attack	0
Hazardous Materials	2
Pandemic/Infectious Diseases	3
Other	1



3. If you chose "Other", please identify the type of significant adverse event or disaster that affected you.

2
Responses

Latest Responses

4. Please rate your level of concern for yourself or the City as a whole for each hazard over the next 10 years: Extreme Heat.

Very Concerned	16
Somewhat concerned	10
Neither concerned nor unconce...	2
Somewhat unconcerned	2
Very unconcerned	0

5. Please rate your level of concern for yourself or the City as a whole for each hazard over the next 10 years: Earthquakes.

Very Concerned	17
Somewhat concerned	9
Neither concerned nor unconce...	3
Somewhat unconcerned	1
Very unconcerned	0

6. Please rate your level of concern for yourself or the City as a whole for each hazard over the next 10 years: Floods.

Very Concerned	3
Somewhat concerned	5
Neither concerned nor unconce...	7
Somewhat unconcerned	12
Very unconcerned	3

7. Please rate your level of concern for yourself or the City as a whole for each hazard over the next 10 years: Wildfire.

Very Concerned	8
Somewhat concerned	8
Neither concerned nor unconce...	7
Somewhat unconcerned	3
Very unconcerned	4

8. Please rate your level of concern for yourself or the City as a whole for each hazard over the next 10 years: Drought.

Very Concerned	15
Somewhat concerned	12
Neither concerned nor unconce...	0
Somewhat unconcerned	3
Very unconcerned	0

9. Please rate your level of concern for yourself or the City as a whole for each hazard over the next 10 years: Heavy Rain.

Very Concerned	3
Somewhat concerned	12
Neither concerned nor unconce...	10
Somewhat unconcerned	4
Very unconcerned	1

10. Please rate your level of concern for yourself or the City as a whole for each hazard over the next 10 years: Severe Wind.

Very Concerned	3
Somewhat concerned	8
Neither concerned nor unconce...	9
Somewhat unconcerned	7
Very unconcerned	3

11. Please rate your level of concern for yourself or the City as a whole for each hazard over the next 10 years: Power Outages.

Very Concerned	14
Somewhat concerned	11
Neither concerned nor unconce...	1
Somewhat unconcerned	4
Very unconcerned	0

12. Please rate your level of concern for yourself or the City as a whole for each hazard over the next 10 years: Terrorism/Active Assailant.

Very Concerned	10
Somewhat concerned	13
Neither concerned nor unconce...	3
Somewhat unconcerned	1
Very unconcerned	3

13. Please rate your level of concern for yourself or the City as a whole for each hazard over the next 10 years: Cyberattack.

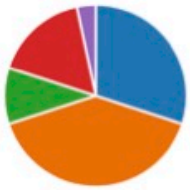
Very Concerned	4
Somewhat concerned	17
Neither concerned nor unconce...	5
Somewhat unconcerned	1
Very unconcerned	2

14. Please rate your level of concern for yourself or the City as a whole for each hazard over the next 10 years: Hazardous Materials.

Very Concerned	4
Somewhat concerned	10
Neither concerned nor unconce...	11
Somewhat unconcerned	4
Very unconcerned	1

15. Please rate your level of concern for yourself or the City as a whole for each hazard over the next 10 years: Pandemic/Infectious Diseases.

Very Concerned	9
Somewhat concerned	12
Neither concerned nor unconce...	3
Somewhat unconcerned	5
Very unconcerned	1

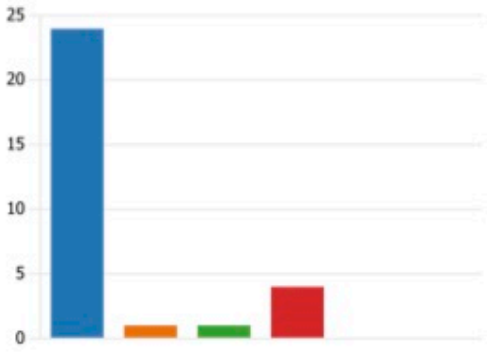


16. Please rate your level of concern for yourself or the City as a whole for each hazard over the next 10 years: Other.

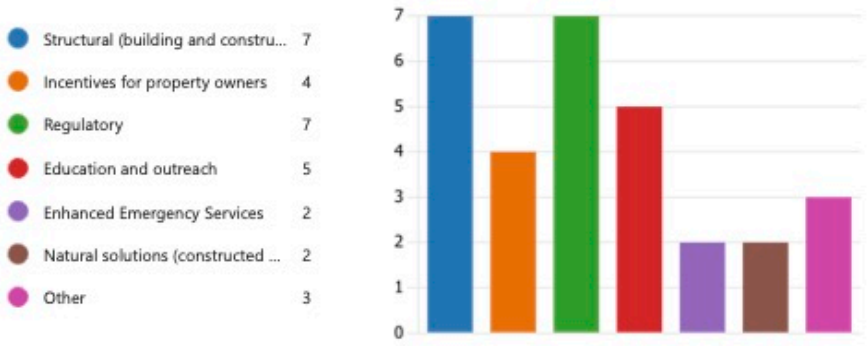
Very Concerned	3
Somewhat concerned	2
Neither concerned nor unconce...	17
Somewhat unconcerned	0
Very unconcerned	4

17. Where are the greatest areas of threat that these hazards pose?

Homes and individuals	24
Businesses	1
Industrial & warehouses	1
Utilities	4
Other city infrastructure	0
Transportation (freeways and rail)	0



18. In your view, what categories of actions should the City take to reduce risk for those hazards?



19. If you chose "Other", please add more details here.

5
Responses

Latest Responses

2 respondents (**40**%) answered **water** for this question.

20. Is there anything else you'd like us to consider? If so, please include your comments here.

6
Responses

Latest Responses
"The city should once gun fully sponsor and fund an enhance...

2 respondents (**33%**) answered **CERT programs** for this question.